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Title word cross-reference

(−1, 1) [MY65]. (0, 1) [GS72a]. (b, k) [AC84]. (E, k_x, k_y) [ZVW+11]. $-\infty < N < +\infty$ [Kog57, Kog58b]. 0.11μ [BDN+02]. $0 < N < 1$ [Kog58a]. $1 - \mu m$ [GSC80, JHH+81]. 14 [FRS+18]. 2 [HS60, MDJ+70]. 22 [FCE+15]. $25°K$ [MDJ+70]. 2^k [AEG+02]. 2^{k-1} [AEG+02]. 3 [CS03, DWA+08, EFR+05, EK08, HS60, KYY+08, PLS20, RG09, SAT+08, SJMBK08, ZVW+11]. 32 [LBB+13]. 360° [RCP+16]. 51/4 [FMPS93]. + [HC69, Les71]. 0 [Wei65]. 2 [ABB+08]. 1 [CSH+89]. $1-x$ [LMPP69, MB75, Mat70, Vur70]. 12 [MKP73]. 2 [ABK89, BH89, Bra72b, Bru78, CKG+99, CL64, CSE66, CDM89, CFH64, CCD57, CSH+89, DYHS78, EB99, FA70, GSG+90, GBC65, HC70, KG80, KLBP64, KL80, Kus70, MRH89, MJS70, OG80, RF78, SJ70, SARG80, Tu90, Vur70, WB70, YDHS78, ZBL+72, vHv+89]. $2-x$ [ACM+89, BEH+89, EHK+89]. 3 [CSE66, CDM89, CCD57, CSH+89, GSG+90, HD69, KBS+99, LD74, Mat70, MKP73, WTP64]. 4 [ACM+89, BEH+89, EHK+89, FA70, Kus70, Vur70, WB70, WTP64]. 5 [BH89, KLBP64, MRH89, MKP73, ZBL+72, vHv+89]. 6 [YAJ90]. 7 [CDM89, CSH+89]. $7-\delta$ [BH89, GSG+90, MRH89, vHv+89]. c [BCSE89, FNRF89, FL89, HHB+89, KC89, Kat89, Kel89, KIF+89, Meh89, Mor89]. p [FL89]. th [Fuj92]. x [ACM+89, BEH+89, EHK+89, LMPP69, MB75, Mat70, SG77, Vur70]. A [LO72]. b

[Bos70b]. β [Phi78]. e^N [Kog57]. f_t [Phi78]. g [SBR64]. γ [NBF+00]. $i = i_0[\exp \alpha(v - Ri) - 1]$ [Mil67]. κ [GNF06]. L [AO97, AO01]. l_p^k [CLW79]. l_q^k [CLW79]. M [Kog59]. μ [HWC88, PZK+03, SHWK+90, SWC+95, TMF+95]. N [FRE+08, CDS73, CDS00, FP69, FA70, KO65a, KO65b, MC68, RGL75, Spe69, VCP80, Kog59]. p [KO65a, KO65b, KO66, MG63b, MC68, VCP80, Vur70]. π [HC69]. Q [SLLP64]. T_c [GSG+90]. $\times$ [Sch91, SHDK95]. z [Dan66].

-adjacent [AC84, Bos70b]. **-alloy** [TCCH98]. **-based** [CKG+99, YAJ90]. **-body** [FRE+08]. **-Channel** [RGL75, CDS73, CDS00]. **-D** [ZVW+11]. **-factor** [SBR64]. **-Film-Based** [Blu79a]. **-GaAs** [Spe69]. **-GeTe** [CSE66]. **-inch** [FMPS93]. **-n** [KO66, MG63b]. **-nm** [FRS+18, FCE+15, LBB+13]. **-Si** [RF78]. **-SnTe** [CSE66]. **-stable** [LO72]. **-supported** [HKvG+11]. **-Switching** [SLLP64]. **-transform** [Dan66]. **-Type** [FP69, FA70, Vur70].

/Cd [Vur70]. **/Cr** [Vur70]. **/CuO** [BEH+89]. **/In** [LMPP69]. **/O** [ZBL+72, Bra72b]. **/Sb** [LMPP69]. **/Se** [FA70, Vur70].

0.1- [SHWK+90, SWC+95]. **0.12-** [PZK+03]. **0.25-** [HWC88]. **0.5-** [HWC88]. **0.7-Microsecond** [RRSW61]. **000-Word** [FP57].

1 [BGK+80, BCK13, Lan96, PV93]. **1.X** [SWC+95]. **1.X-volt** [SWC+95]. **1/N** [BGK+80]. **10.4-in.-diagonal** [KFYU92]. **10.5-in.-diagonal** [CAW+98]. **100** [ABB+08]. **100-nm** [WNV+02]. **1000** [RS59b]. **1000-Mc** [RS59b]. **1024-byte** [DMR+81]. **10B** [WF83]. **110-Nanosecond** [WWLF67]. **12-ns** [MMR89]. **120-Nanosecond** [PSS67]. **128Kb** [CTT91]. **14-nm** [BWB+18, SRH+18, WBS+18]. **144** [ACG+87]. **145** [FN71]. **15-** [Bra72b]. **157-nm** [BRB+01, Ito01]. **16** [GP06a, OCB+90]. **16-bit** [Cor82]. **16-Mb** [GP06a]. **16-Mbps** [OCB+90]. **17** [DCB77]. **18** [Sta75]. **19** [Ber76a, Lan96, Wie76]. **193-** [Ito01]. **193-nm** [AWHK97]. **196** [BBC+12b, GMS+12, KWH+12]. **1975** [AAH68, Bar68, Hen68]. **1980** [Wil93]. **1992** [Wil93].

2 [AFFS98, AF99, AHH+91, BNW99, CAE+76, EKS+04, GYK99, MRG99, Ono93, RT99, Tan08, WRG99]. **2.0** [Oha10]. **2.5-Micrometer** [Ghe80]. **20** [RHC73]. **20-MHz** [RHC73]. **2000** [Wil85]. **200Mb** [GLOS92]. **200Mb/s** [GLOS92]. **21st** [TMF+95]. **2400-bit** [GP81]. **2400-bit/s** [GP81]. **248-** [Ito01]. **256K** [TGB+80]. **256K-bit** [TGB+80]. **25th** [Car81]. **2D** [BHV85, Kri82, Pic87]. **2Dp** [GHP+85].

3 [DGL+97, PV93]. **3-1** [PV93]. **3.3** [HBB99]. **3.3-V** [HBB99]. **3.6-** [BBH+95]. **30** [ACG+87]. **3000** [Rut59]. **3000-Mc** [Rut59]. **305** [LH57, LH00]. **3081** [GS82b, PPS82, RSNG82, TS82]. **3090** [AC86, GRSW86, RV89, SSW91, SdS89]. **32** [Gla97]. **32-stage** [Sch91]. **3380** [How84]. **3420** [ICO71]. **3480** [WCB+86]. **360** [ABB64, ABB00a, BDH+19, BGM+67, Cal70, CMPR64, FL67, Pad81, Sam64]. **3687** [DSW82]. **370** [ACG+86, Bar78, Chi86, CDG83, Cre81, Gum83, Pad83, Sta90]. **3800** [BS84a, FLS78, FLR77, MTS84, Mil84]. **3803** [ICO71]. **3803/3420** [ICO71]. **390** [CS99, DGL+97, ECD+99, Gre97, HBL+99, JL99, KBM+99, KLM+91, KL97, Mau97, RHM+99, SSM97, SK99, SCC+97, SY92, SMK+99, TMB+99, Van97, WL97, Web00, YS99]. **3D** [FLCB85, KN91b, Sch96a].

4 [BHP83, FKOP90]. **4-Mb** [FKOP90].

4.2K [EBd+86]. **4.5** [TMT+20]. **400** [BLM+92, Ste01]. **405LP** [NCB03]. **4096-color** [KFYU92]. **41** [Ano97a]. **4250** [GT87]. **44** [Ano00a, Ano00j]. **45** [Ano01a, Ano01o]. **45-nm** [IFB+11]. **4765** [ABC+12]. **4769** [BCD+20]. **4D** [Dic91].

5.25- [BBT85]. **50-Megacycle** [WRLA57]. **500** [CP13]. **500-picosecond** [RHC73]. **5000-Circuit** [Dan81].

60-nsec [ABPS66]. **6000** [Aus90, CMR+90, FAJ+94, HM90, Mar90, MHR90, War90, WD94]. **603e** [JO96]. **64-bit** [GHL+04]. **64K** [LST80]. **64Kb** [SHDK95]. **65-nm** [BFG+06, FAD+07]. **670-nm** [KACS95]. **690** [BKRF02]. **6G** [HA71].

7 [HHM70]. **77K** [Mar64c].

8-inch [BBT85]. **80** [AHH+91]. **800-Bit-Per-Inch** [BS70]. **805g** [Lan96]. **8B** [WF83]. **8B/10B** [WF83].

90-nm [FAD+07]. **9000** [ADG+92a, Att92, BBMP92, BRB92, CTS+92, Cov92, DGG+92, GZM92, HOWP92]. **91** [AST67a, AEGP67]. **9121** [CW91, GGRW91, Haj91, NHH91, Sar91b, TSC91].

A10 [BCJ+96]. **ABC** [KL94]. **Aberrations** [Arm65, Bru97]. **ABIC** [CM98, Mar98]. **ablation** [DAB+97, SPP97]. **Abort** [Soh76]. **Above** [Sie70]. **Abrasive** [Ros78]. **Abrupt** [CC76a]. **Absorbers** [Key63]. **Absorbing** [PCDW78, Dav69, Her66]. **Absorption** [Bro62, GL62, WB70, BH89, DP68]. **abstract** [Bei92]. **Abstracts** [Ano57a, Ano57b, Ano93a, Luh58a]. **AC** [AS78, HO75b, Lan74, LS78, OPR+78, O'H78, RP78, SS78, Won90]. **AC-Coupled** [HO75b]. **academic** [ITS+15]. **accelerate** [Oha10]. **Accelerated** [Gil79, ZMM+96, CBD+09, LSS+20, PK18]. **Accelerating** [PMS+08, RG09, SMP+04]. **acceleration** [CJH+15, CNL+19, EGN+19, Gsc16, KKS02, KMA+20, NFS+17, PLK09, SKS+20, SSI+18]. **Accelerator** [SBJS15, CCF+10, GKT17, JAC+19, SKP+15]. **accelerators** [AKG+19, BAB+13, EWT+07, Gsc09, PBK+09]. **Accelerometer** [Lew80]. **Accelerometry** [HL77]. **acceptance** [Lie20]. **Acceptor** [Sou64]. **Acceptors** [FPS66, PF66, Tit63]. **Access** [ABE+02, Ano66j, Bla65, CERS76, FC79, GLP76, Her65, Hoa61, LH57, LST80, LN79, ND57, Pet57, Ris84, SS76, Str83, WT77, BMS+17, CDD+10, CTT91, Coo90, DMR+81, FR01, Hat72, Hoa00, LKY80, MDB+02, MBC+96, ND00, RBB+08, ND00, LH00]. **access-time** [Coo90]. **Accessibility** [KMH82]. **Accessing** [CM80]. **Accommodation** [BS85]. **accomplishments** [SCM+82]. **accountability** [AAJ14, DYK10]. **Accounting** [Dui59, LH57, LH00, ND57, ND00]. **Accumulating** [Kuh88]. **Accumulation** [LMD70]. **Accuracy** [RK74, Sit87]. **accurate** [LO72]. **Accurately** [BD96, Cli90, SW90]. **Acetylene** [Dem78, GMP90]. **achieved** [HRF+17]. **achieving** [BWT+14]. **Acid** [BBD63, HHA93]. **Acknowledgment** [RS79]. **ACORN** [HY84]. **Acoustic** [MN67a, MM64, MW70, PAZ72, PK61, Tie61, HKA+13, Tur69]. **Acoustic-Mode** [PK61, Tie61]. **Acoustical** [PH65]. **Acoustoelectric** [MSW69, RK69, Spe69, ZZ69, Bra69, Lew73]. **ACP** [AGAP63, CP63, MT64]. **Acquisition** [DGB78, BKM+69, CCFSZ12, Kon69, Nic92, Rei69, SG71, WN92, CMP87]. **across** [HRF+17]. **Acting** [SWD74]. **Action** [DC73b, AWK20, TMW+17]. **Activated** [PRY65, SST69]. **Activation** [SD71, RC17]. **Active** [Dod63, HJ88, Har65, Hud63, LCL+98,

MWN63, WWA+98, AIH+98, BAB+13, BCCK92, CAW+98, MC09, NAB+15]. **Active-matrix** [LCL+98, AIH+98, CAW+98]. **activities** [APRS16, SSK+16]. **Activity** [RCH+86, LRNS17]. **Actual** [MW79]. **actually** [Per04]. **actuation** [RBB+11]. **Actuator** [Hea76, MJ64, BM68, FMPS93, ZH89]. **Adapter** [HTH+09, ZST+07, BAB+18, OCB+90]. **adapters** [HSL+05, SAB+07]. **Adapting** [Osb93, DBC+06]. **adaption** [MWL+14]. **Adaptive** [EÖH10, FWR+11, FB78, HW81, O'M85, Pat85, ATL+88, BS06, BSHM01, CLP+13a, LQRS04, Nob95a, ODL+09, PMLA88, Sho04, Ung72, HJK+01]. **add** [AEG+02]. **Addendum** [Ano66k, MHI98, SW98]. **Adder** [HA58, Pet58, LKY80, Lin81, Wei91]. **Adders** [LT70, Wei79]. **Addition** [Rut57, Hor98]. **additives** [VBDA05]. **Address** [BCH84, Fra83, HP63, SR63]. **Address-Independent** [Fra83]. **Addressable** [MLGD84, WW71]. **Addresses** [FT80]. **Addressing** [FC63, Pet57, SAA+18, APOI92, van73b]. **Adequate** [Sop59]. **Adhesion** [Bro94, EC71, Mit94, CF72, Dür94, EM94, RKL88b, SRD94, Spo94, Tho94, LV94]. **adhesive** [KS01]. **Adjacent** [Bos70a, AC84, Bos70b]. **adjustment** [Kar73]. **Admittance** [Hud63]. **adoption** [GWB+17, RM09]. **adsorbed** [MHW95]. **Adsorption** [Bru78, SSFF11]. **Advanced** [AAB+05, ATW97, BAH82, DMG+17, ESS+20, GBS+87, GNF06, HWC88, HKR+97, KMO+14, KGCS85, SRO93, SSN+15, TAE+07, GBB+05a, HRC+08, KPT+02, KRT98, LLF+92, MAG+01, OS99, Sou96]. **advancements** [ABB+12a, ABG+09]. **Advances** [Ano19g, BGL07, CCC+15, RQBW08, STCR84, Tis90, DM01, KFSZ92, KAB+12, SP17]. **Advancing** [BAB+18, BGL+92, CAK+15, PCW+17]. **advantage** [HST06]. **adversarial** [SHCV19]. **adverse** [SLZL18]. **advertisement** [RAMD19]. **Aerial** [BDS+97]. **Aerodynamic** [Len74]. **Aerosols** [HC78]. **Affecting** [GOJN77]. **AFM** [VDD+00]. **Africa** [ZW17]. **after** [Lan66]. **Ag** [Vur70]. **Ag-Pd** [Kah71]. **against** [Cop94]. **age** [SN15, Tal20]. **agent** [BW16, GB93]. **agent-based** [BW16]. **agents** [Hor98, NBM+19]. **Aggregating** [Oha10]. **Aggregation** [BBG60, Cla03, KOP14]. **Agile** [EMM+18, WBT+10, AAB+14, GMR10]. **agility** [OEN+16]. **Aging** [Gil79, CHH+01]. **AHAFS** [JDBP10]. **Ahead** [LT70]. **AI** [Ano19h, Ano19j, ABH+19, BBMR19, BDH+19, CNL+19, IJV19, NBM+19, SR19, WSJ+19]. **Aid** [KC66a, DH69]. **Aided** [KO70, Rue79, SLG78, Dec90, FPST14, FCH70, Ho73, KLRS96, Sch96a]. **aiding** [DRSM15]. **Aids** [HS81b]. **AIM** [KJS09]. **AIM-HI** [KJS09]. **AIMS** [BDS+97]. **Air** [BMC86, FL74, FK62, Ku63, MW62, NHH91, PH79, SHC+72, CXZ+17, Coo90, Fro71, GGRW91, Haj91, KLM+91, PH81]. **Air-Bearing** [FL74, Coo90]. **Air-Cooled** [NHH91, GGRW91, Haj91, KLM+91]. **Airborne** [Ben59, AKKJ72, NT72]. **airline** [LB07]. **AIX** [Aus90, CMR+90, Hei94]. **Al** [Dou62, BdM+78, CSE66, CFH64, HRS+95, TCCH98]. **Al-Al** [CSE66]. **Al-alloy** [HRS+95]. **Al-Cu** [BdM+78]. **ALDC** [SK98]. **Alfvén** [WS64]. **AlGaAs** [HVK+90]. **Algebra** [Mar64a, AGZ94c, Gus97, Gus03]. **Algebraic** [Pip81, RW59]. **Algebraically** [Str68]. **Algorithm** [Ahu79, Bea74, CMP87, Cve87a, Don69, Hai85, Jel69, Lew83, Luk74, MFT77, O'M85, SN87, Tod78a, Tom67, AGZ94b, AGJA06, Bar82, BP74, CDC96, CFP20, Cra98, DF15, Dan82, DFNNS17, DBNK+17, FW83, Gus76a, Gus76b,

HRWZ87, HT69, JMLW94, KdAC+15, NFS+17, Nob95a, Ray69, Sav90, Tue68]. **Algorithmic** [Cha77, AGZ94c, BDH+19, Cra98, RDL19]. **Algorithms** [AMG+87, AFCB94, DKN87, Far87, FLW78, FHPR01, KR87, KM77, RK75, Ver80, Wit85, AGZ94a, AGZ94c, BK74, Bra94, DH03, GS72b, GS72a, Gup97, Gus97, Gus03, KB74, LQRS04, RS94, SG94b, TR77]. **Aliasing** [DWW90]. **Aligned** [TDM+87]. **Alignment** [BCH84, And10, LCL+98]. **Alkaline** [WA79]. **Alkane** [VM79]. **all-reduce** [CFS+19]. **all-sky** [SJZ+15]. **Allocation** [CFL73, van72, van73a, ADG+05, BCE+07, DHMP94, GHH+17, GSAB93, KdAC+15, vdP72, Yan07, van73b]. **Alloy** [BdM+78, Fie65, GL62, NM65, RL70, VGC79, AT00, BKM80a, BJMO80, HRS+95, LMPP69, TCCH98]. **alloyed** [SD71]. **Alloys** [BS64, CJT62, Col62, HBL62, HK64, HB74, How82, Jon60, KS66, LR65a, Lud78]. **AlN** [RHC73]. **Alone** [Don80]. **along** [LT95]. **Alpha** [HRC+08, GRH+08]. **alpha-particle** [GRH+08]. **Alpha-particle-induced** [HRC+08]. **altered** [Irv89]. **alternate** [VWE02]. **alternating** [Wid67]. **Alternative** [AKNR10]. **alumina** [KLM+91]. **aluminium** [SD71]. **Aluminum** [ADH70, AIH+98, DYHS78, Jon70, YDHS78, AdH00b, Lar80, SL66]. **Aluminum-based** [AIH+98]. **Aluminum-Implanted** [DYHS78, YDHS78]. **ALUs** [PV93, Sch80]. **always** [SIKdL16]. **always-on** [SIKdL16]. **Ambient** [BMC86, Leh64, RC09]. **Amdahl** [CPD+09]. **Amendment** [Ku63]. **Amino** [BBD63]. **Among** [DG84, Vil82, DSS+92, YCJ+17]. **Amorphous** [BK76, CCG73, CH76, Fri69, OHSP76, Sch75, VGC79, KOT99]. **amounts** [BBC+08]. **Amplification** [Bre60, Pri65, RK69, Smi57, ZZ69, Ito97, Ito00, Lan60, Tur69]. **amplified** [HHSW01, Ito01]. **Amplifier** [Gra80, TC63]. **amplifiers** [JGD+08]. **amplitude** [BS71a]. **AMR** [Ibe03, ILH03]. **Analog** [ARV64, Wal58, CNL+19, HNS+03, HB73]. **Analog-to-Digital** [Wal58]. **Analogon** [BDH83]. **analyses** [BBMP92, Gro59, PMS+17]. **Analysis** [AW82, AKB+17, AH79, AGAP63, BBC+09, Bos97, BK61, BCGS81, Cal81, Cas60, CFL73, CHW75a, CHW75b, Cha62, Cha74, Cha75b, CW85, Chi86, CDW75, CW77, CMS85, CPL+74, Cve87a, FE75, Gar57, Gar64, Gau77a, GLS74, GLP76, GS87, GA84, GL87, Gru79, Gus76a, Gus76b, HS81a, HP66, HW81, HS61, HSC82, Ho66, HS82, HO75b, HS71, How84, Hua79, Ken61a, KO65a, KO69b, KO70, KGT88, Kur87, KM74, Laf80, Lan74, Lee77b, LS76b, Man85, Mat85, McA83, MW79, NB61b, Ohb84, PL83, PH65, Pim76, RP70, Rue79, SC75, SFD77, Sop59, SM66, Sta87, SM63, SG64, Tak87, Tan74, TKG89, Thu60, Tit61, TAR84, VSF65, Wat60a, Wee79, WCW82, WC75, WA79, Yas85, Zar57, AAA+17, ABM88, Bal91, BFRT13, Bir01, BGL66, BBS+03, Bro72, Bur72, BCGS00, CGM+15b]. **analysis** [Cha73a, CGLL93, Cop00a, Cor93, Dan66, DBB+02, Dic91, ESA02, ESS+20, Fer70, GMNE63, Gre60, HMOS81, HMO81, HKA+13, HRF+17, Ho73, KFB+97, KM68, KWT+11, KBF+92, KS01, LPM+12, LFF90, LSW13, LD72, Lom77, MYKK+17, MHI01, Mat03, MWX+17, MDMN10, Mon82b, MNWH20, MFL+12, NML+20, Okt71, PSP06, PAZ72, Pig88, Sch96a, Sed67, SBG+71, SLZL18, SSB+12, Sta75, TWX+10, TKV00, TTI98, Tue76, VPD88, WLH+17, WTT+14, WC69, YBF+14, You90, ZBL+72]. **analytic** [Bar78, Mat03]. **Analytical** [LD72, MHI01, SLHM67, Tro00b, VMS+14, Bat00]. **Analytics** [AGH+16, BR17, EDGL+13, KAF+16, AHN+03, ADF12, BCC+12, BSY+15, BGL07, BEJ+14, CDL+14, CJH+15, CHM+16, CP13, DB20, DGH+14, DJL+16, DNZ+19, GGK+13, GWB+17,

GSC12, GAJ+16, HZG+16, KBJ+18, Kan15, KRTN+12, LPA+15, MHR+15, Pon17, RRMD17, RCP15, SJW+16, SKP+15, Sim19, Sof13, SS15, SMX+14, SIKdL16, WSJ+19, Yar12, ZSY+13, BBE+13]. **analytics-based** [KRTN+12]. **analyze** [SSK+16]. **analyzer** [Ano71, MMUS88]. **analyzers** [DWW90]. **Analyzing** [HAG+13, KSH+08]. **anchored** [NNGV19]. **anchors** [BCC+19]. **Andreev** [vHv+89]. **Andrew** [RBB+11]. **Android** [SBG+13]. **Anelastic** [NB61a, NB61b]. **Angle** [CSS83, Lan63, PBF60, PW68]. **Angle-of-Incidence** [PBF60]. **Angular** [Hun59, Sun06]. **Animation** [BS91, FLCB85, WNBP91]. **Anisotropic** [Pri60, NSOO98, PM72]. **anisotropies** [Yan71]. **Anisotropy** [Boy60, OHSP76, PBF60, You90]. **Annealing** [Blu79a, CCP85, CFH64, DKN87, GC68]. **annihilation** [Pet89]. **Anniversary** [Car81]. **Anodic** [Dat93]. **anodization** [Hes99]. **Anodized** [PCDW78]. **anomalies** [LSW13]. **Anomalous** [AC63, CP86, LeB62]. **Anonymizing** [GDLS14]. **ANSI** [NFI+08]. **answer** [TOKN18]. **Answering** [Pla76, BCD+17]. **answers** [Fre04, GLK+12, MKW+12]. **antenna** [LGF+03]. **antennas** [DHK00]. **anticipator** [HM90]. **Anticoincidence** [Spr63]. **Antimony** [DV64, HK64]. **antispam** [WZC+10]. **any** [DDMS92]. **Aperture** [van77, SRCW97]. **API** [WML+16]. **APIs** [WML+16]. **APL** [AT78, Chi86, CJ91, DO86, FI73, Lat73, Ort84, Sur69]. **APL/370** [Chi86]. **APL2** [Alf89, Bro85]. **APLGOL** [Kel73]. **Apparatus** [BP75, Tay57]. **appliance** [VCM+20]. **appliances** [JWZ+09]. **Application** [Ast67b, Bar75, BMC86, BMD+20, BSJ+13, BKU88, BHWW77, CM80, CD85, DC82, Dou62, FLCB85, GA68, GHK67, HP63, HJ88, HKM+86, How82, KT70, Kob71, KM70, KM00, KT84, Kov59, KBF+92, LS76a, Le 62, LMT84, MW80a, Mar64b, MS67, MS87, Moi91, MPD86, PBC+06, Pip79, PZK+03, Rot66b, SM78, SLG78, SF93, Tro80, TTI98, AKKJ72, AAB+10, ABM+01, BBPS91, BDS+97, CP72, CLP+13b, CPT+08, CN94, EMM+18, EPP10, FKL+08, GI88, HBB99, LFR05, LR79, LS72, LSS+20, MLWC20, MDJV08, MC87, Mon82b, NCB03, RRMD17, RR69, SBG+13, SHC+72, SCW10, TCCH98, BLM+92, MY65, MM75b]. **Application-focused** [BMD+20]. **Application-level** [BSJ+13]. **Application-Specific** [HKM+86]. **Applications** [ABC+85, Aic84, BV78, BAH82, CA84, CH84, Com83, Cro79, Dat98a, Hau96, HF78, Hop61, Kau81, NB61b, OO81, Sch75, SCYK78, WKB+86, WR83, ZG65, vv86b, vAR82, AW82, ABB+13, ABB+03, ARM+01, AKG+19, ACM01, ATW+08, BCC+16, BBH82, CS84, CCG73, CN18, CIJ+10, CBBS90, CKL+13, CJK+13, CRM02, DT08, EWS+13, GR92, GBBM90, GSC12, HVK+90, HHR99, IFB+11, KM93, KFH+06, KLS+05, KKT+95, LPA+15, MCAW95, MN97, Mos61, Oha10, Osb93, RFC+07, SBG+13, Sch96b, SWC+95, SPR+95, SFH+16, SR19, SHDK95, TWX+10, TFL+98, WYF+03, WSJ+19, WYS92, YAH+96, ZSY+13, ŽFE06]. **Applied** [Coh87, EHHP67, Jur78, Nor58, PW67, SH57a, Sar91b]. **Applying** [CPD+09, EG00, GCFW07, OTC14]. **Approach** [BBC+64, BF77, CAE+76, CHS82, Gor65, HJ88, Ho75a, KMO64, Len58, RS85, ABG+95, AYA14, AR87, BKN10, BMS+17, BTWY92, BL15, CHG04, CCE+20, DEG+01, Fer70, HCO74, KRTN+12, Koe18, KSSC+13, KRS+17, Luh57, NML+20, NMV+09, PL20, RCP15, Rub90, SKSP06, SJZ+15, TWM+14, VJA07, VPV+19, VNT16]. **approaches** [DJK14, Fra89, MBB+01, SNP06, TSC91]. **approximants** [Ris72]. **Approximate** [CPvR00, CHW75a, NG17, SC75, Sau81,

Sch62b, Di 88, HSL+10, Lei61]. **Approximating** [And73, Kep75, Mir69]. **Approximation** [RK74, AGJA06, MM94, Riv87, Sit87, Wee72]. **AQL** [ADST78a, ADST78b]. **Aqueous** [CHBH85, LG88]. **Arabic** [AFCB94]. **arbitrary** [MY65]. **architected** [KMA+20]. **Architectural** [BS95, Sou96, BS06, KL70b]. **Architecture** [ABC+99b, AK82, ABB64, ABB00a, BLM+92, BBH+81, CdLS92, Com83, CDG83, Cve87a, DLW86, ES92, FGM+83, Gum83, Gyg08, HF94, JB07, LSZ+10, MMR89, Ono93, Pad83, SW83, Tay84, UMK+85, VDG19, WF87, Wri83, YS99, ARG00, BDN+02, CNV+15, CGM+15b, CPT+08, CBD+09, EBD+95, FPST14, FXB+10, GBC+05, Gsc16, HHH86, JS14, KdAC+15, LNT08, MSB+04, MME+97, NAB+15, OG90, PVDF95, RD12, RBL+09, SHL07, VTC09, CRDI07, HFH94, HJK+01, IMSV10, JMP96, PERW02, SY92]. **Architecture/390** [SY92]. **Architectures** [BGLM09, FH84, BGS13, BIK+05, CCF+10, Cla03, Nai02, OTC14, SDS+18]. **Archive** [BBC+08]. **archives** [CBK+98, ZW17]. **Arcing** [HMR82]. **arcs** [Hof60]. **Arcsin** [Kog58a]. **Arctan** [Kog58b]. **Area** [DO74, FHL+82, Gau77b, HS85, HS81a, CH06, HMK01, MNWH20, OCB+90, ST89, Sta89b, Sta89c]. **areal** [ABB+08]. **Argon** [SJ70]. **Argonne** [CKL+13]. **arise** [Rus04]. **Arising** [Sch63, BK61]. **Arithmetic** [MLT83, Mur57, RL79, Tom67, WRLA57, ABC+99b, Lan84a, Lan84b, MP88a, PMLA88, Ris76, TLM83, Wai05, WET+10]. **Arm** [Hea76]. **ARMA** [HA00]. **armed** [BBMR19]. **Aromatic** [BMW83, Cas71]. **Array** [AKK+67, CL74, Dan81, FHL+82, GLL80, JT66, Jon75, MW79, PSS67, RT75, SW98, VPS88, Wei79, Woo75, BGL+92, CRM02, FM75, Fre96, HL72, MLMP+12, MKJM93, SST+98, TSC91]. **Arrays** [EL80, LBH+75, MW70, Ort84, Raa76, FJSS89, GM73, HDBR08, HL72, JPTW92, KOT99, Mar71, Mor73, PC07, Spr71, WW71, Won90]. **Arsenic** [BA62, DJ70, JD67, SR71, CG71, GOVC71]. **Arsenic-Doped** [BA62]. **Arsenide** [And60, vM66]. **Art** [CH84, BGL+92, MM91]. **Arthur** [WM92]. **Artificial** [Dav58, Gri92, CM19, DNZ+19, MLM+19]. **AS/400** [Ste01, BLM+92]. **ASIC** [BDN+02, BTP+90, BPS+96, BL98, DL02, EGH+96, HO96, IFB+11, PBK96]. **ASIC/SoC** [DL02]. **ASICs** [BBD+02, GGKK96, SGS+96, SKB+96]. **ASLT** [LV67, Llo67, SST67]. **Aspects** [Ame80, Ano59n, BBMP92, CK79, GFHW82, HHJW84, HO75b, Kol67, Len74, PPS82, SB64, Wat60b, Yas87, HMOS81, HHSW01]. **assembled** [GSAB93, Man90]. **assemblies** [CGLL93, GLCW93]. **Assembly** [Doo83, LW77, RBC78, WLPL+80, BRB+07, ESA02, SCH+09]. **Assessing** [Mar12]. **assessment** [BISN+12, BJ06a, HE10, PAH+18]. **assessments** [KVP+20]. **Asset** [GAJ+16, HZG+16, PTRC16]. **Assigned** [Ano66n, Ano66m, Ano66o, Ano66p, Ano66q, Ano66r]. **Assignment** [Bea74, Don69, NRA+07]. **Assignments** [MT77]. **Assistance** [FZ88]. **assisted** [CNS+99, GM69, GMP90, Hes99, JKG69]. **assists** [ZDB+18]. **Associative** [Gab69, JM64, KPST61, MP61]. **assumptions** [BJW72]. **assurance** [MCH+82]. **Asymmetric** [IMC+10, KLHW16]. **Asymptotic** [Lew73]. **asynchronous** [HAMC+04]. **ATM** [Gla97]. **atmosphere** [QS67]. **atmospheric** [Shi72]. **Atom** [Gom86, KO65a, KM66, FRE+08, KMK68, KO69a]. **Atomic** [Bat00, BBS78, Cle65b, Dür94, Fin86, Hun59, LFC95, Mic78, Pan78, Agn02, Sto91]. **atomic-level** [Agn02]. **Atomic-scale** [Dür94]. **Atoms** [Cle65a, Lan86, Cle00, MHW95]. **Attached**

[Cro79, DK79, ODA+08]. **Attachment** [RBWH93, CMW92, NSOO98]. **Attack** [KS66, ASR07]. **attacks** [Cop94]. **attaining** [MDR+07]. **Attenuation** [Dav79, DSSS64, EGS60, Mor62, PL81, Swa59, SS59b, Far82, Lew73]. **Attitude** [CI76, GHK67]. **Attraction** [PH81]. **attribute** [Arb86]. **attributes** [GA68, PERW02]. **attrition** [Coo18]. **Audio** [WLKS98]. **Auditory** [Dav58]. **Auger** [CW78]. **Augmented** [GFS71, GSAP17]. **Augmenting** [AAJ14]. **AuIn** [KL80]. **Austin** [Ros03]. **authentication** [CLP+13a, OYHSB14, WSE+16]. **Author** [Ano92a, Ano93b, Ano94a, Ano94b, Ano95a, Ano97a, Ano98a, Ano99a, Ano00a, Ano01a, Ano02a, Ano03a, Ano05a, Ano06a, Ano07a, Ano08a]. **Authors** [Ano57c, Ano57d, Ano57e, Ano57f, Ano57g, Ano57h, Ano57i, Ano57v, Ano57u, Ano58a, Ano58b, Ano58c, Ano58d, Ano59a, Ano59b, Ano59c, Ano59d, Ano60a, Ano60b, Ano60c, Ano60d, Ano60e, Ano61a, Ano61b, Ano61c, Ano61d, Ano62a, Ano62b, Ano62c, Ano63a, Ano63b, Ano63c, Ano63d, Ano64a, Ano64b, Ano64c, Ano64d, Ano64e, Ano65a, Ano65b, Ano65c, Ano65d, Ano65e, Ano66a, Ano66b, Ano66c, Ano66d, Ano66e, Ano66f, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67g, Ano67a, Ano67b, Ano67c, Ano67d, Ano67e, Ano67f, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, Ano64k, Ano64l, Ano64m, Ano64n, Ano65k, Ano65l, Ano65m, Ano65n, Ano65o, Ano86b, Ano90c, Ano92e, Ano92f, Ano92g, Ano93e, Ano94r, Ano94s, Ano94m, Ano94n, Ano94o, Ano94p]. **authors** [Ano94q, Ano95i, Ano95g, Ano95h, Ano95j, Ano95k, Ano96g, Ano96h, Ano96i, Ano96j, Ano96k, Ano97f, Ano97g, Ano97h, Ano97i, Ano98g, Ano98h, Ano98i, Ano98j, Ano98k, Ano99f, Ano99g, Ano99h, Ano00i, Ano00f, Ano00g, Ano00h, Ano01i, Ano01j, Ano01l, Ano01m, Ano01k, Ber76a, Wie76]. **autoconfiguration** [BBC+12a]. **Autocorrelation** [BR82]. **Automata** [RS59a, Ros66, Rot66a, She59a, DWW90, EM65, HMP90, SG94b]. **Automated** [CTD+16, GAC85, GHLW84, GLM+96, GBJ+08, HL83, LS75b, Pri94, TS82, WLPL+80, WZ78, DF15, HD73, HRS07, KL63]. **Automatic** [ABCR65, AAA+17, BBD63, CFW82, Che72, Dah63, DMWW77, DMP59, FKGF12, GFS71, Hei76, HL77, Kar73, LW77, Luh58a, Maz70, Sar91a, Sar97, SBG+13, SFH65, Tar63, TYSS19, Urs75, War63, CL86, ET69, Gus97, HRWZ87, KWB+15, MC87, RSL+70, Sed67, ST72, SKSP06]. **automatically** [CJ91]. **Automation** [APS86, Ano71, CGG+64, CCG+81, GLL80, Gra69, HBT+16, MW82, SG71, SB86, Tay84, DeM91, GGKK96, Gra71, HNS+03, HHM70, HYA03, NNGV19]. **Automorphisms** [Hal60]. **Autonomic** [MC09, Kis03, WSCK17]. **Autopass** [LW77]. **autoradiographic** [LPPT86]. **Availability** [GL87, HCTS81, KMH82, AAF+09, CAK+15, DP13, FCS+04, OHK+07, Pig88, VWE02]. **available** [ACFS16]. **Avalanche** [BS69, KO65b, KO66]. **avalanching** [Vin81]. **Average** [Her65, Don69, SS86]. **average-value** [Don69]. **averaging** [LO72]. **aware** [KdAC+15, VTC09]. **awareness** [BPG+16, RVT+13, YCJ+17]. **Axially** [Key61b]. **Axioms** [Mor73]. **Axis** [Kan78, MSW69]. **Axisymmetric** [BT78, BBT83]. **Axp** [Pat85]. **Az-Type** [PL79]. **AZ1350J** [DS77]. **azimuth** [CBV08].

B [Bos70a, YTF+11]. **B-Adjacent** [Bos70a]. **B.E.** [NMH+07]. **B2B** [VVHL16]. **B2C** [HRZ14]. **Ba** [BPL+89, CSH+89, KBS+99, GSG+90]. **Back** [Ano14a, Ano15a, Wym57, Ano14b, Sie63, TMW+17]. **back-propagation** [TMW+17]. **backend** [Koe18]. **Background** [McN94]. **backlighting** [TMS98].

backpropagation [NFS+17]. **Backscatter** [Far82]. **backscattering** [ZBL+72]. **backtracking** [SS86]. **backup** [Ste01]. **baking** [HHSW01]. **balanced** [DGL+97, Ris73, WF83]. **Balancing** [ZS03, CHG04]. **Ball** [CGLL93, Cor93, LCB93, Mah93, RBWH93, GLCW93]. **Ballistic** [HF90, Lud00, RMR94]. **Bamba** [WLKS98]. **Band** [Adl70, CFG64, CCE+88, HK64, McC64, Rem67, WB70, Haa70, LMPP69, Nob95b, ZH89, ZVW+11]. **banded** [RSS91]. **bandits** [BBMR19]. **Bandlimited** [Sta67]. **Bands** [PB69, FA70]. **Bandwidth** [Ism00]. **banking** [SMX+14]. **Barium** [Cam57, DH57]. **Barrier** [BKM80a, CP86, AA71, GBW+09, JP94, DS70, Mid70a, Wol70]. **Barriers** [But88a, CSE66, OSP+98]. **Base** [DC73a, Eas75, GLP76, GS74, Hal76, HKM+86, LS76a, LS76b, LN79, MM75a, McG81, Sow76, VM79, WW75, AT00, Ber76a, DCB77, FGP+85, Wie76]. **Baseband** [KGF77]. **Based** [AGLM85, Blu79a, Eas78, EP86, HL77, HS81b, Lom80, Pet76, RP66, Shi85, Str83, ACM01, AIH+98, AKE+92, AEH+04, AHH+14, BEE+02, BW16, BC18, BHH03, BBG+14, BCC+01, CKG+99, CJ83, EGN+19, ESS+20, FRPG01, GP81, HRZ14, HP01, Ibe03, JS14, JZ91, KPB+12, KRTN+12, KMB+08, KBA07, KBK+97, KAB+05, LSS14, MDH+12, MYKK+17, MS05, MBF+07, Mey00b, MTB+90, MS07, NFI+08, NMV+09, Ngu99, Nob95b, OR92, PSA+08, PW72, RCP15, SNP06, SAA+18, SvNH13, SKS+20, SG94b, SJZ+15, SMX+14, TOKN18, Tib93, TMS+01, WZC+10, WLH+17, WP11, WML+16, WNV+02, YGR14, YAJ90]. **Basel** [RCH+86]. **Bases** [ADST78a, MR76a, ADST78b, FBHJ04]. **Basic** [FHVZ80, BK61, GR90, PMLA88]. **basin** [EWBR09]. **Basis** [Ins77, Lom76, HdTR06]. **Batch** [BBC+64]. **battery** [Ste01]. **Bayesian** [PK18]. **BBr** [LD74]. **bcc** [HBL62]. **BCS** [Ode64, Swi62]. **be** [Gri04, MS89, BBS78]. **Beam** [BJS80, Bro88, DMWW77, Dav80, ELMR77, GOJN77, HWC88, Hor62, KP59, KP80, Lin67, Lun79, MW80a, MPS77, MP67, NM62, PS80, PW78, Bag94, BGK+82, DP68, Far98, FKOP90, GI88, GWRS90, GHP+93, KBF+92, LR79, LCL+98, MTH71, MAG+01, PGN88, RKL88b, WPH69, WW71, Gil84]. **Beamforming** [Raa76]. **beamlines** [SRO93]. **Beams** [Le 62, WSBL90, ZSZ96]. **Bearing** [Bau63, FL74, Lan63, Coo90]. **Bearings** [SWD74, SM63, TT74, VG74, BCT89, BHHO59, Dec90, Gro59, Mic59]. **Beauty** [FvGGM90]. **Becoming** [DSZ+12]. **Bed** [Sti79]. **Behavior** [Cha62, Col62, Eas78, Fer75, GR58, Goo62, LM85, Lev64, Mid65, SM63, WA79, ASR07, BSY+15, Bau72, BP74, BP88, BGL66, BEJ+14, CP97, CF72, CR15, FP73, Ito01, KAF+16, Mor89, PL20, SMVK90, Vie86, Vur70, WZC+10, YBF+14, You90]. **behavior-based** [WZC+10]. **behavioral** [HHC+18, OIM+13]. **Belief** [EP86]. **Below** [Sie70]. **Belt** [ELZ79]. **benchmark** [CP97, GGH+13, KGBB09]. **Bending** [BP84, LC83]. **benefits** [BR09b, Now02]. **Bentonite** [SH63]. **BEOL** [GON+06]. **Berlekamp** [Gus76a, Gus76b]. **Best** [Cve87b]. **better** [EG00, Jaq03, KL94]. **Between** [CLW79, KLC84, Lew83, Mic78, AAM+07, BBT60, BCT89, Bro94, Bru78, DP13, EC71, KSH+08, Les71, Lew75, Lew12, Mei62, MKJM93, Nef90, Pes71]. **Beyond** [Ano06b, HHH04, Pad81, RD12, Won02, BFG+06, BLDM97, CS03, FKOP90, GR90, HND+06, TMF+95, WGF+06, WNV+02]. **bi** [AW82, BS64, Sui75, ZBL+72]. **Bi-** [Sui75]. **bi-level** [AW82]. **Bias** [ASV76, Dun57b, DMN+59, Ker64, MU77, BDH+19, CM19, Fuj92, SR19]. **biased** [Yas07]. **BiCMOS** [DAC+03, FMP+03, HNS+03, Nin02]. **Bicubic** [DB76]. **biflow** [Ari69]. **Big**

[GRS13, Nun09, BFRT13, Fre04, MCG+15, OTC14, SMX+14, VPV+19, YMR14, CDL+14, GGH+13, HAG+13, HCG+13, JSS13, Mal13, RCP15]. **bilevel** [ATL+88]. **Bimorph** [MPD86]. **Bin** [KM77]. **Binary** [AMG+87, Gri90, HA58, LT70, Rut57, Smu57, Wyn64, BL69, Dan82, Lin81, PMLA88]. **Binary-Image-Manipulation** [AMG+87]. **Binary-Weighted** [Smu57]. **binodal** [TMB+99]. **bioinformatics** [EBH+16]. **biological** [ABM+01, Bir01, DBNK+17, HdTR06, NMTP14, SPS+06, ZHP+18]. **Biology** [BMC86, ACM01, BJ06a, EB06, PMW06]. **biometric** [RCP15]. **biometric-based** [RCP15]. **biomimetic** [DBNK+17]. **biosystems** [PSP06]. **bipartite** [Rus04]. **Bipolar** [CW85, Dan81, FHL+82, Gau77b, KGCS85, ML82, MM82, Phi78, Pri58a, SGC+87, ŽFE06, BEM+92, CCJH81, Fre96, GPL+92, TWF90]. **Birefringence** [SH63]. **Birthday** [FvGGM90]. **bis** [GA88]. **bis-maleimide** [GA88]. **Bismuth** [FK60, HK64, Heb64, JJ64, Sch64, SBR64, TH64, Vui64, WS64, YWWK64]. **bismuthates** [BCSE89]. **Bistability** [HJ88]. **Bistable** [BFT79, LF64, Mos61]. **Bistable-Unstable** [BFT79]. **Bit** [ARV64, BS70, BCJ+96, Cor82, GHL+04, MRG99, WRG99, TGB+80]. **bit/s** [GP81]. **Bits** [RK66]. **BJT** [HMO81]. **BladeCenter** [Bal05, VLB+09, BBB+05, CAC+05, DBC+05, FCP+05, HCK+05, HPZ+05, HSL+05, HSCG05, PHCM05, PAB+05, VAB+05]. **blades** [HSL+05, NMH+07]. **Blasbalg** [Ano66j]. **Blazed** [BC65]. **Bleaching** [Lor70]. **blended** [MBK+15]. **blending** [MOG+19]. **blends** [KMGD19]. **Bloch** [Azb88]. **Block** [Fra79, LP75, Smi77, WF83, ARG00, FGC92, TKG89, TMS+01]. **Block-Oriented** [LP75]. **block-paging** [TKG89]. **Blockchain** [Ano19i, CDS+19, DNZ+19, NNGV19, MDN+18, VDG19]. **blocking** [Gus97, GJ00]. **blocks** [GR90, NMH+07]. **Blodgett** [RSSS82]. **blood** [LPPT86]. **Blue** [ABB+13, BSJ+13, BBK+08, BCK13, CCD+13, CP13, CKL+13, CNC+08, CHT+13, DT08, DLJ+08, EO13, EWS+13, FKL+08, KHZ+08, OWG+13, PMS+08, RIB+13, SCG+13, ABC+05, AAC+05, ADG+05, BGH+05, BHD+05, CBB+05, CBC+05, EFR+05, FRE+08, GBC+05, GZE+05, GBB+05a, HBB+05, IBP+05, LKFU05, MSW+05, MAA+05, OBB+05, SPP+05, WAB+05]. **BlueConnect** [CFS+19]. **Bluemix** [GRB+16, KMM+16]. **BlueStar** [NMV+09]. **Board** [BAH82, BCRW82, CC76b, ABM88]. **Boards** [BDWZ83, LDL84, MS60b, BBMP92, Cha88, GA88, Pau89, Whi93, WGC93]. **body** [BKB76, BMPS91, FRE+08, RE71]. **bogs** [Now02]. **Bohr** [Mer04]. **boiling** [Okt71]. **Boltzmann** [BSHM01, OD17, Pri66]. **bond** [HRWZ87]. **Bonded** [CN79, Tan74]. **Bonding** [HL83, Bag94, Dus71, HSH+88]. **book** [CHMW07, WGS04]. **Boolean** [DCB77, DC73a, FTY83, FJSS89, (Ga57, Mar64a, OH74, RW59, Rot60a, Rot60b, RK62, SBH82]. **BooleDozer** [SKB+96]. **Boost** [SLP+20]. **Booster** [GHK67]. **boot** [WMK20]. **bootstrapping** [SS00]. **Boron** [JD67, WS75]. **Bounce** [Hen83]. **Bound** [Gri60]. **Boundaries** [KWB88, LC80, AG72, CDM89]. **Boundary** [BTP+90, Far87, Lee77a, Mei62, Pim76, RVV88, RS67, SSG69, TT74, BS71b, CP72, JS89, RS66]. **Boundary-Layer** [RVV88]. **Boundary-scan** [BTP+90]. **boundary-value** [BS71b, CP72]. **Bounded** [Fra80a, Fra82, PH81]. **Bounds** [DH73, FL75, LF77, Ris73, Don69, MM94]. **Bragg** [MJJ69]. **Braids** [BS06]. **Brain** [DLJ+08, MYKK+17, RC17]. **brain-machine** [MYKK+17]. **Brain-scale** [DLJ+08]. **branch** [HHR99]. **branch-prediction** [HHR99]. **branched** [KSH+08]. **branches** [LT95]. **Branin**

[Bre72]. **Break** [Bog79]. **Break-Up** [Bog79]. **Breakdown** [KO65b, KO66, SARG80, SAR81]. **Breaker** [Ano58e]. **Breaking** [GBW+09]. **brick** [FGH+06]. **Bricks** [WGF+06]. **bridge** [SNA02]. **Bridging** [RDL19]. **Brief** [Sta85a, GMR10]. **brigade** [HCL72]. **Brightness** [ON60]. **Brightness-Voltage** [ON60]. **Brillouin** [Spe69]. **Bring** [CLP+13b, JKB+13, DFF+15, HBB+05]. **bring-up** [DFF+15, HBB+05]. **Bring-Your-Own-Device** [CLP+13b]. **Bringing** [OYHSB14]. **Broadband** [BDHH+09, CRDI07, CS03, JB07, LJV+07, PBBL07, RWW07, RG09, SHL07]. **Brownian** [RVV88]. **Brute** [DB01]. **BSRA** [VDG19]. **Bubble** [ASV76, BL62, CERS76, CLW80, CC76a, Sch75, WY76, BK76, BBP72, BW81b, CCG73, Lin76]. **Bubbles** [CH76, JHH+81, MW62, Okt71]. **bucket** [HCL72]. **budget** [KSB07]. **budgeting** [LB07]. **budgets** [PKXK07]. **Buffer** [CW77, FLW78, SL76, Tue76, VLT+12]. **bug** [SKSP06]. **build** [AKRS04, BCK+05]. **build-up** [BCK+05]. **Builder** [HKM+86]. **Building** [ABD+16, IS20, Jur78, KFH+06, KMM+16, KAA+18, NMH+07, ACFS16, BCC+01, FGC92, HSS+10, NMV+09, TMS+01]. **building-block-based** [TMS+01]. **Built** [FPS66, KS90, CNV+15, HMP90, RB90]. **Built-in** [FPS66, KS90, HMP90, RB90]. **Bulk** [Cha74, Pai69, Sta75, GC68]. **bumping** [GBB+05b]. **buoyant** [Fro71]. **Burning** [GFHW82, VM79]. **Burst** [CT65, Wyn64, Gor63]. **burst-error** [Gor63]. **Bursts** [MG63a, Meg60]. **Bus** [GPE99, HS81a, SLC+97, RKW99]. **bus-driven** [SLC+97]. **Business** [ADF12, FvGGM90, Luh58b, Pul07, RM10, SH57a, CKE+10, DDDKW12, Den80, DCC+17, DKR12, HSS+10, MD12b, SKP+15, TCP+16, Vay12, WAB+09, ZBG+10]. **BYOD** [JKB+13, CJK+13, SSK+16]. **Byte** [Pat86, DMR+81].

C [Ber76a, Wie76, CFK+91, FL89]. **C4** [DWA+08]. **Ca** [BPL+89, Mat70]. **cable** [DDA+93]. **cables** [DAS+94]. **Cache** [FHVZ80, VMH+83, BGAJ94, BM96, BBC+12b, CT06, DGL+97, FLMKS06, MBJ+97, MWS09, MMR89, Mat89, MHI01, SG94a, SSD+15, Thi88, TMB+99, VH81, WMB+15]. **cache-miss** [Thi88]. **caching** [SMC+14]. **CAD** [CS84]. **Cadmium** [Mas62]. **cage** [HDW+07, SBC+12, WBH+04]. **Calcium** [SS61]. **Calculation** [Bei74, Fro84, KRC68, LS78, Mar64b, Ove70, MM75b, RE71, Shi73]. **Calculations** [Hut74, KO66, KM66, Phi78, RS85, SM63, Fre96, Led71, Rue72]. **Calculus** [Rot66a]. **calibration** [Vie86]. **Call** [KM20, LPMDG14]. **calls** [Lom77]. **Calorimetric** [Map62]. **camera** [LPA+15, MHW95]. **campus** [RBB+11]. **campus-wide** [RBB+11]. **Can** [Goo58, Gri04]. **cancellation** [Nob95a]. **Cancer** [Pic87, OMA+96]. **candidate** [BKS+08, CCFB+12, MKW+12]. **Cantilever** [BP84, SST69]. **Capabilities** [CBBS90, AAB+05]. **capability** [CCC+15, CM19, FDS+13]. **capable** [RHC73]. **Capacitance** [AO60, CB85, FT77, Mar64b, GAOD71, KMK68, KO69a]. **capacities** [Sho04]. **Capacitor** [DK67, FMP61, Has62, Has66, HOWP92, KBS+99]. **Capacity** [ABG+09, MT77, LSS14, Sho04]. **CaPd** [WTP64]. **CAPI** [SBJS15]. **capsule** [SR71]. **capture** [KBF+04]. **Capturing** [AC92]. **Car** [BBK+08]. **Carbide** [Rut64]. **Carbon** [CSY79, HG83, LY83, SCH+09, GMP90, Gri99, KLE71]. **Carbon-13** [LY83]. **Carbon-Loaded** [HG83]. **Card** [BM84, FMP61, Has62, Has66, HPZ+05]. **cardiac** [NNN+06]. **Cards** [Has62, RBWH93]. **care** [EEM15, PL20, SSB+12, TOKN18]. **Carlo** [Ken61a, LFF90, MNR86, MS96]. **carpal**

[BC00]. **carpool** [FW83]. **Carrier** [FT64, Hai85, KO65b, ATW+08, LDSA02]. **carriers** [KAB+05]. **Carry** [Car60]. **Carrying** [Kuh88]. **Cartridge** [WCB+86]. **Case** [Keh65, KGF77, MDH+12, DCC+17, HMO81, Hof60, LB07, MOG+19, SKK14, SvNH13, VPV+19, WLH+17]. **Case-based** [MDH+12]. **Cases** [Rob67]. **Casey** [DCB77]. **catalysts** [OHWR88]. **Catalytic** [DS65]. **Cathode** [HMR82, TH11]. **Cathodes** [CBCM79]. **Cathodic** [AGLM85]. **Cation** [SK69]. **Cauchy** [Ger73, Sug59]. **Causal** [EPP10]. **cause** [Pon17]. **Caused** [Boe69]. **caustic** [KJP11]. **CC** [KFB+97]. **CC-NUMA** [KFB+97]. **CCITT** [WZ78]. **ccNUMA** [BCC+01]. **CCS** [SS87a]. **Cd** [Vur70, Tit63]. **CdCr** [FA70, Kus70, WB70]. **CdIn** [WB70]. **CDMF** [JMLW94]. **CdS** [Boe69, MSW69]. **CECSIM** [vBBE+02]. **Cell** [BV78, Gar57, LS78, RWC80, TSH92, BCCK92, DMR+81, EB06, HRG80, JS72, KBK+97, Lee77b, BDHH+09, CRDI07, JB07, KDH+05, LJV+07, NMH+07, PBBL07, RWW07, RG09, SHL07]. **Cell/B.E.** [NMH+07]. **Cells** [GMW80, LJ92, NBF+00]. **CellSs** [PBBL07]. **Cellular** [HMP90, Pic87, SG94b]. **Cement** [MS67]. **Center** [DRB+20, Pul07, BCG+09, CPD+09, KDG15, KTD20, LPMDG14, MI10, SCI05, SBB+09, TFJ+96, WH94]. **centered** [BMS+17]. **centers** [BNSG09, BSRM09, HvKI+09, NMV+09, SI09, VRA+09]. **Central** [Cho75, Col59, SC75, PBC+04, TBB+09]. **Central-Force** [Col59]. **centralized** [Yar12]. **centric** [BCE+07, DF15, HLZ+09, Sha12, ZBG+10]. **Century** [HCTS81, JS81, HBP+81, TMF+95]. **Ceramic** [BB82, Gou89, MKW+05, YCB05]. **ceramic/copper** [TKK+92]. **ceramic/copper/polyimide** [KFSZ92]. **Ceramics** [BW83, Vie86]. **CERN** [BO69]. **Certain** [MG63a]. **certificate** [MBF+13]. **Chain** [AKK+67, Fla65, GLS67, Lye77, MR76a, SSW65, DKR12, GCFW07, NQ20, NNGV19, SKK14]. **Chain-Complete** [MR76a]. **Chains** [RK75, Sch67, SP14]. **chalcogenide** [Haa70]. **Chalcogenides** [Dim70, Kas70, Von70]. **challenge** [Coo18, WA15]. **Challenges** [MDB+02, MLM+19, SCI05, AG06, BCK+05, CPCC18, DFaDNS98, GNF06, JAC+19, Lai08, LPA+15, SLA+15, SAA+18, SFG+06, SPP97, WHK+09]. **Chamber** [Cha73b, MN67a]. **Championships** [BHP17]. **Chang** [Sta75]. **Change** [Sou64, CTD+16, DDDKW12, DSZ+12, KMB+08, RBB+08]. **Changes** [CC76a, Lew83]. **Channel** [Cal81, Cio86, CDG83, DHC20, God74, Mil83, RGL75, AAC+06, BAB+18, CDS73, CDS00, FGC92, Fra80b, Irv01, KT70, LKY80, SFG+06, Sho04, WYTO04]. **Channels** [CR76, Fra79, Fra80a, Fra82, KGF77, KT73, MLT83, Sha58b, Fra89, GE02, Rus04, SJW+16, TLM83]. **Chaotic** [Hen83]. **Character** [Dic60, WR83, YG81]. **Character-Recognition** [Dic60]. **Characteristics** [BKM80b, Cre58, GLS67, JH80, KMCY82, LS78, OPR+78, Pea69, Roe66, TDM+87, UL70, WS75, WW71, BB09, Bru76, CDS73, CDS00, EWS+13, HRW69, ILH03, Kah71, KDG15, KDT18, MMR89, PH81]. **Characterization** [AT00, Ano05c, AGAP63, AEE77, Bar73, BBCV80, Esa62, GA88, GC81, MMM+05, OHWR88, OS99, SS78, SY73, Twa85, YDHS78, ATW06, ATW+08, ABM88, BSJ+13, CPTW98, DDA+93, DKS+95, GLG+99, Hof60, KB06, LBT99, Luc99, WGC93]. **Characters** [Cas70, CEHL78, GHKO57, Yha75, DDMS92, HM71]. **Charge** [CH74, DYHS78, Gra80, Kau81, LMD70, Mag73, MS60a, Sch62a, SS78, Sch96b, TY64, Fre96, HC69, HCL72, HRG80, Lee77b, Pat73, TGB+80, Var89, WYS92].

Charge-Coupled [CH74, HCL72, TGB+80, WYS92]. **Charge-metering** [Sch96b]. **Charge-Transfer** [Gra80, Kau81, Var89]. **Charged** [Fre79]. **charges** [RRB+01]. **Charging** [FBW77, DG93, DXZS13]. **charging-point** [DXZS13]. **Chargistor** [Yu61]. **Charybdis** [HHH04]. **chassis** [BBB+05]. **Chebyshev** [FXL01, MR72]. **Chebyshev-expanded** [FXL01]. **Check** [Ahu79, BBI94, Irv01]. **Checkers** [Sam59, Sam67, Sam00]. **Checking** [Pet58, PR59a]. **checks** [Irv89]. **Chef** [VPV+19]. **Chemical** [BBKW86, Chu82, Cle81, CK79, HHSW01, Ito97, Ito00, KEJ87, Leh64, Lun79, WKB+86, Bea90, Coo18, CNC+95, CNS+99, GMP90, GPL+92, Luc99, Mey90, Mey00a, Ngu99, YAJ90]. **chemical-mechanical** [GPL+92]. **Chemical-Vapor-Deposited** [KEJ87]. **chemically** [HHSW01, Ito01]. **Chemisorbed** [Dem78, Lan86]. **Chemisorption** [BBS78, Win78]. **Chemistry** [CFG64, CD85, Hir77, KT84, KJSG+88, Spr61, FL69, HMK01, Oka69, VBDA05, YAJ90]. **Chess** [NSS58]. **Chess-Playing** [NSS58]. **Chief** [Mey03, Pea09]. **China** [CXZ+17]. **Chinese** [NBF+00, Yha75, YG81]. **Chip** [ABB+99, BM84, BGR82, Ber85, CW83, DKN87, DB82, How82, IBC64, JH80, Kua95, ML82, Ost84, SW98, Ver80, Woo75, AEZ84, AUD+98, ATL+88, BBD+02, BA69, BAB+13, BHD+05, BCCK92, CDC96, Cla03, CU98, DWA+08, DTH92, DBB+02, DKS+95, DTTK95, ESHM95, EK08, FWR+11, FDS+13, GP06a, GMS05, GWRS90, HBB+05, HHSR96, Hei90, HAMC+04, IBP+05, KAB+05, LFR05, MYKK+17, MMR89, Mat89, Mil69, Mil00, MTB+90, Nai02, NFS+17, NCB03, OCB+90, OBB+05, SAT+08, SST+98, SP90, TMF+08, IBM13a, VWPB90, VLT+12, WAB+05, WYF+03]. **chip-stacking** [SAT+08]. **Chip-To-Chip** [JH80]. **Chip/Card** [BM84]. **Chips** [BFL66, Cle83, LHW81, SMD80, BEM+92, CBB+04, CAC+95, KBK+97, LD72, Okt69, SWF+09, SHR+09, SNA02, VTMB+90]. **chipset** [KBG+09]. **Chlorin** [VM79]. **Chlorine** [Lev64]. **Chloro** [SL66]. **Chloro-aluminum** [SL66]. **chlorobenzene** [CH82, HMM82]. **choices** [SON+91]. **Cholesky** [GJ00]. **cholesterol** [MD12a]. **cholesteryl** [VBM71]. **chopped** [WSBL90]. **Chromium** [BBKW86, KS66]. **Chromium-Iron** [KS66]. **chromodynamics** [VBC+08]. **Cil** [Ghe80]. **circles** [Nef90]. **Circuit** [Ame80, BDWZ83, BDMW81, BGK+80, BFL66, BAH82, BBH+67, BHWZ63, CW85, Dan81, Esa62, FT80, Gun66a, HHSR96, HS61, Kar74, KCOW08, LDL84, Man85, Rot74, Rue79, SST67, Ser82, STCR84, SWC+97, Sta83, Sta84a, Sta85b, Sta87, Str59, Wal57, Wal58, ADH+00a, ABM88, BJM+06, BBMP92, BGL66, Cha88, CNC+95, DHK+92, DTTK95, FRS+18, FN71, GA88, JZ91, Kah71, OR92, Pai72, Pau89, RFB+03, RBWH93, Rue72, Sta89a, TW69, TKV00, WKP+02, WBW+15, WBD+11, Whi93, ZFD+15]. **circuitization** [ABM88]. **circuitry** [LFR05, VLKW14]. **Circuits** [AGAP63, AFR62, BSS82, BM63, BRR79, CP63, DW58, Eic65, GT80, GKK+80, GSC80, HJ88, JH80, KL80, KW83, MW80a, MT64, Sta84b, Vil82, AHW+99, BJM+06, BGO03, CBBS90, CNS+99, CCW+02, CFP+07, DN97, DHK00, ESW+95, FMS+92, FKOP90, FMP+03, HRC+08, Hei90, HMP90, Koc59, KBC+03, KSL95, Lin76, MPHC90, Mos61, NHKI03, Ngu99, PZK+03, Sch96b, Sri96, Sta89b, Sta89c, TLS+06, Vor71, Wie90, WSBL90]. **Circular** [BB60, CS65a, Raa76, RR87, Arb86, SN98]. **circulation** [Fro71, QS67]. **Circumferentially** [BGT74]. **Cities** [HPW11, HMP+11, OIM+13, WP11,

HEH+10]. **city** [HS11, JWW+11, SHC+72]. **Clarification** [ACG+87, Swa57]. **Class** [Ahu80, Chi60a, Dub83, Hsi70, LM80, Rog66, TBB+09, WHK+09, Wyn64, Yu61, Bil72, BWB+82, BKS+08, FW08, Lei61, SM16, ST72, ST89, SBC+12, Sur15, VLT+12]. **Classes** [Cho75, MFT77, Gor63]. **classical** [Sho04]. **classification** [ACC+15, DBK82, GK64, HJW+16, NT72, PTRC16, SBD+10]. **classifier** [RLP14]. **classifiers** [BCD+17]. **clause** [vv86a]. **clauses** [dTGHC92]. **Clean** [IM57, Jon65]. **cleaning** [HBC+99]. **Clearance** [Bau63]. **Cleaved** [FF86]. **Clebsch** [Rob67]. **client** [KLMV19]. **climate** [DT08, TPTH20]. **Clinker** [MS67]. **Clock** [FS88, BH95, CDM92, HAMC+04, MWW+07]. **Clocking** [HO75b, Okl03, Sea57]. **clocks** [DSS+92]. **Closed** [Mar60a, MS67, RK75, BSSZ76, KRC68, Lam77a, Mat03, Moo72]. **Closed-Cycle** [Mar60a]. **closed-form** [KRC68]. **closed-loop** [BSSZ76]. **Closing** [BCH+16]. **cloth** [Oht95]. **Cloud** [CJJ+16, GRB+16, HG14, YGR14, ABD+16, AA18, BWT+14, BCC+16, BCG+09, BCH+16, BGM+16, BMM+20, BBB+20, BB09, BBG+14, CTD+16, HBT+16, ISV16, JDBP10, KMM+16, LSZ+10, MWL+14, NRD+09, NAN+18, OEN+16, RBL+09, SHV13, SM16, SIKdL16, WML+16, Yar12]. **Cloud-based** [YGR14]. **clouds** [ACFS16, MSV14]. **clue** [LPM+12]. **Cluster** [BBS78, BSD+20, Dam66, GPE99, RKW99, IS20, JSS13]. **Clustering** [BF77, BM63, Bon64, O'M85, SSW91, Sta86, DB01]. **Clusters** [Eas78, Sta84b, Sta87, MBJ+97, Sta89b, Sta89c]. **Clutch** [Fit57]. **CMOS** [ADG+95, Ano06b, Sta90, Agn02, BFG+06, BS95, BMT+90, CAC+95, CTT91, DTH92, DTTK95, DAC+03, ECD+99, ESW+95, Fle95, Fra02, FHSD06, Gre97, HND+06, HZB+06, HNS+03, HRC+08, Isa00, IFB+11, KB06, KCA+95, KACS95, KSL95, LSF84, LRMT95, LCHL95, MMR89, Mat85, Now02, PZK+03, SSM97, SG95, Sec95, SWC+95, SPR+95, SWC+97, SMK+99, Sta02, TDM+87, TMF+95, Tau02, WL97, WMH+97, WNV+02, YS99]. **CMS** [BGW91]. **Co** [AKG+19, BCK13, Lye77, KKS02, SMP+04, IBM13c, Bra72b, Bru78, OHSP76]. **Co-design** [AKG+19, BCK13, IBM13c]. **co-simulation** [SMP+04]. **co-verification** [KKS02]. **Coal** [Sti79]. **Coated** [CHBH85]. **Coating** [Was77]. **Coatings** [Ros78, LG88]. **Cochlear** [Ins77]. **CODA** [FPST14]. **Code** [Bea74, BMS80, Chi86, KLS66, KM20, Mar80, Mel60a, PH74, Pat85, WF83, Gla97, Gyg08, KL97, Mye72, PLS20, TAE+07]. **Coded** [Voi65, GYK99]. **Coder** [GCPVG85, PMLA88, SM98, MP88a, MP88b, PM88]. **Codes** [Ano93f, BD62, Bla79, CR76, CH84, Cro70, Fra82, Gri60, HO75b, Hsi70, HBC70, LM80, Mar61, MLT83, MG63a, Pat70, PR59a, Rog66, SS59a, Ull65, Wyn64, Gor63, How89, LKY80, Mac60, Meg60, Mel60b]. **Coding** [Fra70, Fra79, Fra80a, Fra89, HP63, Kob70, MD65, Pip79, RL79, Win62, BK74, Dan82, Fra80b, KT70, KB74, Lan84a, Lan84b, MP88a, Pat89, Ris76, TLM83]. **coefficient** [Rat68]. **Coefficients** [Beb62, DG84, MR72]. **coercion** [MKW+12]. **Coercive** [BB60, Pes71]. **CoFe** [JWSP06]. **CoFe/MgO** [JWSP06]. **cognition** [AWK20]. **Cognitive** [BR17, BCS+18, KLMV19, Pic18, ABD+18, DCC+17, KAA+18, KHK+18, NAN+18, RCP+16, SN15, WSCK17, MBK+15]. **Coherence** [CGR88, KH88, DY89, NNMJ01]. **Coherency** [Fan64]. **Coherent** [But88a, Gef88, Loy79, RS69, SB62, SBJS15]. **coil** [BM68]. **Coincidence** [ZG65]. **collaborative** [PMS+17, RK15, WYF+03]. **Collapse** [How82, Gol69, Mil69, Mil00, NL69, Okt69]. **collapsing** [PV93]. **collection** [DSRC98, WC69]. **Collector**

[Ken61b, MW79, Rut57, ZCK71]. **Collision** [HS81a]. **Collision-Free** [HS81a]. **Colloidal** [CHBH85, MSG+01]. **Color** [Ano59n, BJS80, Far83, FLCB85, Kan78, KFYU92, LMT84, San83b, KLMV19, LL98]. **Column** [CERS76, Hsi70]. **Combination** [WC69, BL15]. **Combinational** [Eic65]. **combinations** [SLZL18]. **Combinatorial** [Kuh60, Luk75, Tuc60a, Vil82, Agr01, Bur72]. **Combinatory** [Bur72]. **Combined** [HP84a]. **Comment** [Aas70, Ber76a, DCB77, Lan96, Sta75, Tid62, Wie76]. **Comments** [Fre70, Rad62]. **Commerce** [DLN14, BDMN14, DGH+14, HRZ14, KKL+14, YGR14, YMR14]. **Commercial** [BFH10, FAJ+94, BEKK00, HHR99, Irv91, KEL+00, NAN+18, JMLW94]. **commitment** [BBSW97]. **commitment-revision** [BBSW97]. **commodity** [BCC+01]. **Common** [DB82, Bus71, CBV08, HKLM97, HB73, LH03]. **common-core** [Bus71]. **common-mode** [HB73]. **Communication** [Ahu80, Ano58f, Cha75b, CR76, Chi60b, CW77, GRT74, MT77, MFT77, SC20, SL67, Wie58, ZST+07, dG58, AGZ94b, AEH+04, DAS+94, ESW+95, FMP+03, GBRJ05, Irv93, Irv01, Pig88, SJW+16, Tho70, TJHK03]. **Communications** [And65, Ano66j, Ast58, Bla65, Cha75a, JS81, Str83, WZ78, Wes78, JGD+08, MZS+03, PK03, Ung72]. **communities** [MDMN10]. **community** [KEKP20, LH03, SXW+13]. **Commutator** [Dun57b, Wal58]. **Compact** [Mar80, Bra94, MN90, WSK+93]. **Companion** [MBK+15]. **comparative** [MDH+12, SXYP12]. **comparators** [BW81b]. **Compare** [KMC+11]. **Comparison** [Ano66j, Bla65, Boh73, BBT85, Bru78, Mat03, MW79, SBT87, SBH82, Fra89, GHN04, MD12a]. **Comparisons** [SLHM67]. **compatible** [DTTK95]. **Compatibles** [Mar64a]. **Compensating** [Ins77]. **Compensation** [Mee67, Phi78, KSK98]. **compensators** [GB71]. **competition** [AUW+09, Sav69]. **Competitive** [SAPT01]. **competitiveness** [KRS+17]. **Compilation** [Mar80]. **Compile** [Laf80]. **Compile-Time** [Laf80]. **Compiler** [BMS80, Chi86, Ris84, AKE+92, Bla94, GHL+04, SK86, TMT+20]. **compiler-based** [AKE+92]. **compilers** [Sar97]. **Compiling** [ACF+80, Arb86, DO86, Mye72]. **complementary** [DMR+81, PMW06]. **Complete** [Dub72, MR76a, Moo60, Hof60, Koz81b, Koz81a]. **Complex** [Cle81, CS65b, Far91, KCH+09, Nus76a, Nus76b, PPS82, Sch84, TS82, BGW+04, BMD+20, BFG+99, Gri04, Hol78, Kep75, Mas97, PBC+04, PAH+18, RWB+10, Rue72, SA98, SPS+06, SA00, Tib93, TBB+09, VMS+14, Wai05]. **complex-arithmetic** [Wai05]. **Complexity** [CLW80, HP84a, HS11, NSS58, Sav70, Kri82, Pip81, Pip87, SS86, ZBBB17]. **compliance** [BNN+09, Coo90, EPP10, MS07]. **Component** [BBT60, GSAB93, BBSW97]. **component-supply** [BBSW97]. **Components** [Hud63, Kan78, SM78, DBK82]. **Composing** [Yha75]. **Composite** [GS75, Kan78, Ros78, Bra94]. **Composites** [MLSS84, MVK85]. **Composition** [MS67, MOG+19, WTS+11]. **Compound** [FZ88, MS67, TWF90, VBE94]. **Compounds** [BMW83, BTH62, CK79, CGHK77, KSF90]. **comprehensive** [BCH+16, vBBE+02]. **compressed** [FHPR01, FR01]. **compressed-memory** [FHPR01]. **Compression** [LP75, TLR85, AGJA06, ATL+88, BK74, BL98, CDC96, Cra98, Kam98, KB74, Mar98, MRG99, SLJ+15, ZDB+18]. **comprising** [AKRS04, CBB+04]. **Computation** [Ben73, Ben88, BJ67, Che72, DHM75, Dub83, Duk90, Eli58, FL75, Ho75a, Kog57, Kog58b, Kog58a, Kog59, LF77, Lev66, Mar90, MY67a, MY68, NQ78, BHH19, Ben00, CW58, CN94,

FKL+08, Gla97, Mer04, NLP17]. **Computational** [Ano19g, Bla88, CK17b, Cor18, Jam89, MOG+19, Moo72, NNN+06, PCW+17, RK75, ACM01, AUW+09, BH11, Her72, HMK01, KMGD19, TMS+01, VPV+19, Var19, VRA+09, WG19, HMOS81]. **computationally** [ASL+19]. **Computations** [BRR79, Cle65a, NB61a, Sak79, Cle00, FAFL91, Pip87]. **Compute** [ABB+91, IBM13a, BHD+05, EBH+16, HBB+05, OBB+05]. **Computer** [Ana80, Ast67b, BDWZ83, BS81, Ben59, BAH82, BL69, BHWZ63, Cha73a, Cha74, Cha75b, CDW75, Cho75, Cle81, Col69b, CC76b, CD85, CA01, Dah63, Dav82, Dec90, DLW86, Don81, FPST14, FCH70, Fla81, FE75, GL87, GMW80, HS85, HHF69, HLS81, HSC82, HCTS81, Jam81, JKG69, KKS+73, KL63, KO70, Kog57, Kog58b, Kog58a, Kog59, Kol67, Kra81, KP80, LG78, Laf80, Len58, LW77, LS69, LV62, MFT77, Pet76, Rot66b, Rue79, Sch81, SSL73, SLG78, Sch96a, SB86, SW67, Sve78, SG64, TW62, Tod78b, Tue68, WF87, Wes90, Wri83, AGZ94b, Ano70a, Ano71, AHJ+57, ABM+01, Bau72, BK61, BHH03, BS91, Buc62, DH69, EGH+86, FL69, GR92, GM69, HVK+90, Ho73, Irv93, KLRS96, Koe18, Led71, Mat98, Mol69, MS89, Nai02, NDM+04, Oka69]. **computer** [PW72, QS67, RSS91, Rub90, Sta75, TFJ+96, Tho70, WC69, ZCM+96, GFS71]. **Computer-Aided** [Rue79, SLG78, Dec90, FPST14, FCH70, Sch96a, Ho73, KLRS96]. **Computer-assisted** [JKG69, GM69]. **Computer-automated** [KL63]. **computer-based** [PW72]. **Computer-Controlled** [BDWZ83, KKS+73, HHF69]. **Computer-generated** [BL69, MS89]. **Computer-Operated** [SW67, Col69b]. **Computer-Output** [Sve78]. **computer-to-computer** [Tho70]. **computerized** [LPPT86]. **Computers** [BBH+81, GBS+87, Her75, Skl76, BSHM01, BO69, BCC+05, Har71, LGF+03, SSW91, TR77]. **Computing** [AS74, CGH+17, HM87, MR14, Nus77, ABD+18, AHH+91, BBPS91, BB09, BJ06a, CRAG18, CBD+09, DP13, EGN+19, FGG+13, Fro71, FLB+19, IMC+10, JDBP10, KSA+04, KHK+18, LDJ+10, Lan61, Lan00a, MC09, NRD+09, PWW13, RAG11, Rit13, RBL+09, RLP14, SHV13, SN15, VLB+09]. **Concentrating** [Hov78]. **Concentration** [Col62, Bar86]. **Concept** [Gha75a, Joz04, KBF+04, RK15]. **concepts** [DHK00, Kum92, SCC+15]. **Conceptual** [CA84, FLDC86, Sow76, SW86, VPD88, KMGD19, MOG+19]. **Concerning** [Coo62, KW62]. **concurrency** [EBB+20]. **Concurrent** [LT70, Lie20, MVI+07, AR87, CHMW07, Kum98, PVAK02]. **Concurrently** [CNSS12]. **condensation** [ESA02]. **Condition** [Rob67, MY65, Mir61]. **Conditional** [SJ89]. **conditioning** [LGBV17]. **Conditions** [Lan66, LL83, SSG69, AG72, Sug59]. **Conducting** [Ang01, BMW83, CSS83, SC81]. **Conduction** [BB82, But88b, CHS82, DA77, FK60, Lan88, Leh64, OK82, PW83, Pri58b, Pri60, San83a, Sch64, SARG80, SC88, Whi93, BRB92, HOWP92, KLM+91, Lan57, Lan96, Lan00b, LMPP69]. **Conduction-Cooled** [OK82]. **conductive** [NSOO98]. **Conductivity** [Bay69, CJT62, CFH64, ET70, ODR70, Was88, CNC+08, Kah71, MNS69, Nes98, Pai69, SNM69]. **conductivity-temperature** [Kah71]. **Conductor** [Adl64, Mei62]. **Conductors** [WWMS79, BFH+93]. **Conference** [Ano58f, Ano70a]. **Conferencing** [BBD+98]. **Configurable** [AKRS04]. **configuration** [BHK+02, PVAK02]. **configurations** [HRW69]. **confined** [ETWO08, MKJM93]. **conformable** [Lin76]. **conformable-contact** [Lin76].

Conformational [Cle81]. **conformity** [ABH+19]. **Conjugate** [RV89, CW72]. **Conjugate-gradient** [RV89]. **Conjunctive** [(Ga57]. **Connect** [LCB93, GLCW93, CGLL93, Cor93, Mah93, RBWH93]. **Connected** [MS87, SN87, FGH+06, KMO+14]. **Connection** [DKR12, FGC92, GLOS92, How82, NSOO98, VH81, CdLS92, ES92, Tag09]. **Connections** [FHL+82, Kur57, BRB92]. **connectivity** [WYTO04]. **consensus** [MN70]. **Considerations** [AKK+67, BS84b, CT82, Coo62, Cor84, GS82b, LST80, Pad83, RP78, RGL75, CGLL93, GH96, HBB99, JL99, KL70b, LL93, MDG+06, Pat72, SK98, SY92, SV92, VMM+94, YS99, ZY72]. **Considered** [Pim76]. **Consistency** [Map62]. **Consisting** [Lan85]. **console** [VWE02]. **Constant** [Esa62, GMT57a, GMT57b, Tit61, MRG99]. **constant-** [MRG99]. **Constant-Input-Flow** [Tit61]. **Constant-Temperature** [GMT57a, GMT57b]. **Constants** [Col59, CS65b]. **constitutional** [AT00]. **Constrained** [Bud67, MLT83, CFP+07, Fra89, Fra02, Jan69, TLM83]. **Constraint** [Coo84, NRA+07, Wol72]. **constraints** [Coo90, Lam77b, RMM03, VLKW14]. **Construct** [Paz75]. **constructing** [ADG+92b]. **Construction** [CW86, Fra82, KMC+11]. **constructs** [BS06]. **Consumer** [SMSC14]. **Contact** [CEHL78, DG93, GRS87, IM57, JWL82, RWC80, TDM+87, BNSG09, Lin76]. **Contactless** [VCP80]. **Contacts** [Ove70, SGC+87, BS71a, BCT89, KSH+08]. **Container** [RBL+18]. **Containers** [ABD+16, BBK+16]. **Containing** [BBKW86, FPS66, Keh65, PF66, Bra68]. **contaminant** [Whi93]. **contaminants** [AKKJ72]. **Content** [IM60, MW62, MHI98, SJ70, AN98, BWB+20, CNP+15, HJW+16, MAD+98]. **Contents** [Ano57j, Ano57w, Ano57x, Ano57y, Ano57z, Ano58g, Ano58h, Ano58i, Ano58r, Ano58s, Ano58t, Ano58u, Ano59e, Ano60f, Ano60g, Ano60h, Ano61e, Ano62d, Ano63e, Ano66g, Ano66h, Ano66i, Ano67h, Ano67i, Ano67j, Ano67k, Ano67l, Ano67m, Ano12l, Ano12i, Ano12j, Ano12k, Ano13d, Ano14l, Ano15l, Ano16e, Ano16g, Ano16h, Ano17d, Ano17e, Ano17f, Ano18e, Ano18f, Ano18g, Ano18h, Ano19k, Ano19l, Ano19m, Ano19n, Ano20i, Ano20g, Ano20h, Ano13c, Ano14k, Ano14m, Ano14n, Ano15i, Ano15j, Ano15k, Ano16f]. **Context** [TLR85, EEM15, KdAC+15, MC87, TWM+14]. **context-aware** [KdAC+15]. **context-sensitive** [MC87]. **Contextual** [BR17]. **Contiguous** [JHH+81]. **Continental** [SKK14]. **continuation** [BS71b]. **continued** [Agn02]. **continuing** [Gre97]. **Continuity** [Tof88, WAB+09]. **Continuous** [Ano06b, AAC+06, BGS64, PR65, CDSW06, EGH+86, Gre59, MHW95, NBF+00]. **continuum** [ABM+01]. **contour** [GMNE63, Kep75]. **contract** [BBSW97, TYSS19]. **Contrast** [Dav79, Kov59, RDD+98, DP13, KJP11]. **Contribution** [Key61a, MR14]. **Contributions** [BS81, Sam81, Sor79, Sor00, Gar00]. **Control** [Ast67b, BS84a, Ben59, Bla59, Bla79, BT67, Bud67, CL64, CAE+76, CW77, Cle83, CI76, Dav77, DB76, FLS78, Fre67, Gil84, GHK67, GMT57a, GMT57b, HBB+05, HKM+86, KST58, LHW81, Len58, Log70, LMD70, May85, MS67, RR83, Rob67, San83a, SH57a, SSL73, TL70, War63, Yas85, Yas87, ADS72, AAB+16, BEK+02, BSSZ76, BW72, BTWY92, BM68, BM96, Cal70, CAC+95, CDD+10, CH82, Cov92, FS82, IMC+10, KL97, KL94, Lew78a, NNMJ01, Oka69, Pat89, RM09, SG94a, SBB+09, SCW10, Stu70, Tho70, WGS04]. **Control-Word** [Bla59]. **Controlled**

[BDWZ83, Boe69, How82, KKS+73, LW77, Mil69, Mil00, NW64, Dur70, Gol69, Gre60, HHF69, Nic92, NL69, Okt69, TYSS19]. **Controller** [ZST+07, CW91, Pig88, RSNG82]. **Controllers** [DB82, Kis03, SLC09, Sou96]. **Controlling** [Car77]. **Controls** [Ano67t, BCD+85, VOW+12]. **Conventional** [Ano66j, Bla65, Won02]. **Convergence** [BJS80, Cha87, CW72, JP94, Ung72, Wol72]. **convergent** [Bra72a]. **Converging** [Jam89]. **conversation** [Elg11]. **conversational** [KSSC+13, SP17]. **Conversion** [LSH76, RP67, SCYK78, Wal58, RFB+03]. **converter** [HB73]. **convertor** [BW81b]. **Convex** [AW76, Dim78, Dor60, JP94]. **Convolution** [AC86, Coo82, BSRG17, Kri82]. **convolutional** [SP17]. **convolutions** [Nus76a, NQ78]. **cool** [ESA02]. **Cooled** [NHH91, OK82, BBMP92, BRB92, DGG+92, GGRW91, Haj91, KLM+91]. **Cooling** [CHS82, CAC+05, DGG+92, GZM92, GKMP04, SN02, SAB+02, TTM+20, TBG+15]. **cooperation** [AUW+09]. **Cooperative** [JKB+13, KW62, Mor79]. **coordinate** [MN90]. **coordinated** [EEM15]. **Coordinates** [KKS+73, RSL+70]. **Coordination** [DSS+92, BMD+20]. **cope** [WN92]. **Copenhagen** [Mer04]. **copier** [BHRS72]. **Copolymers** [Smi77]. **Copper** [ADH70, AGLM85, JC63, KWJJ84, AdH00b, AUD+98, DKA+05, GB93, JK93, KFSZ92, RKL88a, RKL88b, SD71, TKK+92, VBDA05, YCB05]. **Coprocessor** [BCD+20, ECD+99, YS99, AV04, ABC+12]. **CORAL** [Han20, IS20, MLWC20, PLS20, RMM20]. **Core** [Bru78, FP57, RRSW61, WWLF67, AF99, Bus71, CNSS12, KMH+98, LVT+18, SLC09, SVE+15]. **Core-Level** [Bru78]. **cores** [ATC+15, BL98, SK98]. **corporate** [CCE+20, GMX14]. **Corporation** [Don00]. **Correct** [MG63a, Wyn64]. **Correctable** [How84]. **Correcting** [ABB+85, CR76, CH84, Gri60, SS59a, Mac60, Meg60]. **correcting/detecting** [AC84]. **Correction** [Bos70a, BS70, Dah63, ELMR77, GSC80, Mel60a, PL81, Par80, SFH65, Bos70b, Gor63, Mel60b, OCT68]. **Corrections** [PS80, PW68]. **Correctness** [Bir74, PV93]. **Correlated** [Lik88]. **Correlation** [Lew83, Sta87, Wat60a, Fil70, Pes71, RRMD17]. **Correlative** [TG91]. **Correspondence** [WF87]. **corresponding** [Swi62]. **Corrosion** [BFH+93, GC68]. **Cortical** [UC62, LRNS17]. **COSFIRE** [GSAP17]. **CoSi** [Tu90]. **Cosmic** [ZS96, ORT+96, Sri96, Tan96, ZMM+96, Zie96, Zie98]. **cosmic-ray-induced** [Sri96]. **Cosserat** [Bog79]. **Cost** [BGR82, HBC+99, SCYK78, AP69, FN95, GBB+05b, HSS+10, Irv93, KBA07, LRMT95, LCHL95, VMS+14, VNT16]. **Cost-effective** [HBC+99, KBA07]. **cost-sensitive** [VNT16]. **Cost/Performance** [BGR82]. **costs** [KLHW16]. **Counter** [Car60, Spr63, ZG65]. **countries** [AKNR10, SGESR10, YGR14]. **Country** [HS14]. **Coupled** [Cha62, CH74, CP63, Gra80, GC81, HO75b, MT64, AF68, HCL72, JS72, NLP17, Pat73, PBK+09, SV92, TCP+16, TGB+80, WYS92]. **coupled-systems** [SV92]. **Coupling** [Bla63, GE02, PSP06, Sur15, Swa60, Far98, HRW69, Jon98, SKE+18]. **Courant** [Lax67]. **Courant-Friedrichs-Lewy** [Lax67]. **Covalently** [DK79]. **Cover** [Ano11, Ano12b, Ano12d, Ano12a, Ano12c, Ano12e, Ano12f, Ano12g, Ano12h, Ano13a, Ano14c, Ano14d, Ano14e, Ano15b, Ano15c, Ano15d, Ano16a, Ano16b, Ano16c, Ano17a, Ano17b, Ano17c, Ano18a, Ano18b, Ano18c, Ano18d, Ano19b, Ano19a, Ano19c, Ano19d, Ano19e, Ano19f, Ano20c, Ano20a, Ano20b, Ano13b, Ano14a, Ano14b, Ano14f, Ano14g, Ano14h, Ano14i, Ano14j, Ano15a, Ano15e,

Ano15f, Ano15g, Ano15h, Ano16d]. **Coverage** [BH82, EL83, LMD70]. **CPU** [EBB+20]. **CPU/GPU** [EBB+20]. **Cr** [Vur70, MU77, WB70]. **Cr-Doped** [WB70]. **CR-SiO** [MU77]. **Crack** [CS65a]. **Cracking** [DS65]. **Cracks** [Keh65]. **Crank** [Fla65]. **Cray** [PBK96]. **CRC** [Gla97, Irv01]. **CRC-32** [Gla97]. **Creating** [KEKP20]. **Creation** [Luh58a, GGH+13, GMX14, KLMV19, RSS+15]. **Creative** [RAMD19, ASL+19, WG19]. **Creativity** [Ano19g, MOG+19, VPV+19, Var19]. **Creep** [BBT79]. **Creeping** [MW67]. **crew** [VJA07]. **crew-scheduling** [VJA07]. **crises** [PSD+17]. **CrisisTracker** [RVT+13]. **CRITAC** [TSNF88]. **Criteria** [Bra64, Poh86]. **Criterion** [Pis74, Bra68]. **Critical** [CDM89, Fre96, Sch89, Swe62, PTRC16]. **crop** [BKF+16, NT72]. **Cross** [Gra80, JS72, Pat85, Les71, MMJ69, TTI98]. **Cross-Coupled** [Gra80, JS72]. **Cross-Parity** [Pat85]. **cross-sectional** [TTI98]. **crossbars** [JAC+19]. **Crossed** [MW70]. **Crossover** [Gef88]. **crosspoints** [RTL69]. **Crosstalk** [PL83, LL98]. **Crowdsourced** [RVT+13]. **Crowdsourcing** [JQB+09]. **Crucibles** [CSY79]. **cruise** [CPvR00]. **Cryogenic** [Ros59, Bro72, Pat72]. **Cryotron** [Bre60]. **Crypto** [BCC+19]. **Cryptographic** [ADH+07, BCD+20, ECD+99, SY92, YS99, AV04, ABC+12]. **Cryptography** [Cop87, Cop00b, BAB+13, Smo04, VDO14]. **Crystal** [Boy60, BS64, CFG64, Dav77, DC82, Fre62, McG92, Mee67, SW98, WTP64, APOI92, AIH+98, BH89, CJ78a, CJ78b, GI88, How92, KFYU92, LL98, LCL+98, MRH89, NSOO98, RDD+98, SST+98, SS00, TSH92, TCCH98, WWA+98, Yan71]. **crystalline** [WTS+11]. **Crystallite** [Seg62, Smi60]. **Crystallographic** [AS87]. **crystallography** [HMK01, Tof04]. **Crystals** [Cam57, FK60, IM60, Key61b, Mar60a, SOC59, BA70, CDM89, Rat68, YHA71]. **CSP** [Woo87]. **CTS** [DMR+81]. **Cu** [BPL+89, CDM89, CSH+89, BH89, BdM+78, Dem78, HSM84, LR65a, MRH89, Var89, VDP94, vHv+89]. **Cu-O** [Var89]. **Cube** [Par60, NAB+15]. **Cubic** [Ins76, Dim78]. **cultural** [DSZ+12]. **Culture** [AWK20, NBF+00]. **Cumulative** [Ano93c, Swa61, EKR87]. **CuO** [ABK89, ACM+89, BEH+89, EHK+89]. **cup** [ZSZ96]. **cuprate** [Kit89]. **Curating** [KBJ+18]. **curation** [RVT+13]. **Curie** [DK67]. **curious** [VPV+19]. **Current** [Bar69, BGS64, Bre60, BKM80b, Ghe80, Gun64, JMM+96, Ken61b, KWB88, Kit89, Lan86, LV67, Mat85, MN67b, MG63b, Ove70, SSG69, Smu57, SH69, CDM89, Dha68, Duk90, EB91, GNF06, HC69, NFI+08, Sun06, TPTH20]. **current-perpendicular** [Sun06]. **Currents** [CGR88, CP86, DA77, Dui59, Lan88, MS60a, Lan57, Lan96, Lan00b]. **Cursive** [Tap82]. **Curve** [Nor58]. **Curves** [RR87, Swe62, YWWK64, AO97, ODA03]. **Custom** [ADH+00a, BBHS84, CS99, Cor82, EFG+05, MM82, SPR+95, Ver80, ABB+99, KSL95, WL97, BM84]. **Customer** [BNSG09, BEJ+14, ET69, JS14, KAF+16, KSSC+13, LPMDG14, SMX+14, YBF+14]. **Customer-focused** [BNSG09]. **Customization** [HY84, Elg11]. **Cusum** [Yas85]. **Cusum-Shewhart** [Yas85]. **cutoff** [SS86]. **cutting** [Her72, Sav90]. **CVS** [HY84]. **cw** [KACS95, HFDN63, Key71, Mar64c]. **Cyanine** [Lew78b, Mer78]. **Cyanine-TCNQ** [Lew78b, Mer78]. **Cyber** [Viv14]. **Cybersecurity** [Pal14]. **Cycle** [Mar60a, RBC78, BB09, GKMP04, MDR+07, Van97, VMG99]. **cycle-simulation** [VMG99]. **cycle-time** [MDR+07]. **cycles** [MHI01, Mat03]. **Cyclic** [LCH74, LM80, Mel60a, Ull65, Wyn64, BBI94, Gla97, Gor63, Irv89, Irv01].

cyclic-redundancy [Irv89]. **cycling** [RHC73]. **Cyclotron** [DV64]. **cylinder** [Jan69]. **Cylinders** [BBT83]. **Cylindrical** [BGT74, Ken61b, KG63, Zab79, LC83]. **Czochralski** [LL83, MPCF82]. **Czochralski-grown** [MPCF82].

D

[DWA+08, EFR+05, EK08, KYY+08, PLS20, RG09, SAT+08, Sch67, SJMBK08, ZVW+11]. **D-Chains** [Sch67]. **dairy** [LZZ+16]. **Damage** [HD69, Fon99]. **damascene** [VBDA05, AUD+98]. **DAMOCLES** [LFF90]. **damper** [LR79]. **Dark** [DA77]. **DASD** [KLRS96]. **dashboards** [YMR14]. **Data** [ÅC64, And65, ADST78a, AHN+03, BJS80, Ber76b, BL98, CAE+76, Cha75a, Cla03, CPCC18, CMW92, CDH64, Cro79, DSW63, DG84, DC73a, DGB78, DAUS91, DMP59, Eas75, Eas86, EKMW64, Fal70, Far83, FLCB85, Far91, GLS74, GLP76, GS74, GHK67, God74, Gri69, Hal76, HLZ+09, HF78, Hop59, Hop61, HP84b, JS81, JMLW94, Kan78, Kob70, LS76a, Lew80, LS76b, Lom77, Lom80, LN79, Low78, LSH76, McG81, MHI98, Mul74, Mur57, NB61b, PTRC16, Sow76, SW74, Tas57, Wal58, WW75, WSJ+19, WY76, ARG00, AKRS04, ASR07, ADST78b, ATL+88, ABB+00b, BK74, BDMN14, BHH19, BCG+09, Ber76a, BGL07, Bev69, BFRT13, BKM+69, BC18, BMS+17, BL15, BBI94, BBC+08, Bro72, BSRM09, Car10, CGM+15b, CP13, CN18, CDC96, CN71, CPD+09, CFP20, CNSS12, Cor69, Cra98, DF15, DBK82]. **data** [DCB77, EB06, EÖH10, ESW+95, FGG+13, FHPR01, GZE+05, GDLS14, GAB+08, Gra71, GRS13, Gus03, HvKI+09, HTH+09, HRF+17, HKD06, IMC+10, Irv93, KBJ+18, KBP+12, Kan15, KCML13, KOP14, KB74, KBF+04, Kon69, KSSC+13, KDG15, KTD20, KSA+04, Kri82, KACS95, KRS+17, MTF+95, MYKK+17, MA96, McN94, MCG+15, Mel60b, MAD+98, MI10, NMV+09, NMTP14, OTC14, OOL+12, PMS+17, PK03, PR71, PMW06, Rei69, SG71, SCI05, SI09, SG94a, SBB+09, SNA02, SLJ+15, Sto91, SMX+14, TB00, TG91, TJHK03, VPV+19, VMAB18, VRA+09, Wie76, Yas07, YMR14, YR91, CDL+14, Cop94, GGH+13, HAG+13, HCG+13, JSS13, Mal13, RCP15]. **data-based** [SMX+14]. **data-center** [MI10]. **Data-centric** [HLZ+09, DF15]. **data-driven** [KRS+17]. **Data-intensive** [AHN+03]. **data-management** [FGG+13]. **Data-Recording** [SW74]. **Database** [Eas78, FLW78, Fag77, LDSY91, TPF+91, ZDB+18, vv86a]. **datacenter** [KDT18]. **Dataflow** [PMS+17]. **datasets** [GDB16, SHCV19]. **DataStores** [RCFN+08]. **Davidenko** [Bre72]. **Davidenko-Branin** [Bre72]. **day** [DSS+92]. **Days** [Gol87, Smo04]. **Db2** [CHJ+18]. **DC** [Ho75a, Sak79, WF83]. **DC-Balanced** [WF83]. **DCS** [Wei91]. **DDR3** [VLT+12]. **deadline** [CSW73]. **Deadlock** [Ahu79, Ahu80, ABF+10]. **debonding** [RKL88a]. **debt** [Mar12]. **Debugging** [DFF+15]. **Decay** [DB79, SG71]. **Decimal** [DDZ+07, Gri90, SKC09, WET+10]. **Decision** [KT73, Pet77, RS59a, AYA14, CDG+10, FKOW16, JWW+11, LB07, LPMDG14, MD12a, Mye72, PW72, RDL19]. **Decision-Feedback** [KT73]. **decision-maker** [MD12a]. **decision-making** [PW72, RDL19]. **decision-support** [JWW+11]. **decisions** [GMX14, ZBG+10]. **declarations** [ABH+19]. **declarative** [NMTP14]. **Decodable** [LM80, LKY80]. **Decoder** [Pat86, Sav70, Smu57, Bla84a, Bla84b, Nob95b]. **decoders** [LL99]. **Decoding** [Jel69, Mer88, Moo60, Ull65, Kob71]. **Decomposing** [BZ06a, CFS+19]. **Decomposition** [BRA84, DC73a, DCB77, PL79, PAH+18, HT69, KPB+12]. **decompression** [KMH+98]. **decoupling** [HOWP92]. **DED** [Hsi70]. **deduction**

[AC92]. **Deductive** [Wat60b]. **deemed** [ASL+19]. **Deep** [BBD+17, CK17a, CNP+17, DB20, EGN+19, KSA+04, MMB12, SH69, AKG+19, AC92, ARS+17, BHW+17, BSRG17, CFS+19, CFP20, GKT17, NG17, Lin76]. **deep-learner** [CFP20]. **Deep-Level** [SH69]. **Deep-UV** [Lin76]. **DeepQA** [GLK+12, KPB+12, KBP+12, WKF+12]. **defaults** [CHdTG92, dTGHC92]. **Defect** [DJ70, FF73, HB74, SARG80, Sta83, Sta85b, WA79, BMT+90, HS71, YCB05]. **Defect-Related** [SARG80]. **defective** [Hui90]. **Defects** [HBR85, HBR86, Sta84a]. **Defense** [HT16]. **Deficiencies** [SK69]. **defined** [AAB+14, AAS+14, AHH+14, BBG+14, DOJ+14, EM65, FHL+14, KRD+14, KFW+14, LBC+14, MSV14, SMC+14]. **Defining** [WSE+16]. **Definition** [CAE+76, Lom80]. **Definitions** [CT65]. **DEFLATE** [KMA+20, SKS+20]. **Deflection** [ELMR77, FBW77, Zwe65]. **Deflector** [KHKM64, Rab69]. **Deformation** [GLCW93, WS72]. **Degradation** [HW87, Lud00]. **Degree** [Hau67, MM94]. **Delamination** [AGLM85, Klo87]. **Delay** [BDMW81, Cal81, Fra80a, Fra82, BH95, BMT+90, CH06, FN95, KSK98, MTB+90, NLP17]. **delay-cost** [FN95]. **delay-test** [MTB+90]. **Delayed** [BSSZ76]. **delivered** [HSS+10]. **Delivering** [ODL+09, OEN+16, CCE+20, VSS+09]. **delivery** [BNN+09, JQB+09, KJS09, LRV+09, Tag09, VMS+14, Yar12]. **Delocalized** [HSH+88]. **DELPHI** [FRPG01]. **delta** [LKY80, HF91]. **delta-decodable** [LKY80]. **Demagnetization** [Kum65]. **Demand** [ABG+09, BT84, Fro84, LMT84, Elg11, WAC+16]. **Demodulation** [Hop59]. **demonstrator** [GP06a]. **demultiplexor** [AF99, RT99]. **Dendritic** [PCDW78, TMW+17]. **Dense** [GSC80, AGZ94c, FKK+03, Gus97]. **densities** [ABB+08]. **Density** [BDWZ83, BKM80b, BCRW82, CDS+86, Erd88, Gra80, Hoa61, LHW81, Ove70, PH74, Pat85, Sch85, Sko58, Sta85b, CCJH81, Hoa00, KTD20, MTF+95, Nai02, Ngu99, PSA+08, Pat73, PK88]. **Department** [Gol87, WH94, Oka69]. **Dependability** [ST89]. **Dependence** [Bru76, CH74, Dou62, Hun59, ODR70, Swe62, Tin62, Whi70, Sar91a, vHv+89]. **dependencies** [Fag77]. **Dependent** [Fra79, AKKJ72, Fro71, Mel60b, Nes98]. **depletion** [LBT99]. **deployment** [CDG+10]. **Depolarization** [KH75]. **deposit** [Jon72]. **Deposited** [Ahn66, KEJ87, O'H78, PDLM67, SJ70, AF68, Gri99, OSP+98]. **Deposition** [Ham78, KS79, KWJJ84, Bea90, CNC+95, CNS+99, Fon99, GMP90, JL90, Mey90, Mey00a, Ngu99, OHWR88, Ros99, SLYR72, YAJ90]. **depth** [CBV08, SS86]. **depth-first** [SS86]. **Derivation** [Mar64a, SS76]. **Derivatives** [Ins76]. **Derived** [ARV64, ESS+20, LS73]. **dermoscopy** [CNP+17]. **descent** [Lan66]. **Describing** [Her66, NB61a, NB61b, Can73]. **Description** [LST80, MO84, OHM+85]. **Design** [AKK+67, ABCR65, Abb66, Aic84, AAC+05, ABPS66, AF99, Ano20e, BM84, BBSW97, Bea90, BHP83, BFL66, BAH82, Bos97, Bro78, CD78, CT82, CDS+86, CMPR64, CA84, CGG+64, CCG+81, CBB+05, CP63, Cor82, Cor84, CDS73, CDS00, Dan81, Dav82, Dha68, EBH+16, EMM+18, Eic18, ESA02, EGH+96, FHVZ80, FLCB85, FN71, FGM+83, FHL+82, FPB+11, Ghe80, GAOD71, GH96, GR92, GHK67, GLL80, GHKO57, GS82b, HNS+03, HPWW81, Has66, HP66, HD73, HY84, Hea76, HO96, JSR+18, Jur78, KS90, KMO64, KC66a, KKT+95, KMA+20, Kos15, Kue60, LV67, LL93, Lip92b, LST80, Mac60, MDG+06, MO84, MFT77, ML82, MDR+07,

MM82, MHI98, MAD+98, Mon82a, MHR90, Mul74, MT64, Nii95, Osw74, Pad83, Pat72, PK03, Poh86, PSS67, RK72, RR83, RGL75, RWM+05, RP66]. **Design** [SA98, SRJ+20, SGS+96, ST75, Sch81, SHR+09, Sch80, SST67, SG95, SBP+03, SCC+97, SON+91, SBDT+09, SK98, SV91, Sta90, SCG+13, TK64, Tay84, IBM13a, Tro80, TFL+98, VMM+94, VCM+20, Ver80, VLB+09, WW75, Wil85, WCB+86, WWK+87, Yas85, ZL87, AGZ94a, ADH+00a, AEZ84, AFM+02, AKG+19, AKRS04, AHJ+57, BLM+92, BDN+02, BTP+90, BPS+96, BBD+02, BJM+06, Ber76a, BAB+07, BWB+18, BWB+20, BH11, BCK+05, BBMP92, BKRF02, BCK13, BBC+08, BHD+05, BMT+90, Cha88, CTS+92, CBC+18, CAD+09, Cor93, CW91, CCW+02, DBB+02, DKRS07, DHK+92, DeM91, Dec90, DGG+92, DEH+12, Dus71, FI73, FAFL91, FRS+18, GGKK96, GM69, GPL+92, HDW+07, Hen68, HCG+13, HBB99, JAC+19, KL63, KLRS96, KBM+99, KBK+97, KCOW08, Kum92, LR79, Man90, Mar12, MMR89, Mat98, NCB03, ODA03, PBC+06, PBK96, RMM20]. **design** [SNP06, Sec95, SPR+95, SWC+97, SY92, TSH92, Tau02, IBM13c, TBB+09, TBG+15, TFL82, TR77, WKP+02, WBW+15, Web00, WPL+12, Wei91, WBD+11, Wie76, WG19, WHK+09, WYF+03, WBS+18, WYS92, YS99, ZY72, ZBBB17, ZTC+13, ZFD+15, RWW07]. **designed** [NAN+18, WW71]. **Designer** [Wil97]. **Designer-level** [Wil97]. **designers** [DRSM15]. **Designing** [EEM15, SMSC14, SN15, VSS+09, GB71]. **Designs** [ADS72, BBHS84, LKL+81, Mon82a, CT06, GBRJ05, Kum98, SRCW97, SRH+18, WET+10]. **Desk** [Tod78b]. **Desk-Top** [Tod78b]. **Desktop** [BBGE+14]. **Destructive** [ABPS66]. **detailed** [HdTR06]. **detailing** [TBH+17]. **detect** [SJW+16]. **Detecting** [CR15, AC84, BDH+19, FRPG01]. **Detection** [ABF+10, BH82, Dam66, Dav80, Eic65, FF73, LT70, Mou86, PSH80, PM72, VMAB18, ZG65, CJH+15, DF15, EÖH10, Hei90, KCML13, OCT68, PL20, SBG+13, SKSP06, SXW+13, VNT16]. **Determination** [AO01, BBD63, BBT79, EWS+13, FXL01, GSVE83, HS81b, MN67a, MWN63, PC64, Sch84, Seg62, vS57, GFS71]. **Determine** [Spr61]. **Determining** [Ahu80, AW76, BBT60, Gec74, MD65, MS67, SH57b, SH57c]. **Dev** [Ano93c]. **Develop** [ACG+87, Ber76a, DCB77, Lan96, Sta75, Wie76]. **Developer** [RKL88a]. **Developer-induced** [RKL88a]. **Developers** [KM20]. **Developing** [LGF+03, AKNR10, HMK01, VSS+09, YGR14]. **Development** [Ano06c, AEE77, BSS82, Bal05, BDS+97, CCC+79, CC76b, DWGC85, Des02, Des04, Fit57, FL67, GP06a, GRS87, GW57a, GW57b, KAB+05, Nor58, PPS82, PERW02, PHCR81, SPP72, Tro80, Tu75, ATW06, ABL+84, ABR71, AAH68, AHM+07, BKN10, Bro85, DYK10, EMM+18, FPST14, GON+06, GMR10, GHL+04, GAOD71, Ito97, Ito00, LCHL95, LMW+01, LSS+20, MBB+20, PBC+06, RBB+02, RH90, SM71, WTT+14, Wil93, PS09]. **Developments** [Con60, May81, OO81, CBH+05, Lax67, VWPB90]. **Deviation** [JD66]. **deviations** [Swi62]. **Device** [Ano06b, AGAP63, BGK+80, CLP+13b, Dun57b, DMN+59, Esa62, GHP+85, Hoh78, HWC88, JKB+13, KMCY82, KGCS85, LB85, LCH74, PSS67, RGL75, RWC80, RHM63, SB64, Tro80, AAC+06, BKS+08, Bus71, CS84, FP73, HBB99, HHC+18, LHJ69, MHW95, RH90, Sch91, TS69, TGB+80, Vin81]. **device-independent** [CS84]. **Devices** [Ano06b, BT84, BCGS81, CH74, DO74, FC79, Gae79, Han57, Her65, Hor62, Hov78, JHH+81, KH88, KN81, LF64, ON60, OK82, Phi78, Yu61, BCGS00, CLP+13a, HND+06, HVK+90, HCL72, HST06, KKT09, LFF90,

LLF+92, OYHSB14, Pat73, RRB+01, SAK70, Wie90, WYS92, ZG71]. **DevOps** [MWX+17]. **dextrous** [NS92]. **DFT** [ACM01, RS85]. **DFT-based** [ACM01]. **DFU** [EWT+07]. **Diagnosis** [Bar83, EL83, FE75, Pet77, Rot66a, SLG78, Sta90]. **Diagnosis-Oriented** [FE75]. **Diagnostic** [CW83, Sch67, TS82, Osb93]. **diagnostics** [GBB+05a, PHCM05, SMK+99]. **diagonal** [CAW+98, KFYU92]. **Diagram** [MJJ69, MS87, SN87]. **Diagrams** [CA84]. **Dialogue** [Hei76]. **Dialogues** [LG78]. **Diameter** [Rio60]. **diameters** [HS60]. **Diamond** [Ros78, TK64]. **Diamond-Composite** [Ros78]. **Diamondlike** [GMP90, Gri99]. **diarrhea** [TBH+17]. **diazo** [CH82, HMM82]. **diazo-type** [CH82, HMM82]. **dichroism** [SN98]. **Dictionary** [Mer88, Tar63, KCML13]. **Dielectric** [Buc99a, CS65b, MVK85, OPR+78, O'H78, OG80, Sch62a, SAK70, UL70, ABC+99a, Buc99b, CNS+99, Gre68, GNF06, LV94, Ngu99]. **Dielectrics** [DK67, CNC+95, EB99, KBS+99, Luc99, OS99, WNV+02]. **Difference** [Ano67g, Ano67u, AG72, CFL67, GM72, Lax67, Wid67]. **Different** [Cho75, MFT77, CXZ+17]. **Differential** [Bay69, EB91, ET70, Her66, Le 62, PB69, AGJA06, Dan66, FW67, Ger73, HB73, KMK68, KO69a, LO72, Mos61, Pai69]. **difficulties** [Kit89]. **Diffraction** [BF63, GSVE83, Jon65, Jon70, Las63, MJJ69, HHB+89, Seg68]. **Diffused** [KMO64, KM68]. **Diffusion** [BL62, BS77, DJ70, Fis88, HKvG+11, JD66, Ken61a, KO65a, KM66, LD74, MM75a, MLSS84, RK74, Swa59, SS59b, Zar57, vS57, Can73, CG71, OSP+98, SR71, SHC+72]. **Digit** [Meg63b, Meg63a]. **Digit-by-Digit** [Meg63b, Meg63a]. **Digital** [ÅC64, AP82, ARV64, BH95, BJS80, Ben59, Ber76b, BBD+98, Coo82, DMP59, EHHP67, Fre67, GT87, HB73, HP84b, Hor62, Hor76, KLS66, KHKM64, KLE71, LL83, MG62, MBF+13, Mon82b, Nus76b, Par66, San83b, UMK+85, VSF65, Voi65, WSW83, Wal58, Wel61, van77, AFFS98, AHJ+57, CFW82, CIJ+10, CN71, CNH73, CLH+16, DH69, Gri69, Hip70, Kob71, KdAC+15, KBC+03, Mar98, MZS+03, NMH+07, OCT68, Peh69, SPR+95, Tal20, TR77, Ung72, GH96]. **Digital-Indexed** [KHKM64]. **Digital-to-analog** [HB73]. **Dijkstra** [FvGGM90]. **dilemma** [HHH04]. **Dilute** [CJT62, HB74, Jon60, Sou64]. **Dimension** [MM94, ODA03, Thi88]. **Dimension-independent** [MM94]. **Dimensional** [AW76, Blu79a, Bog79, BRR79, CW85, CHS82, Erd88, Far83, FF73, Gau77a, GHP+85, Gro76, KO69b, KO70, KW83, LC80, OHM+85, Pim76, Thu60, Wym57, Zwe65, ABG+95, BMPS91, BS91, Gam72, Her72, KM68, KAD+08, Mar71, MN03, MS89, Nef90, Sto91, TLS+06, Tu90, YR91]. **Dimensionality** [Azb88]. **Dimensions** [CGR88, AO01, Sho04, Yet89]. **Diode** [AO60, AFR62, CPZ63, Esa62, IBC64, MT64, Rut59, AA71, Mos61, Spr71]. **Diodes** [BLB+63, HA58, LDDB63, Mar60b, MWN63, NM62, Pea69, Rut64, Wei65, CA01, HC69, HP01]. **Dioxide** [BBKW86, Moh70, SBdF64, CKG+99, PW68, WNV+02]. **Dipoles** [SC88]. **Direct** [AR87, BA62, ELMR77, FC79, Fre67, Hun59, KWT+11, KP63, MHS62, Sit71, Wal58, Wel61, BSRM09, CASP91, LBT99, Rai69, RFB+03]. **direct-conversion** [RFB+03]. **Direct-Reading** [Wal58]. **directCell** [PBK+09]. **Directed** [Low78, Hei94, HW72]. **Direction** [Kum65, RR83, Wid67]. **Directional** [Bla63, CSY79, GRT74]. **Directionality** [BLB+63, LDDB63]. **Directions** [Hor00, AR98, BYY98, MDB+02, SP90]. **Director** [GLOS92, RKMY02, Ros03]. **Directory** [BCCK92]. **disabilities**

[CGM+15a]. **Disaster** [Ano20d, PWW13, Tal20, AAF+09, AEG+20, BGS13, BWK20, CCE+20, DB20, GBJ+08, MNWH20, PL20, RVT+13, SPB+17, SS20]. **disaster-recovery** [BGS13]. **disasters** [KM20, TPTH20]. **Discharge** [LS78, Pen79, RP78, SS78, BCCK92, SBG+71]. **Discharges** [KM70, KM00]. **discontinuities** [PM72]. **Discontinuity** [Che64]. **discontinuous** [MM75b]. **discounts** [SMSC14]. **discoveries** [PMS+08]. **Discovery** [Cor18, MIL+18, MDMN10, BBC+12a, CRAG18, CTD+16, Koe18, MDJV08, MBT19, PTRC16, PK18, SNP06, STW+08]. **Discrete** [Fra82, Lik88, MT77, BGK62, Gre59, NQ78]. **Discrimination** [Bla88, FXL01]. **discussions** [RK15]. **disease** [PAH+18, PCW+17]. **Diseases** [FE75, CXZ+17]. **Disjunctive** [(Ga57, Rai69]. **Disk** [Ada80, BT78, BFT79, BBT85, CM74, Coo90, DB82, Hea76, Hoa61, How84, JHH+81, Len74, MR79, Mul74, MT81, ND57, Osw74, SW74, Adl87, AFF96, BCT89, BE03, Dec90, FMPS93, HDBR08, HBP+81, Hoa00, HHA93, HS04, Jon72, McN94, ND00, Ono93, Pat89, Sch96a, SPR+95]. **Diskette** [DB82, Eng81]. **Dislocation** [BA62, IM60, JD66]. **Dislocation-Induced** [JD66]. **Dislocations** [DH61, MB75, MKP73, FMS+92]. **disorder** [Haa70, HHB+89]. **Disordered** [Pen88, Was88]. **Disorders** [Ins77]. **disparate** [BL15, SSY12]. **dispatch** [ET69]. **Dispatching** [And73]. **Dispersion** [KHBC66, YWWK64, PL73, Shi72, WL73]. **Dispersive** [Hua79]. **Displacement** [Che64, Sko58, ESS+20]. **displacements** [CMR72]. **Display** [AS78, DSW63, Far83, FLCB85, GBS+87, Lan74, LS78, MLGD84, McG92, OPR+78, San83b, AN98, ARM+01, CAW+98, DSRC98, How92, LCL+98, NSOO98]. **Displaying** [BBPS91]. **Displays** [BJS80, DC82, SW98, SS78, APOI92, AIH+98, KFYU92, LL98, RDD+98, SST+98, TSH92, TCCH98, WR00, WWA+98]. **disposal** [Fre72]. **dispositioning** [BKP82]. **Dissimilar** [BBT60]. **Dissipation** [KL70a, Las61]. **dissipationless** [BZ06b]. **Dissolution** [Ito01, TO77, Dat93]. **Distance** [DPR86, Mar61, Pat70, Mac60, Nef90]. **distances** [HW72]. **Distillation** [Bil70, Bil72]. **Distortion** [ELMR77, Fal70, SFH65]. **Distributed** [BHW+17, CMW92, MW82, RC17, ABE+02, AGZ94b, CN94, DP13, HG14, KCML13, MDJV08, MN97, NG17, VRA+09]. **distributed-memory** [AGZ94b]. **Distribution** [CL74, Don81, KO65a, NB61a, NB61b, Ree69, Sak79, Duk90, ESM16, Hos94, HS71, Jon72, MWW+07, Pai72, RWP16]. **Distributions** [FL59, Sta85b, Sta86, SST69, AKKJ72, BTWY92, KMK68, KO69a, Sta73]. **Disturbances** [Sat63]. **Divalent** [SS61]. **diverging** [PH81]. **Diversified** [Kuh88]. **diversity** [BM96]. **Divider** [KP59]. **Division** [CM80, HP84b, Meg62, Thr65, Age04, Age05, Age08, Che06, Che08, NRD+09, Ros03]. **Divisors** [Erd59]. **DNA** [Cle81, Pic87]. **DNS** [SJW+16]. **do** [ESS+20, Rus04]. **Document** [Cha87, CMP87, Cla79, KCML13, Mar98, YAH+96, ZY72, WCW82]. **Documenting** [Wri83]. **documents** [FKGF12]. **DOD** [SBT87]. **Domain** [BB60, Cam57, DKAC67, Fre79, GS70, Gor65, Gun66a, Gun66b, Gun69, Hut74, MMT60, Mid65, Mid66, PW67, Sch75, Slo66, Spe69, Aas70, BK76, CCG73, JC00, Pes71, Wor06, van89]. **Domain-Wall** [Slo66]. **Domains** [MS87, MSW69, SN87]. **Donor** [Kau81]. **Donors** [FPS66, PF66]. **Dopants** [AS78]. **Doped** [BA62, CL74, SH69, WB70,

ABK89, SKEG+98, YTF+11]. **Doping** [ADH70, Sou64, AdH00b]. **dot** [ZH89]. **Double** [MM75a, Mel60a, Mid65, SB64, WS75, LKFU05].
Double-Boron-Implanted [WS75]. **Doublers** [RP66]. **Doubling** [Mar59]. **down** [Man90, Now02]. **Drain** [GS80]. **DRAM** [ADG+95, BDN+02, Del08, EBD+95, FKOP90, FCE+15, IBP+05, IFB+11, KBS+99, MDB+02, SHDK95]. **drawer** [BHH+15, CAC+13]. **Drift** [vS57, MWX+17]. **Drilling** [Wre83]. **Drive** [CDS+86, Hel79, Kum65, PRY65, AFF96, BE03, Eng81, FMPS93, Led71, Ono93, SPR+95]. **Driven** [Hor62, Lin84, Mou86, Pre66, BW72, BGW91, GBK+19, KRS+17, MDJV08, Pon17, SLC+97, TSH92, TWM+14, TPTH20]. **driver** [ADH+00a, DTTK95, MVI+07, NSOO98]. **Drives** [BBT85, ILH03, Sch96a]. **Driving** [DYK10, KSK98]. **Drop** [BT84, FBW77, Fro84, Lee74, LMT84, Pim76, SBT87, Twa77]. **Drop-On-Demand** [BT84, Fro84, LMT84]. **Droplet** [PL77, KRC68, TZZ+11]. **Drug** [Cor18, MIL+18, CRAG18, Koe18, PMS+08, PK18, SNP06, SLZL18]. **drum** [LC83]. **Dry** [AGLM85, Hsi99, OR92]. **DS8880** [CHJ+18]. **DTP** [GZM92]. **Dual** [GZM92]. **Dual-tapered-piston** [GZM92]. **Duality** [Dor60, Joh87]. **Due** [ASV76, Lan88, BS71a, Lan57, Lan96, Lan00b]. **During** [CW77, Dav77, Gil79, KWJJ84, MJS70, PR65, Zab77, BCT89, DR93, GK60, SMVK90, TZZ+11]. **DUV** [ATW97, HMH97]. **Dy** [YTF+11]. **Dy-doped** [YTF+11]. **Dye** [SCHL66, SL66, SL67]. **Dyes** [Lew78b, Mer78, SLHM67]. **Dynamic** [ALL77, BW72, CHY92, DS70, ELZ79, Gha75a, HHM66, LST80, McA83, MWL+14, MN97, PH65, Rei66, SWD74, SM63, Tro80, WT77, Woo75, el 69, BJM+06, BGL07, BL15, GLOS92, Lar80, MDB+02, MWW+07, MS07, OD17]. **Dynamical** [Kra81, Lan85, CHG04]. **Dynamics** [BBT85, Dah67, Fro84, HA71, MW62, AHK+18, ACM01, ABM+01, BKB76, BCT89, BMPS91, BBK+08, Bru76, ESM16, EFG+05, FMPS93, Gyg08, KHZ+08, Las61, LR79, MN03, PZGL91, SPP+05, TWRW89, TZZ+11, WNBP91, ZEH+08, ZHP+18].

E-Beam [Gil84, PW78]. **e-commerce** [HRZ14]. **E.** [LFR05, VLKW14]. **EagleEye** [ZBG+10]. **Early** [ABB+13, BBH+81, DBB+02, GZE+05, Gol87, Mou86, Spi93, WSJ+19, BBS+03, EFR+05, ITS+15, Smo04, SPP+05]. **early-stage** [BBS+03]. **Earth** [WA79, Ber76b, KW76]. **earthquake** [NCM+01]. **easier** [MBF+13, PBBL07]. **easy** [SBF+97]. **Ebola** [BMF+16]. **EC12** [CAC+13]. **echo** [CN71]. **Echoes** [Hor57]. **ECL** [DMR+81]. **ecology** [PW72]. **Economic** [Agi74, El 74, KRS+17]. **ecospace** [LHS+17]. **ecosystem** [DKR12, GW18]. **Eddy** [Dui59]. **Edge** [BB60, LMD70, WB70]. **Editor** [And60, Ano05b, BC60b, BBT60, BB60, BD62, Bre60, BA62, BLB+63, BN63, Car60, COC61, Con60, Cow87, CK63, Dam66, Die62, Dod63, Dum63, FMP61, FK62, FC63, Has62, IM60, Ken61a, Key61b, KW62, KKK61, KP63, Kru84, Ku63, Kue60, LDDB63, Le 62, Lei62, MW62, MVB62, Mar60b, Mat62b, MS60a, MP61, Mel60a, MWN63, MHS62, MG63b, NM62, ON60, Pal61, Par60, PK61, Rad62, Sch67, Seg62, Smi60, SB62, SS61, Tid62, Tit63, WKW60, Yu61, Ano01b, SPS+06]. **eDRAM** [MS05]. **Edsger** [FvGGM90]. **Educational** [BNS15, NNF15, CR15, VRA+09]. **EEG** [Boh73, MYKK+17]. **EEPROM** [Nii95]. **Effect** [AS78, Azb88, BTW62, BJMO80, CFH64, DS70, DH57, FLW78, FFH64, Gun66a, JJ64, KO69b, KO70, Ker64, Kus70,

MW62, MFPJ71, MU77, Mat62b, Nai02, PS80, Phi78, Pri57a, Pri58a, TT75, TH64, Twa77, WWMS79, Wol70, ZZ69, CDS73, CDS00, KM73, Lan60, LJ92, Tan08, vK62]. **Effective** [CDG+10, DYK10, KO65b, SBR64, DFNNS17, GMX14, Gup97, HBC+99, KBA07]. **Effectiveness** [RP70, TBH+17, BM96, MDH+12, SXYP12]. **Effects** [AOR62, BB60, BBF+05, BLB+63, Cle81, Col62, CC76a, Cre58, CGHK77, DS77, FK60, Gae79, GM62, GS70, HM89, KSW74, LDDB63, Leh64, MG68, MNP+69, Mei62, Mid70b, Par80, PL73, PFS+70, RK66, Ree59, SM62, Sta85b, Swa57, TH64, Vui64, YS64, ALH95, GC68, Gou89, GSAB93, GDR70, LBT99, Lud00, MRH89, MNS69, MMJ69, NBF+16, NBF+00, RBK+08, SNM69, TMF+08]. **Efficiencies** [HRF+17, Jam89]. **Efficiency** [Ano05c, DSRC98, DMN+59, Mar59, RP66, SJK70, BR09b, GKT17, HvKI+09, KDG15, KDT18, KTD20, MMM+05, MI10, MS89, WYF+03]. **Efficient** [AAB+14, GRS13, HL72, Jur78, KR87, Luk74, SFH65, SS87b, Tom67, BTP+90, vBBE+02, GMX14, JWSP06, MC87, NDM+04, NCB03]. **effluents** [Shi72]. **effort** [DBC+06]. **eFUSE** [RFC+07]. **eHealth** [AAJ14]. **eigenfunctions** [HM89]. **Eigenproblem** [Dub72]. **eigenvalues** [CW58, FW67, HM89]. **EL1** [Dav80]. **Elastic** [AW62, BP88, Che64, CS65a, CF72, Key61a, Kur87, Sat63, BEH+89, EHK+89, FL89, Jan69, LC83, Tap82]. **elastic-plastic** [CF72]. **Elastohydrodynamic** [VG74]. **Elastomeric** [Smi77]. **elder** [TOKN18]. **elder-care** [TOKN18]. **Elderly** [PL20]. **Electric** [DH57, MR76b, DXZS13, GAJ+16, HZG+16, KAD+16, SLK+16, TCP+16]. **Electrical** [BRB92, BJMO80, But88b, Cha88, Dav82, DDA+93, Gun66b, HM60, KP79, OPR+78, OMAW60, Rue79, SD85, SGC+87, Wee79, ALH95, BPG+16, BS71a, BBMP92, Bra68, CNC+08, DHK+92, DAS+94, HSL+10, Hei90, MKW+05, Mat70, RWP16]. **electrical-conductivity** [CNC+08]. **Electrically** [BMW83]. **electricity** [WAC+16]. **Electro** [SH63, Wie90]. **Electro-optic** [Wie90]. **Electro-Optical** [SH63]. **Electrochemical** [BMW83, Hor93, KM93, KRT98, SBdF64, Swa57, WDA05, vS98, Dat98a, Dat98b, RWM+05]. **Electrochemically** [DH83, SF93]. **Electrode** [CL64, RL70, DR93, DVM81, Sek93]. **electrode-electrolyte** [Sek93]. **Electrodeposition** [LR65a, DKA+05, Duk90, Duk93]. **Electrodes** [DK79, Jon72]. **electroerosion** [CP91, CAS+91, CASP91, Pen91]. **Electroless** [BLR84, BRA84, HSM84, JK93, KWJJ84, GB93, OHWR88]. **Electrolessly** [OSP+98]. **electroluminescence** [ARM+01]. **Electroluminescent** [ON60]. **electrolysis** [DR93]. **electrolyte** [Sek93]. **Electromagnetic** [Dum63, Bus71, Dav69, Pau89, PL73, Rub90]. **electromechanics** [NNN+06]. **Electromigration** [ADH70, HRS+95, SC88, Ver88, AdH00b, SD71]. **Electron** [Azb88, BGK+82, Bro88, CSE66, CW78, Col62, DO74, DMWW77, Dav80, DEG+01, ELMR77, GSVE83, GOJN77, GWRS90, GHP+93, HG83, HWC88, Hor62, Jon65, Jon70, Kra81, KP59, Kue60, KM74, KP80, Lin67, MTH71, MW80a, MJJ69, MPS77, MNP+69, MP67, NM62, Par80, PS80, Ree69, RS69, SSN+62, SG64, WPH69, YDHS78, All00, ALH95, CHL+11, DG93, FKOP90, FA70, HF90, KBF+92, Lud00, MAG+01, MHK+11, PGN88, Ros00, SKB+11, Tro00a, TTI98, VWJK11, WSBL90]. **Electron-Beam** [Bro88, DMWW77, Dav80, ELMR77, HWC88, Hor62, KP59, KP80, MW80a, MPS77, PS80, BGK+82, GWRS90, FKOP90, MAG+01, PGN88]. **Electron-Hole** [RS69]. **Electron-Transparent** [DO74].

electron-yield [CHL+11]. **Electronegativity** [Mic78]. **Electronic** [BW81a, BHH+15, FNRF89, FWW88, Fre70, HJS98, KJ86, Key61a, Kog57, Kog58b, Kog58a, Kog59, KT84, Lan86, Lud78, Rey69, SF81, Sie70, SC88, SBC+12, WR00, AN98, Kit89, PBC+04, PK88, RR69, SJMBK08, TBB+09]. **Electronics** [Key88, Key00, MCK01, SS01, ZCM+96]. **Electrons** [Hon70, Lik88, Pri59, Pri65, Pri70]. **Electrophotographic** [BS84a, Bau84, Bro78, CEY84, EHMW81, SSL73, VW78, SBG+71, Sta97]. **Electrophotography** [LAG+84, TB82, Tu75, Sch71]. **Electroplated** [Ros78, Smi60, AR98, CBH+05]. **electroplating** [AUD+98, HHA93, Hor98]. **Electropositive** [KJSG+88]. **Electrostatic** [AEE77, FBW77, Fit57, Sch62a, Twa77, KWN01]. **Element** [BRR79, BCGS81, DW58, GLS67, SSW65, Zab79, AEH+04, BSHM01, BCGS00, Cor93, JL90, KL97, KN91b, VWE02, You90]. **Elementary** [ACG+86, Coo62, CLW79, Erd59, ACG+87, Mar90]. **Elements** [DMN+59, Hoh78, RP67, SLLP64, HMOS81, HMO81, Okl03, van89]. **eliminate** [MVI+07]. **Elimination** [Gab70]. **Ellipsoidal** [NGMW57]. **ellipsoids** [Bar82]. **ellipsometer** [HD73]. **Elliptic** [Par67, Wid67]. **Embedded** [BDN+02, IBP+05, AKG+19, CT06, FCE+15, Hui90, IFB+11, VTMB+90]. **Embedding** [HJ94, Irv01, AKB+17]. **embeddings** [BHW+17]. **Embodied** [BS84a]. **embrace** [DDDKW12]. **Emergencies** [ESS+20]. **emergency** [SLK+16, VAB+13]. **Emerging** [HST06, LPA+15, Tro00b, SGESR10]. **emerging-market** [SGESR10]. **Emission** [AC63, BN63, FP69, Gli69, MJS70, Mor79, RS69, SA66, SB64, SCHL66, SL66, SLHM67, SAL63, BSRM09, GRH+08, KWT+11, Lud00, MHW95, TK69, Tur69, VWJK11]. **emissivity** [Bra72b]. **Emitter** [Phi78, SGC+87, GOVC71]. **Emitting** [BLB+63, Dum63, LDDB63, MWN63, CA01, FPS66, HP01, RRB+01]. **Empirical** [SS87b]. **Empirically** [LS73]. **Employing** [HA58, GB93]. **Emptive** [And73]. **Empty** [Ort84]. **emulation** [Mey81, RT99]. **enable** [HMP+11, JGD+08]. **enabled** [BBD+98, DDDKW12, Vay12]. **enablement** [MLWC20, SSI+18]. **enabler** [CDS+19]. **enablers** [vKCD+10]. **Enabling** [AUW+09, CLP+13b, JSM+18, RSS+15, RWP16, SM16, SSY12, TPC+13, TCP+16, WBS+18, DSZ+12, Koe18]. **encapsulated** [Pai72]. **Encapsulation** [VGC79]. **encoders** [BNW99]. **Encoding** [BK74, KLS66, Pat75, Luh57, WRG99]. **Encrypted** [VPS88]. **Encryption** [Cop94, ACD+15, BC18, CJM96, JSM+18]. **encryption-based** [BC18]. **End** [HRF+17, SCHL66, Tay81, ARS+17, Lip92b, MDJV08, PGS+98, RRMD17, SN02]. **End-Pumped** [SCHL66]. **End-to-end** [HRF+17, ARS+17, MDJV08, RRMD17]. **Endocrinology** [SLG78]. **Endorsement** [MBT19]. **Endpoint** [DHC20, THL85]. **Energetics** [HB74]. **energies** [Tu90]. **Energy** [DKAC67, DHM75, Dou62, Fla81, Goo62, Hua79, Jon65, Jon70, Jur78, KL70a, KDG15, LS64, MJJ69, McC64, Mei62, NGMW57, RP66, SCYK78, Tin62, vHv+89, ABB+12b, Bar86, BSRM09, BR09b, CNL+19, CHL+11, Cop00a, EHLSW01, FNRF89, FWR+11, FRS+18, HvKI+09, HZB+06, KLHW16, KAF+16, KDT18, KTD20, MHK+11, NCB03, RES+15, RMM03, SKB+11, SD71, SFH+16, Tro00a, ZCK71, ZFD+15]. **energy-efficiency** [BR09b, HvKI+09]. **Energy-Efficient** [Jur78, NCB03]. **energy-filtered** [CHL+11]. **energy-management** [FWR+11].

EnergyScale [MBF+07]. **engagement** [HRS07]. **engagements** [BEJ+14, RWB+10]. **engaging** [SN15]. **engendered** [PH81]. **Engine** [BBHS84, CRDI07, BCK13, EK08, Mar98, BDHH+09, JB07, LJV+07, PBBL07, RWW07, RG09, SHL07]. **engineer** [ET69]. **Engineering** [KS90, LKL+81, Mul74, VAB+13, ABR71, CCFSZ12, KLRS96, SNP06]. **engineers** [GR92]. **English** [Bla88]. **Enhanced** [Chu82, OHK+07, PS80, Sar91b, vAR82, GW18, SC20, vS98]. **Enhancement** [EL83, FT80, WS75, LV94, LMW+01, Sta97]. **Enhancement-Mode** [WS75]. **Enhancements** [GSC80, ADH+07, BWB+18]. **enhancing** [JDBP10, SMP+04]. **ensembles** [CNP+17]. **entanglement** [Ter04]. **Enterprise** [ABC+99b, ADG+92a, ABD+92, BBGE+14, BEM+92, BBMP92, BRB92, BGJ+17, CTS+92, CDM92, Cov92, CW91, DHK+92, DSM+99, DGG+92, DGL+97, ECD+99, ES92, FGC92, GGRW91, GLOS92, GZM92, Haj91, HOWP92, IMSV10, KRTN+12, Lip92b, RGP+97, RCP+16, RHM+99, San12, Sar91b, SSW91, SSM97, SCC+97, SWC+97, SV91, SG99, TBB+09, TSC91, UDP+12, WMH+97, WHK+09, AAB+10, AYA14, BGLM09, Car10, CJK+13, DSZ+12, DHC20, FM10, FGG+13, HRF+17, HBT+16, JSS13, SM16, SLC09, SMC+14, SBC+12, VNT16, vKCD+10, CdLS92, NHH91, SY92]. **enterprise-class** [SM16, SBC+12]. **enterprise-level** [SM16]. **entire** [OIM+13]. **entities** [Coo18]. **entitlement** [CHM+16, ST17]. **Entity** [CA84, ST17, ZBG+10]. **Entity-centric** [ZBG+10]. **Entity-Relationship** [CA84]. **Entrance** [Fis88]. **Entropy** [Bar80]. **Enumeration** [Rio60, Mic72]. **Enveloping** [Mir72]. **Environment** [Bar73, Dub72, Fla81, MW82, Wie58, AHH+91, ATW97, AHM+07, BC00, BOS+95, CDSW06, CN94, DM03, DOJ+14, GHL+04, GBB+05a, KN91a, MAA+05, MME+97, ODL+09, Okl03, OEN+16, PZGL91, Rue72, VMG99, WNBP91]. **environmental** [KCH+09, KDG15, ODL+09, OB09, SCW10]. **environments** [AAB+14, AAS+14, BMS+17, BBG+14, Elg11, FHL+14, KRD+14, LBC+14, RCFN+08, VDO14, VMS+14]. **Epitaxial** [GK60, Mar60a, WKW60, GSG+90, GBBM90, SLYR72, SGT78]. **Epitaxially** [IM60]. **epitaxy** [CWC95, Far98, GI88, Mar79, Mey90, Mey00a, Tis90]. **Epoxy** [MLSS84, MVK85, KS01]. **Epoxy-Glass** [MLSS84, MVK85]. **equal** [MR14]. **Equalization** [God74, Gor65, Mil83, Sch85]. **equalizers** [Kar73, ST72, Ung72]. **Equation** [CS65b, Fla65, Lev66, Mil67, Mir60, Ode64, Tof88, vS57, BSHM01, CP72, Can73, HM89, HBW70, KRC68, Mic59, Mir61, Pri66, Sug59, Swi62]. **Equations** [Ano67g, Ano67u, Bil70, Bre72, Gar88, Her66, Lan85, Par67, Bil72, Bra72a, CFL67, Dan66, FW67, Ger73, Lax67, LO72, Mos61, Whi72, Wid67]. **Equilibria** [Sha58a, CJ78b]. **Equilibrium** [Lev64]. **Equipment** [KFSZ92, Col69b, CMR72, RWM+05]. **Equipment-related** [KFSZ92]. **equitable** [BMS+17]. **Equivalence** [Don74, Dur70]. **equivalences** [AO97]. **Equivalent** [BRR79, Dod63, Kah71, Str59, AO01, BDS+97]. **Era** [BCS+18, ABD+18, JDBP10, MWX+17, RCP+16, Sha02, SSI+18]. **Ergodic** [MN03]. **ERMIS** [VSS+09]. **Errata** [Ano66k, Ano66j, Ano66l, Ano05c, Ano06b]. **Erratum** [Ano66l, Ano01b, Ano06c, Ano08b, Lan84a]. **Error** [BM63, Bla79, Bos70a, BH82, BS70, CR76, CH84, Gri60, KST58, LT70, Meg60, Mel60a, MG63a, Mou86, OCT68, Pat80, SS59a, TL70, AC84, BSK+08, Bos70b, BH80, Dan66, Gor63, KBF+04, Mac60, MS96, Pat89, SKK+08, Sri96, ZMM+96]. **Error-Correcting**

[CH84, Gri60, SS59a, AC84, Mac60]. **error-correcting/detecting** [AC84]. **Error-Detection** [BH82]. **Error-Sampled** [KST58]. **Errors** [Dah63, How84, PL81, Pat86, SH57b, SH57c, Wyn64, ZS96, DWW90, Del08, HDBR08, KLHW16, KCOW08, Meg60, Mel60b, ORT+96, RBK+08, Tan96]. **ES/9000** [Att92]. **ESA** [SV92]. **Esaki** [PR59b, Rut59]. **ESCHER** [SKB+11]. **ESCON** [FGC92, CdLS92, ES92, GLOS92]. **eServer** [ABE+02, AFM+02, BEK+02, BHK+02, vBBE+02, CBB+04, CCW+02, FCS+04, GWS+04, GKMP04, GE02, HPW+02, HBL+02, KKS02, KKM02, PBC+04, PVAK02, SCS+02, SGK04, SNA02, SAB+02, SPM04, SvBC+04, SBC+02, VWE02, AV04]. **ESPER** [Ono93]. **ESPER-2** [Ono93]. **ESS** [IS20]. **essential** [KKT09, KKS02]. **EST** [DB01]. **establishing** [SJW+16]. **esters** [VBM71]. **Estimate** [Gam72]. **estimates** [Hei80]. **Estimating** [WYF+03, AP69, Mat03, Sit87]. **Estimation** [Bar80, Lin67, Mil83, Wel61, DB01, GYK99, Goz94, PTRC16, PM88]. **estimations** [Sta89a]. **estimators** [Sta73]. **estuary** [KCH+09]. **ETA** [HD73]. **etch** [PM72]. **Etching** [Chu82, CK79, vAR82, AHW+99, Fon99, Hsi99, Koh98, Kuo92, MSG72, OR92, ODK+99, RKL88b]. **Ethane** [Win78]. **Ethernet** [HTH+09, OBB+05]. **ethical** [BBMR19, NBM+19, RDL19]. **Ethics** [Ano19h, Sim19]. **Ethylene** [Blu79a, Dem78]. **EUDOC** [PMS+08]. **EuO** [ODR70, PFS+70]. **Europe** [Ano89]. **European** [RWP16]. **Europium** [Dim70, Kas70, MVB62, Von70]. **EuS** [PFS+70]. **EuSe** [PFS+70]. **EuTe** [PFS+70]. **evaluate** [CM19]. **Evaluating** [CXZ+17, EHLSW01, HS14, TOKN18, vv86a]. **Evaluation** [ÅC64, Far87, HHR99, KGF77, Sch81, TCCH98, AC84, BMF+16, BDS+97, BMT+90, CGH+17, Dor62, HL72, KMC+11, MPP+15, MME+97, Ris72, ST89, WG19, ZCK71]. **Evaporable** [OPR+78]. **Evaporable-Gas-Dielectric** [OPR+78]. **Evaporated** [BBG60, PW78, PBF60]. **evaporation** [TZZ+11]. **Evaporators** [Cas60]. **Event** [BFG+99, GRH+08, Sel07, Tan08, WLH+17]. **event-log** [WLH+17]. **Events** [AGH+16, LS76b, TPC+13]. **Everest** [NNMJ01]. **every** [WA15]. **evidence** [MFL+12, SvNH13]. **evidence-based** [SvNH13]. **Evoked** [UC62]. **Evolution** [CMR+90, DFaDNS98, GAB+08, HLS81, IK00, Jam81, JS81, KWJJ84, SF81, SCM+82, TJHK03, ADG+95, ALS81, BCK+05, CS03, CM90, CM00, Gre97, Nai02, ODA03, RGPP95, Ste81]. **Evolutionary** [DBNK+17, CFP20]. **Exact** [Mic72, Tak87]. **Examine** [Sch67]. **Example** [Sch67]. **Examples** [OH74, IBM13c]. **exascale** [LSS+20, NAB+15]. **excellence** [BWT+14, DRB+20]. **Exception** [GLS74]. **exceptional** [Hof60]. **exceptions** [LS73]. **Exchange** [AAJ14, HP84b, Kas70, KW62, Far98, Jon98, Whi72]. **Excimer** [JWL82]. **Excitation** [LM85, Pre66, SL67, Les71]. **Excited** [GCPVG85, Mor79, ARM+01, HDK+11]. **Exclusion** [BCH84]. **Exclusive** [FTY83]. **Exclusive-OR** [FTY83]. **executables** [Hei94]. **Execution** [BBB+20, CJ91, FH84, Tay79, WF87, APRS16, AEGP67, Gsc09, HM90, HHH86, MHR90, OWG+13, SSW91, SZ91]. **Executives** [NNF15]. **exemplified** [Pig88]. **Exhaustive** [TC84]. **Existence** [Bil72, LKY80, Ode64]. **Exit** [Fis88, Mas97]. **expanded** [FXL01]. **Expanding** [BL62]. **Expansion** [AFP+01, SAPT01, TFR+01, BAB+13, HSL+05, Jan69, Lew73]. **expediting** [ST17]. **Experience** [BCC+01, Ris84, JS14, LSS+20]. **experiences** [ABB+13, WSJ+19]. **Experiment** [BTW62, Bax58, Bla88, Dam66, DLK84, SBT87, ADG+92b, Nic92].

Experimental [BBT79, BFT79, BT84, BBT85, CSW73, CLOR87, CD85, CK63, DLW86, FGM+83, Hop59, Hor62, Mar71, Men62, Ris84, RS59b, SHWK+90, SLHM67, TSNF88, WRLA57, ZCK71, BF69, Kel73, LD72, Rei69, Smo04, ACF+80, BHHO59]. **Experimenting** [EO13]. **Experiments** [ALL77, Ben59, Hat72, KT66, LR65b, ST75, Sch81, Gra71, JN82, Kel89, SG71, ZCM+96]. **Expert** [DLW86, ADG+92b, EGH+86]. **expertise** [CCE+20]. **Explaining** [CHdTG92]. **Explanations** [Gli69]. **explicit** [VRL10]. **Exploitation** [BIK+05, SSMGD10, CBB+05, MMS05, Sur15]. **Exploiting** [AGZ94a, FNY+10, LDSY91, Tom67, Wee79]. **exploration** [Kan15]. **Exploratory** [GLP76, PBC+06]. **Exploring** [EHPS05]. **exponential** [Moo72]. **Exponentials** [Che72]. **exposed** [LG88]. **Exposure** [Ahu80, BT67, ELMR77, HHSW01]. **Express** [BEE+02, GCS+12]. **Expressions** [BDH83, Hal76]. **Extended** [CDG83, Gum83, Ort84, Pad83, LT95, SMS80]. **Extending** [MG63a, HMK01]. **extensible** [BDH+19]. **Extension** [Koc59, Llo67, Cal70, Lam77a, Pri66, TS69]. **extensions** [CPT+08, Cra98, Wai05]. **External** [AA18]. **Extracting** [ZW17]. **Extraction** [WR83, AAA+17, DF15, EKTT90, FKGF12, TWM+14, WKF+12]. **Extrapolation** [Gaz78]. **eXtreme** [BBE+13]. **Extremely** [RVV88, MFPJ71]. **Extrinsic** [Was88]. **Eye** [RHM63, MG68].

F [LFR05, VLKW14]. **f.e.t** [HD73]. **Fabric** [MBT19, IJV19, BHH19]. **Fabricated** [BBC+64, O'H78]. **fabricating** [SLYR72]. **Fabrication** [Ame80, ATW+08, BHV85, BMWL80, BCRW82, GKK+80, Hat88, HWC88, Hsi99, MHI98, Mid70a, PW78, RHM63, Spr71, CAS+91, Dha68, FCH70, KFSZ92, KRT98, KOT99, LCHL95, MTH71, Mar71, MAD+98, RK72, TW69, TFL+98, ZCK71]. **Fabry** [Fan64]. **Facilitating** [SXYP12]. **Facilities** [Gum83, LG78, CMR+90, LS69]. **Facility** [AMG+87, GAC85, Lom80, Mul74, LL93, SdS89, AC86, GRSW86, JMLW94, RV89, SRO93, SV91, SY92, Sur15]. **Fact** [KPB+12]. **Fact-based** [KPB+12]. **Factor** [Bre60, Gia66, Hun59, CLP+13a, SBR64]. **Factoring** [Bra87]. **factorization** [EG00, GJ00, Tue68]. **Factors** [CK63, Dav79]. **FactSheets** [ABH+19]. **fails** [DFF+15, ZCM+96]. **Failure** [Bar83, DMP59, TAR84, TTI98]. **Failures** [Rot66a]. **fair** [FW83]. **Fairness** [BDH+19, SHCV19]. **family** [GR92, WD94]. **Far** [GHW70, GL62, OKH+02]. **Far-Infrared** [GHW70, GL62]. **Faraday** [Kus70, ZSZ96]. **Farey** [LT95]. **farmer** [FKOW16]. **Fast** [AEG+02, God74, Gup97, HJK+01, Jel69, KP59, KHKM64, Mil83, Raa76, CDC96, Cra98, ESI+12, GI88, Har71, Won90, Bra94]. **Fast-Switching** [KP59]. **Faster** [WT77]. **Fatigue** [Keh65]. **Fault** [Aic84, BH82, BCH84, BKRF02, CTS+92, Com83, Sta84b, Sta85b, Sta86, Sta89a, Cov92, SHL+20, SG99, Sta89b, Sta89c, TSC91, CR84]. **Fault-Isolation** [BH82]. **Fault-simulation** [Sta89a]. **Fault-tolerance** [CTS+92]. **Fault-Tolerant** [Aic84, Com83, BKRF02, Cov92, SHL+20, CR84]. **FCP** [ABE+02, SAB+07]. **Fe** [LR65a, MMT60, Mid62, Bru78, CW78, LR65a, Mid65, Pes71, YTF+11]. **Fe-B** [YTF+11]. **Feature** [CJH+15, Duk93, FS82, Kur87, BHW+17, TWM+14]. **Feature-scale** [Duk93]. **Features** [CMPR64, Gli69, ABD+18, BEE+02, DHK+92, FWR+11, HJW+16, MPP+15, SSN+15, SJZ+15]. **features-based** [SJZ+15]. **featuring** [SRH+18]. **Federal** [OO81]. **federated** [RBL+09]. **federation** [LNT08, NMV+09]. **federation-based** [NMV+09]. **FEDSS** [BHV85]. **Feedback** [KT73, Rei66, Cov92,

DRSM15, Gus76a, Gus76b]. **Femtosecond** [TWRW89, MHW95]. **FEMvis** [Bal91]. **Fermat** [Nus76a, Nus77]. **Fermi** [DV64, DM64, Sou64, WS64]. **Ferrite** [BBC+64, CM74, Pol78, RRSW61, Sha58a, Tan74, WWLF67]. **Ferrites** [NBRB70, She59b]. **Ferroelectric** [Tri58]. **Ferromagnetic** [THv70, Whi70, Haa70, Vur70]. **Ferromagnetism** [Mat62a, Sui75]. **Ferroresonance** [SH87]. **FET** [BBH82, Gra80, LST80, Mid70a]. **FETs** [KSF90, RG90, SHWK+90]. **FFT** [Cve87a]. **FFTs** [EFR+05]. **Fiber** [DSM+99, ABD+92, GLOS92, KACS95, CMW92]. **fiber-optic** [KACS95]. **fibers** [BS06]. **Fibre** [DHC20]. **Field** [Azb88, Boe69, Dou62, DSSS64, DS70, DH57, DPR86, EGS60, FFH64, FK62, Gar86, HBL62, JT66, KO69b, KO70, Kro58, Ku63, LC80, Met70, ORT+96, ODR70, PW67, Par60, Ree69, Swe62, Tin62, TH64, Vui64, Whi70, Wol70, BH89, CDS73, CDS00, DAB+97, KM73, LJ92, MHW95, Vur70]. **Field-Effect** [KO69b, KO70, Wol70, CDS73, CDS00]. **field-emission** [MHW95]. **Field-Quenching** [Boe69]. **FIELDAY** [BCGS81, BCGS00]. **Fields** [ASV76, Lan88, Dic91, HRWZ87, Lan57, Lan96, Lan00b, Lew73, RE71]. **Fifty** [BS03]. **Figure** [Esa62, Gia66]. **Filaments** [Bar69]. **File** [HP63, Hea76, How84, MT81, ODA+08, Osw74, van72, van73a, Bou97, BGW91, Coo90, GA68, HBP+81, Has98, JSS13, LNT08, Nii95, vdP72, van73b]. **Files** [BFT79, Len74, WY76, Dec90]. **filled** [FGMPK05]. **Film** [ABPS66, AGLM85, Blu79a, CC76a, CM74, GLS67, GS84, HM60, HCBA82, JT66, KJMS67, Lan85, Log70, MJS70, McG92, Ove70, PH79, PSS67, RK66, AT00, APOI92, AR98, Bag94, BHHO59, CWC95, CF72, CCH+96, CPTW98, DM01, Fuj92, Gro59, How92, HRS+95, JMM+96, KC89, KFYU92, Kuo92, KOT99, Lew78a, LL98, LCL+98, LS72, Mic59, MWEJ05, Pat72, PGS+98, SLK+97, SGS+09, TSH92, TCCH98, Tho94, TTI98, TKK+92, WWA+98, van89]. **Films** [Ahn66, ADH70, BB60, BBG60, BP75, Blu79b, BBT79, Boy60, Buc99a, Cha62, CH76, Coo62, Dav77, DH83, DP59, DPW60, Die62, EGS60, Flu67, Fre62, GM63, JC63, KDBT60, KH75, Klo87, Kro58, KEJ87, KG63, Kum65, KHBC66, KC66b, Kur57, KM74, Lin67, MPST66, MU77, MS60a, MMT60, Mid62, Mid65, Mid66, MW67, NM65, OHSP76, PC64, PDLM67, PBF60, RSSS82, RF78, Ree59, SK69, Sch75, SJ70, Seg62, SBdF64, SFD77, Slo66, Smi60, SSTF77, AF68, AdH00b, BNT86, Cha69, CCG73, CDM89, CNS+99, DPW00, GSG+90, Gre68, GMP90, GLG+99, LFC95, MFPJ71, MFS+11, Ngu99, Pen69, PW68, SF93, SAK70, SD71, SGT78, SHSY90, SHSY00, TCCH98, Tu90, WL73, You90]. **Filter** [COC61, Dod63, God74, Low78, RTM65, VSF65, Bus71, KFYU92, Peh69]. **filtered** [CHL+11]. **Filtering** [FF73, Nus76b, Nus77, PLHJ70]. **Filters** [Pis74, Roe66, GM69, WPH69]. **final** [BKP82]. **finance** [RS14]. **Financial** [ABD+14, HS14, Car10, KOP14, LSS14, RAR+14]. **Finding** [CCFB+12, HW72, Jam89, MN90, Nef90, Bra72a]. **Fine** [BBK+08, KZP03, HRS+95, KAB+05, SLC09]. **Fine-grain** [KZP03]. **Fine-grained** [BBK+08, SLC09]. **fine-pitch** [KAB+05]. **FinFETs** [SRH+18]. **Fingertips** [Goo58]. **Finite** [AG72, BF63, BCGS81, BCGS00, Cor93, Hoh78, RS59a, Ros66, You90, BSHM01, EM65, GA68, HMOS81, HMO81, JL90, KN91b, Lan66, MHI01, Mic59]. **Finite-Element** [BCGS81, BCGS00]. **fire** [PKXK07]. **Firm** [And10]. **Firmware** [KWH+12, AHM+07, ABB+15, GHL+04, KKB+09b, SMP+04, SvBC+04, TAE+07, TCK+15, WPL+12]. **First** [HPW+02, Koz81a, SM62, Swa57, WBH+04,

CRDI07, DL02, FCE+15, GP06a, Gyg08, KBF+04, Koz81b, SS20, SS86, ACM01]. **First-** [HPW+02, SM62, WBH+04]. **First-Order** [Koz81a, Swa57, Koz81b]. **first-principles** [Gyg08]. **first-responder** [SS20]. **first-time** [DL02]. **Firstfilter** [VNT16]. **Fitting** [Nor58]. **Five** [Ano61e, Fre04]. **fixed** [SG94a, TLM83, ZTC+13]. **fixed-point** [SG94a]. **Flash** [Bau84, CAC+13, Lai08, Nii95]. **FLASH3** [FKL+08]. **Flashlamp** [SL67, HA71]. **flashlamp-pumped** [HA71]. **Flat** [Kum65, BE03]. **flaws** [Mar12]. **Fleshing** [MW80b, WM81]. **flexibility** [BBSW97, EBD+95, KWN01]. **Flexible** [Ada80, ALL77, BT78, BFT79, BKU88, BBKW86, CTT66, GHK67, Hai85, PVDF95, Pol78, PVAK02, Tib93, WSBL90, Wit85, DDA+93, KDG15]. **Flexible-Disk** [Ada80]. **flip** [Hei90]. **flip-chip-mounted** [Hei90]. **Floating** [ABC+99b, AEGP67, BD96, Cli90, SW90, CBB+05, DTH92, DDZ+07, GWS+04, HFH94, HM90, JO96, MHR90, SSM97, SK99, SKC09]. **Floating-Point** [ABC+99b, BD96, SW90, AEGP67, CBB+05, DTH92, DDZ+07, GWS+04, HFH94, HM90, MHR90, SSM97, SK99, SKC09]. **Flood** [Tod78b]. **flooding** [TPC+13]. **Flow** [CTT66, DH61, KWB88, LL83, Lev77, Tit61, Wit85, IMC+10, LPPT86, Lom77, PH81, VJA07]. **Flowcharts** [SBH82]. **Flowgraphs** [BBCV80]. **flows** [BS91]. **Fluctuations** [Was88]. **Fluid** [Fro84, Lev77, TC63, Bru76, HBW70, Okt71, PZGL91]. **Fluorescence** [Lun79, MVB62]. **Fluoride** [SS61]. **Fluorocarbon** [CK79]. **Flux** [Cro57, GMW80, Spr61, Pai72]. **Fly** [Pat86]. **Fly's** [RHM63]. **Fly's-Eye** [RHM63]. **fMRI** [RC17]. **focus** [GCS+12]. **focused** [BMD+20, BNSG09, CCE+20]. **focusing** [Shi73]. **Foil** [Bau63, Lan63, SWD74, VG74]. **Foils** [BP75, JD67]. **Fokker** [HJ88]. **Font** [ZL87]. **fonts** [CFW82]. **Food** [HT16, BKF+16, BMF+16, BW16, EBH+16, FKOW16, LZZ+16, NBF+16, WSE+16, YT16]. **food-stock** [NBF+16]. **footprints** [CLH+16]. **Force** [BB60, Col59, Mat95, Rat68, BCC+12, DB01, LFC95, PH81, Pes71, Sto91]. **Force-frequency** [Rat68]. **Forced** [Poh79]. **Forces** [CC76a, BKB76]. **forecast** [GSAB93]. **forecasting** [AYA14, KLHW16, NML+20, TYM+14, TWM+14, TPC+13, WAC+16]. **forecasts** [BKF+16]. **forest** [BJW72]. **Foreword** [And65, Ano67u, Cam00, GM60, Mar62, Pri64, Pug60, Sam64, Tuc60a]. **Form** [Fre79, Kuh88, Gre59, KRC68]. **Formal** [Luc81, SBF+97, GBRJ05, KSL95]. **Formaldehyde** [BRA84]. **Formalism** [BKU88]. **formalization** [Dun57a]. **format** [Jaq03]. **Formation** [FPS66, Har65, Kue90, Lee74, Pan78, Pim76, PL77, SBT87, Spe69, Tu90]. **Formatting** [Cha87]. **formed** [SF93]. **Forming** [Par66]. **Forms** [(Ga57, GLM+96]. **forms-processing** [GLM+96]. **Formula** [Mei83, SS88]. **Formulae** [Jam89, MR72]. **formulas** [AG72]. **formulation** [Lat73]. **FORTRAN** [Sar97, SK80, SSW91, SZ91, SK86]. **Forward** [Ahu80, SL76]. **foster** [KRS+17]. **Foundation** [DAC+03]. **Foundations** [HEH+10]. **Four** [Ano58g, Ano58h, Ano59e, Ano60f, Ano60g, GPL+92, Hos94]. **four-level** [GPL+92]. **four-parameter** [Hos94]. **Fourier** [AC86, AS87, DG84, Gaz78, GS70, Gre60, Har71, Kri82, NQ78, Zwe65]. **Fourier-Domain** [GS70]. **Fowler** [Dan66]. **FP** [HHH86]. **FPGA** [CJH+15]. **FPU** [LKFU05, Wai05]. **Fractal** [VMH+83, AO97, AO01, MM91, ODA03, Thi88]. **Fracture** [Klo87, Tho94]. **Fragmentation** [FC79]. **frame** [NCM+01]. **framers** [Cla03]. **Frames** [Alf89, MW80b]. **Framework** [HSS+10, ACC+15, BHK+02, DXZS13,

EFR+05, FKL+08, FM10, GZE+05, GLK+12, GHH+17, HBT+16, KKB+09a, KKL+14, KJS09, LZZ+16, MBF+13, MMWLN99, Mas97, RAMD19, RAR+14, RD12, SMX+14]. **Free** [CH74, Col62, DB79, Gun66b, HS81a, Mat62b, Pri58c, VM79, KLS+05, SAT+08, vK62]. **Free-Base** [VM79]. **Free-Charge** [CH74]. **Free-Induction** [DB79]. **Freed** [Lom75]. **Freedom** [Hau67]. **freestanding** [DN97]. **freight** [RC09]. **Frequencies** [Ins77]. **Frequency** [Ber64, FP69, JC00, KP59, Moh70, Rem67, RP66, Thr65, ZZ69, CCW+02, CFP+07, HAMC+04, PZK+03, Rat68, RH90, WL97, ZTC+13]. **Frequency-Division** [Thr65]. **frequency-programmable** [HAMC+04]. **Fresnel** [Arm65]. **Friction** [BP75, Mat95]. **Friedrichs** [Lax67]. **Fringe** [Abb66, PW68]. **Front** [Ano11, Ano12f, Ano12g, Ano12h, Ano13b, Ano14f, Ano14g, Ano14h, Ano14i, Ano14j, Ano15e, Ano15f, Ano15g, Ano15h, Ano16d, Ano17a, Ano17b, Ano17c, Ano18a, Ano18b, Ano18c, Ano18d, Ano19c, Ano19d, Ano19e, Ano19f, Ano20c, Ano20a, Ano20b]. **Front-cover** [Ano13b]. **Fronts** [BS69]. **frustration** [ABK89]. **fs** [HDK+11]. **fs-laser** [HDK+11]. **Full** [DWGC85, HA58, Rut57, PBC+06]. **full-system** [PBC+06]. **Full-Travel** [DWGC85]. **Fully** [MWW+07, HDK+11, MBJ+97]. **Function** [(Ga57, Lin84, Mic78, Mir69, NB61a, NB61b, Rad62, Ree69, BZ06a, CCC+15, FXL01, Kam98, KJP11, MVI+07, Shu94, Str68, WSCK17]. **Functional** [BGW+04, Fag77, GBRJ05, HAMC+04, JPTW92, KBG+09, LRH+02, Mat89, SRL+11, VLP+05, WMH+97, AGZ94a, GMS05, KAB+12, MMR89, SWF+09]. **functionality** [SNA02]. **Functions** [ACG+86, BBT79, Bra87, Bur75, Cle65b, DC73a, EP86, Hor76, Hud63, Rem67, Ris84, Sta67, Ull65, ACG+87, Cor69, DH69, DCB77, DH03, EFG+05, Fil70, FTY83, FJSS89, GM73, JC00, MN70, Mar90, May60, MM75b]. **Fundamental** [Ano62e, Lei62, Mar62, Ver88]. **Fundamentals** [ŽFE06, Mey90, Mey00a]. **Further** [Fla91, FC63]. **fused** [AEG+02]. **Fusible** [FT80]. **Fusing** [Bau84, Bro78]. **fusion** [ETWO08]. **Future** [AR98, Fra79, GA84, BIK+05, Isa00, JMM+96, KBS+99, Law02, MDB+02, NHKI03, The00, TB00, TPTH20, VDD+00]. **Future-Dependent** [Fra79]. **fuzzy** [BC00].

G [CS03]. **G3** [Mau97, RGP+97]. **G4** [Mau97, RGP+97, SSM97, SCC+97, SWC+97, WMH+97]. **G5** [SMK+99, ABB+99, CP99, CS99, DSM+99, JL99, KBM+99, MAF+99, RHM+99, SK99, SG99, TMB+99]. **G5/G6** [CP99, TMB+99]. **G6** [ABB+99, CP99, CS99, JL99, MAF+99, TMB+99]. **Ga** [MKP73, LMPP69, TZZ+11]. **GaAl** [Cro79, LSH79]. **GaAlAs** [DC82]. **GaAs** [BV78, BGS64, BLB+63, Gun66a, Gun66b, HVK+90, HD69, HFDN63, IBC64, JVP+90, Jon65, LDDB63, Lud78, LSH79, MB75, Mar60b, Mar64c, Mar71, MWN63, PR65, PRY65, Ree69, SSG69, SA66, Spe69, SAL63, TZZ+11, Tit63, Wei65, WW71]. **GaAs/** [LSH79]. **GaAs/AlGaAs** [HVK+90]. **Gadolinium** [SK69, SOC59, MKP73]. **Gadolinium-Iron** [SOC59]. **Gafac** [Sch84]. **Gaining** [CFH+09]. **Galapagos** [MDJV08]. **gallate** [GSG+90]. **Gallium** [And60, vM66, MKP73]. **Galvanomagnetic** [TH64, Vui64]. **Game** [Sam59, Sam67, Tuc60b, Lew12, PW72, Sam00, TGL+12]. **gamification** [CR15]. **gamma** [Sta73]. **GAN** [SHCV19]. **Gap** [Dou62, FK62, Ku63, Tin62, RDL19, FPS66, PF66]. **gaps** [Thi88]. **Garnet** [Dav77, Mee67, SK69, SOC59, MKP73]. **Gas** [AS78, BL62, BdM+78, GBC65, Ham78, Lan85, Lan74, LS78, LCH74, OPR+78, O'H78, PW78, RP78, RBC78, SS78, VGC79,

Ano71, BHHO59, Gro59, Hun71, Mic59, SdS89]. **gas-phase** [Hun71]. **GaSb** [Lud78]. **Gases** [Cas60]. **Gasifier** [Sti79]. **Gate** [Dan81, GS80, OG80, ABC+99a, AIH+98, BBH82, Buc99b, CKG+99, CAC+95, CDS73, CDS00, EB99, FCE+15, HD73, HBC+99, HBB99, JVP+90, KM73, KSK98, Luc99, OS99, OKH+02, SHWK+90, Sta02, WNV+02]. **gate-delay** [KSK98]. **gate-first** [FCE+15]. **gates** [GNF06]. **gathering** [MFL+12]. **Gazalé** [Rad62]. **Gb** [ABB+08, ESW+95]. **Gb/in** [ABB+08]. **Gb/s** [ESW+95]. **Gd** [MKP73, OHSP76]. **Gd-Co** [OHSP76]. **GdCoCr** [Sch75]. **Ge** [BC60a, BC60c, BC60b, Bay69, IM60, Jon65, Mar60a, Mar60b, Mey90, Mey00a, OMAW60, SAK70, SLYR72, SSFF11]. **Gene** [BCK13, ABC+05, ABB+13, AAC+05, ADG+05, BSJ+13, BGH+05, BBK+08, BHD+05, CCD+13, CBB+05, CP13, CKL+13, CNC+08, CBC+05, CHT+13, DT08, DLJ+08, EO13, EFR+05, EWS+13, FKL+08, GBC+05, GBB+05a, HBB+05, IBP+05, KHZ+08, LKFU05, MSW+05, MAA+05, OBB+05, OWG+13, PMS+08, RIB+13, SCG+13, SPP+05, IBM13a, IBM13b, IBM13c, WAB+05]. **Gene/L** [ABC+05, AAC+05, ADG+05, BGH+05, BBK+08, BHD+05, CBB+05, CNC+08, CBC+05, DT08, DLJ+08, EFR+05, FKL+08, GBC+05, GBB+05a, HBB+05, IBP+05, KHZ+08, LKFU05, MSW+05, MAA+05, OBB+05, PMS+08, WAB+05]. **Gene/P** [IBM08]. **Gene/Q** [BCK13, ABB+13, BSJ+13, CCD+13, CP13, CKL+13, CHT+13, EO13, EWS+13, OWG+13, RIB+13, SCG+13, IBM13a, IBM13c]. **General** [CHW75a, GM73, Hor57, Luk75, LSH76, RP78, Tay81, Wes78, DAUS91, Fra80b, Gra69, dTGHC92, HRW69, LH84, QS67, SS82, TLM83, Kov06, Mau18, Mau20]. **General-Purpose** [Tay81, DAUS91, Gra69, LH84]. **Generalizations** [Dor62]. **Generalized** [Azb88, Coo84, LB85, Ris76, Rob67, ACC+15, BHM04, EM65, Gus03, Str68]. **generated** [BL69, CN18, CPCC18, KBJ+18, MS89]. **Generating** [OH74, RHM63, SHCV19, van77, WLEF89]. **Generation** [Bea74, BMS80, CW85, Chi86, CN71, DGL+97, Sch67, TC84, Ver80, AEG+20, ACD+15, CCFB+12, DEG+01, GCL+19, HRS07, JGD+08, KWB+15, KAB+05, KCA+95, Lan61, Lan00a, LSF84, LBB+13, MWW+07, OW00, RAMD19, SFH+16, Tan08, TYSS19, VPD88, VTMB+90, WAC+16, WD94]. **generative** [SHCV19]. **Generator** [EL80, CL86]. **generators** [AEG+02]. **generically** [Gri04]. **Genes** [Pic87, DB01]. **Geneva** [HP66]. **GENRAND** [Wil97]. **geo** [BDMN14]. **geo-social** [BDMN14]. **Geologic** [ABC+85]. **Geological** [SM78]. **Geometric** [Gol69, JS89, Ree59, RR87, SJ89, WLPL+80, EKR87]. **Geometries** [Dem78]. **Geometry** [Gae79, Ins77, GA68]. **geospatial** [AEG+20]. **geospatial-temporal** [AEG+20]. **geotemporal** [MNWH20]. **Germanium** [And60, BA62, DH61, Hun59, Key61a, KK59, MN67b, NM62, SFG+06, GC68, MNS69, Mey00b, Pai69, Seg68, SNM69]. **germanium-based** [Mey00b]. **Germanium-Gallium** [And60]. **GeTe** [CSE66]. **Gettering** [GT80]. **GF11** [Kum92]. **GHz** [Sha02]. **Giant** [Gar64, Far98]. **Giant-Pulse** [Gar64]. **gigahertz** [Okl03]. **gigascale** [MDZH+02]. **Ginzburg** [Dou62, Sch89]. **Given** [OG87, ODA03, Sug59]. **Glamor** [LNT08]. **Glass** [IBC64, Ker64, MLSS84, MVK85, PW78, Pea69, Tan74, KFSZ92, TKK+92, YCB05]. **Glass-Bonded** [Tan74]. **glass-ceramic** [KFSZ92, TKK+92, YCB05]. **glass-ceramic/copper** [TKK+92]. **glass-ceramic/copper/polyimide** [KFSZ92]. **Glass-Passivated** [IBC64].

Glasses [GFHW82]. **Glassy** [Mor89]. **glaze** [Kah71]. **Global** [DR08, LHW81, Pul07, AUW+09, BKF+16, CPvR00, GRS13, KJS09, KLE71, QS67, SP14]. **globally** [BGLM09, DSZ+12]. **globular** [FXL01]. **Globus** [GHN04]. **Glow** [Pen79]. **Glycine** [Tri58]. **glycosylation** [NBF+00]. **GMR** [Nes98]. **GNU** [GHL+04]. **go** [OKH+02]. **goals** [MDR+07, MWL+14]. **Gold** [JC63]. **Good** [SMD80, LKY80]. **governance** [BKN10, CM19]. **Governing** [Lan85, Mal13]. **GPFS** [AHH+14, JSS13]. **GPFS-based** [AHH+14]. **GPU** [EBB+20, SC20, TMT+20]. **Grade** [CSY79]. **Graded** [KO67]. **gradient** [CW72, RV89, Wol72]. **gradients** [ZCK71]. **Gradual** [BBT60]. **Grain** [KWB88, CDM89, KZP03, Pes71]. **grain-oriented** [Pes71]. **grained** [BBK+08, SLC09]. **Grammar** [BBCV80]. **grammars** [Arb86]. **Grammatical** [ODA03]. **Granular** [Gou89]. **Granularity** [Lor70]. **Graph** [BKU88, EB06, FL76, WML+16, Gup97, Hof60, May60, Sar91a, CP13]. **Graph-based** [WML+16]. **Graph-Unification** [BKU88]. **graphene** [HKvG+11, ZVW+11]. **Graphic** [GM69, PZGL91, MS89, PS91]. **graphics** [BKM+69, CS84, FGW81, GH96, Pic91, SHDK95]. **Graphite** [DM64, McC64, Sou64]. **Graphites** [Kle64]. **Graphs** [DH73, FLDC86, Luk75, RK62, Sow76, SW86, HS60, HRWZ87, Rai69, VPD88]. **grasps** [NS92]. **Grating** [BF63]. **Gratings** [BC65, SJK70, YL98]. **gravitational** [LQRS04]. **Gray** [TLR85, APOI92, TSH92]. **Gray-Scale** [TLR85, APOI92, TSH92]. **greedy** [AGJA06, DH03]. **Green** [Nun09, OB09, PF66]. **Grid** [Cha67, BPG+16, CRM02, GAJ+16, HSL+10, KFH+06]. **grids** [CN94, RWP16]. **GRIN** [FGW81]. **grocery** [YGR14]. **Gross** [BMT+90, Gli69]. **grossly** [PPG+01]. **Group** [LT70, Pat70, Joh87, Mel60b, Par98, YHA71, Bal05, CFG64, DR08, Des02, Des04, Mey03, Nun09, Pri07]. **groups** [SLC09]. **Grown** [AO60, BC60b, BC60a, BC60c, IM60, OMAW60, FPS66, PF66, MPCF82]. **Growth** [BV78, BS64, GK60, GM60, GLG+99, LL83, MJS70, Mar60a, Mar60b, Mol69, Nun09, Ros00, WKW60, BNT86, BJW72, Can73, DKR12, EK08, GBBM90, HKvG+11, MWEJ05, SSFF11]. **Guidance** [Soh76]. **guided** [BSRG17]. **Guiding** [Kan15]. **gyrokinetic** [ETWO08].

H [Ber76a, Wie76, Ano66j, Bra72b, GBC65]. **Haas** [Bro66]. **Haas-Shubnikov** [Bro66]. **Hacienda** [FGM+83]. **Hadoop** [GGH+13]. **Half** [Che64, KCA+95]. **half-micron** [KCA+95]. **Half-Space** [Che64]. **Halftoning** [GT87, AKM+03, AP82]. **Hall** [JJ64, Sie70, Azb88, Bra75, FFH64, KKK61, Pri57a]. **Hammers** [Hen83]. **hamster** [NBF+00]. **Hand** [BCRT74, DDMS92]. **Hand-Held** [BCRT74]. **hand-printed** [DDMS92]. **Handling** [AST67a, Hai85, PH79]. **Handprinted** [Cas70]. **Handwriting** [Lew83]. **Handwritten** [CK63, GMNE63]. **Hard** [BE03, Kum65, LeB62, NM65, KWT+11, Ono93, SPR+95]. **hard-disk** [Ono93]. **Hard-disk-drive** [BE03, SPR+95]. **Hard-Sphere** [NM65]. **Hardened** [Keh65]. **Hardening** [Pol78]. **Hardware** [ABB+03, Ano19j, BGM90, BBHS84, BHK+02, Des04, HSC82, LBH+75, MO84, Ost84, SBH82, Tod78a, BFG+99, CNL+19, CHMW07, Cra98, JWS+09, LBB+13, LRNS17, MP88a, NNMJ01, Pig88, RP14, SMP+04, TW85, VOW+12, VCM+20, WET+10, ZBBB17, ZS03]. **Harmonic** [Hel79]. **Harmonic-Drive** [Hel79]. **harmonization** [RM09]. **Harmonizing** [PP09]. **Harmony** [WML+16]. **Harnessing** [SPB+17]. **harvest** [BW16]. **Hashing** [Pip79, Hui90]. **Having** [BKM80b, HB73, Her66, Kar73]. **haystack**

[CCFB+12]. **Hazard** [Eic65]. **HBr** [GBC65]. **HD** [Les71]. **HDTV** [LL99]. **He-Ne** [CBCM79]. **Head** [Ada80, BBT85, CDS+86, CPL+74, Fan61, FMPS93, FK62, Gre79, Ibe03, Ku63, Osw74, Pol78, Ros66, Sea58, Hsi99, Led71]. **Head-Positioning** [Osw74]. **Head-Tape** [Gre79]. **Head/Disk** [BBT85]. **Head/Tape** [FT77]. **Heads** [Hem74, Tan74, AR98, BE03, CCH+96, CBH+05, FCH70, Hsi99, ILH03, TFL+98]. **health** [BC18, BISN+12, CFH+09, CN18, CPCC18, GHH+17, GAJ+16, HHC+18, JDBP10, KBJ+18, Sha12]. **Healthcare** [Kov06, CRH12, CDS+19, GDLS14, GSC12, KBJ+18, Sha12]. **HeapMon** [SKSP06]. **Heart** [Tay57]. **Heart-Lung** [Tay57]. **Heat** [Dui59, Led71, MDJ+70, Lan61, Lan00a, LD72, Pai72, RK72, Whi72]. **Heat-transfer** [Led71]. **Heater** [NGMW57]. **Heating** [HC78, Har63, Lin67, PR65]. **heatmaps** [PMW06]. **Height** [Car77, Rio60]. **Heights** [CP86, FR60]. **Held** [BCRT74]. **helical** [MKP73]. **helicopter** [JC00]. **Helios** [WSK+93]. **helper** [SKSP06]. **helper-thread** [SKSP06]. **Helping** [DDDKW12]. **Hematologic** [FE75]. **Heme** [FE75]. **HeNe** [AH79, CCC+79]. **Hermitean** [CW58]. **Heterogeneous** [MLM+19, NMTP14, CFS+19, FNY+10, IJV19, MSG72, SAA+18]. **Heterojunction** [KSF90]. **Heterojunctions** [And60]. **heterostructure** [TWF90]. **heterostructures** [LFC95]. **Heuristic** [EL80, MFT77, OH74, Ray69, HCO74]. **HI** [KJS09]. **Hidden** [Bir01]. **Hierarchical** [SNA02, BMD+20, CHG04, TMS+01]. **Hierarchically** [FGT91]. **Hierarchies** [Cho74, Fra87, Gec74, Mat03]. **Hierarchy** [FB78, GLS74, MS75, CFS+19, FLMKS06, JL99, KAB+12, MHI01]. **High** [Ano89, AFR62, BDWZ83, BCSE89, BJS80, BOS+95, BCF+07, BFG+06, BB82, BAH82, BHWZ63, BCRW82, CD78, CDS+86, Car60, Cas60, CT06, CEY84, Dav82, DHSC64, DKR+90, DC82, DB76, EB91, FP69, GCPVG85, Gau77a, GS84, Gra80, Gre79, Gus03, HBL62, HVK+90, HDW+07, Har63, HCBA82, Hoa58, Hoa61, Hop59, JWL82, KJMS67, Kra81, LV67, LHW81, Lin81, LY83, MM75a, MTF+95, MKW+05, Mar64c, MPST66, MHI98, Moh70, NNMJ01, Ngu99, OK82, PH74, Pat85, PGN88, Pre66, Ree69, RP66, Sam81, SW98, SJK70, SN02, Sch85, SRCW97, Sko58, SGC+87, TW69, TKK+92, VCP80, Vui64, Vur70, Wei79, Woo75, ZL87, vv86b, AAF+09, AGZ94a, AGZ94b, BJM+06, BGK+82, BGO03, BGL+92, CNL+19, CBB+05, CCJH81, CBH+05, CCW+02, CFP+07, Dat93, DHSC00, DKS+95, DHK00, Eme89, FNRF89]. **high** [FL89, FNY+10, FMP+03, GOVC71, GAOD71, GSG+90, GNF06, GJ00, HHB+89, HBC+99, Hoa00, IS20, Ism00, IFB+11, KC89, Kat89, Kel89, KBK+97, KIF+89, KPT+02, LPPT86, LL98, Lip92b, MCAW95, MIL+18, MPHC90, Meh89, MAD+98, MBB+01, MS89, MZS+03, Mor89, Nob95b, Pat73, PGS+98, Pet89, PV93, PZK+03, RAG11, RH90, Rub90, SST+98, Sar97, SGS+96, Sch71, Sch89, SWC+95, SPR+95, SWC+97, SLJ+15, SHL+20, SGS+20, Tho70, TPC+13, UBK+88, VW78, VWE02, WL97, Wie90, WBS+18, WKD98, YCB05, YR91, ZG71, ZCK71]. **high-** [GSG+90, GNF06]. **high-availability** [VWE02]. **High-Density** [BDWZ83, BCRW82, CDS+86, Gra80, LHW81, Pat85, Sko58, MTF+95, Ngu99]. **high-dimensional** [YR91]. **High-Efficiency** [RP66, SJK70]. **High-end** [SN02, Lip92b, PGS+98]. **high-energy** [FNRF89]. **High-Field** [HBL62, Ree69, Vur70]. **High-Frequency** [FP69, Moh70, CCW+02, CFP+07, PZK+03, WL97]. **High-level** [BOS+95]. **High-Linear-Density** [Sch85]. **high-moment** [CBH+05]. **High-numerical-aperture** [SRCW97].

high-order [Sar97]. **High-Performance** [BB82, BAH82, DHSC64, GCPVG85, HCBA82, OK82, SGC+87, BFG+06, Gus03, TKK+92, AGZ94a, AGZ94b, BGL+92, CBB+05, DHSC00, DKS+95, FNY+10, GOVC71, GAOD71, GJ00, IS20, IFB+11, KBK+97, KPT+02, MCAW95, MIL+18, MZS+03, PV93, RAG11, Rub90, SPR+95, SWC+97, SLJ+15, SHL+20, WBS+18, WKD98]. **High-quality** [CT06, HBC+99]. **high-refractive-index** [BGO03]. **high-reliability** [WBS+18, YCB05]. **High-Resolution** [BJS80, DC82, Hoa58, JWL82, Kra81, LY83, SW98, LPPT86, LL98, MBB+01, PGN88, SST+98, TPC+13, UBK+88]. **High-Sensitivity** [VCP80, Sch71]. **High-Speed** [AFR62, BHWZ63, Car60, CEY84, DB76, Har63, Hop59, LV67, MPST66, Pre66, Wei79, Woo75, ZL87, BCF+07, DKR+90, HVK+90, HDW+07, Lin81, MKW+05, BJM+06, BGK+82, FMP+03, Ism00, MPHC90, Nob95b, SGS+20, Tho70, Wie90]. **High-Stability** [vv86b]. **High-T** [BCSE89, FNRF89, FL89, HHB+89, KC89, Kat89, Kel89, KIF+89, Meh89, Mor89]. **High-Temperature** [Ano89, GS84, Eme89, Pet89, Sch89]. **High-throughput** [NNMJ01, PGN88]. **High-Vacuum** [Cas60]. **High-Voltage** [Gau77a]. **higher** [DBK82, ZTC+13]. **higher-order** [DBK82]. **highest** [MR72]. **Highly** [Bea74, JWSP06, SG94b, SHTP11, ACFS16, ACD+15, BFG+99, CDC96, FGMPK05]. **HiperSockets** [BEE+02]. **Historical** [PC85, SG99]. **History** [All81, Ben88, Ito00, Sam81, BPS81, Ben00, Spi93, Ito97]. **Hit** [Gec74]. **HIV** [YCJ+17]. **hodographs** [FS90]. **Hold** [Cor84]. **Holding** [Mat85]. **Hole** [FA70, GFHW82, RS69, VM79]. **Holes** [SBR64, Tie61]. **Holland** [Bil70, Bil72]. **Hologram** [SJK70, MS89]. **Holograms** [Arm65, UL70, Win70, BL69]. **Holographic** [ABB+00b, Lor70, RC17, WS72, Gab69, SGY+98]. **Holography** [DSW82, MW70, Ano70a, BWB+82]. **homeless** [YCJ+17]. **Homogeneous** [Gru79, Sat63]. **homologous** [YHA71]. **homomorphic** [BC18]. **Hook** [Ken61b]. **Hopscotch** [GM72]. **Horizontal** [Ost84]. **Horn** [vv86a]. **Horn-clause** [vv86a]. **Horner** [Dor62]. **host** [AHM+07, BCH+16]. **hosted** [CPT+08]. **Hot** [Lud00, MNP+69, Pri59, Pri65, HF90, Pri70]. **Hot-Electron** [MNP+69, Lud00, HF90]. **HR** [Sim19]. **HTC** [Gou89]. **Hub** [CNP+15]. **Hudson** [KCH+09]. **Hull** [AW76, Dun57a]. **Human** [CK63, TL70, DB01, FSG+73, MG68, RP14, RDL19]. **humanitarian** [KVP+20, NQ20, PSD+17]. **Huntington** [PCW+17]. **HW** [KKS02]. **HW/SW** [KKS02]. **Hybrid** [EBB+20, GKMP04, Llo67, MIL+18, PBK+09, RP70, WSW83, BMM+20, IMC+10, PLK09, VLB+09]. **Hydraulic** [MJ64, Tit61]. **hydraulically** [Gre60]. **hydrocarbons** [Cas71, CNC+08]. **Hydrodynamic** [SCRV78, TT74]. **hydrodynamics** [SdS89]. **Hydrogen** [BBS78, Key61b, Lev64, Pan78]. **Hydrogen-like** [Key61b]. **hydrology** [Fre72]. **hydrophobic** [FXL01]. **Hydrostatic** [MNP+69]. **Hyper** [KKS02]. **Hyper-acceleration** [KKS02]. **Hyperbolic** [Lax67, GM72]. **hyperconverged** [AHH+14]. **hypercubes** [HJ94]. **Hyperledger** [MBT19, BHH19]. **hyperparameter** [DFNNS17]. **hyperparameters** [OD17]. **hyperpyramids** [HJ94]. **hypersonic** [CPvR00]. **hypophosphite** [GB93].

I/O [ABB+12a, ABB+15, BAB+18, BBC+12a, CBB+04, CCD+09, CAC+13, CCC+15, CHJ+18, GMS05, Gre97, GE02, GCS+12,

HBB+07, HBL+99, HS04, HSL+05, OHK+07, SHR+09, SBC+02, WMK+07, WYTO04]. **IBM** [ACG+87, Age04, Age05, Age08, Bal05, Ber76a, Che06, Che08, DR08, DCB77, Des02, Des04, Don00, Kov06, Lan96, Mau18, Mau20, Mey03, Pic18, Pri07, Ros03, SWC+97, Sta75, Wie76, WH94, ABC+99b, ADG+92a, ADG+95, ABE+02, AC86, ACG+86, ACG+87, ADS72, ABB+13, All81, ABB+03, AFM+02, ABB+12a, ABB64, ABB00a, Ana80, AST67a, AEGP67, ABB+12b, AAH68, Ano57k, Ano57l, Ano57m, Ano57n, Ano57q, Ano57r, Ano57s, Ano57t, Ano57v, Ano57u, Ano58j, Ano58k, Ano58l, Ano58m, Ano58n, Ano58o, Ano58p, Ano58q, Ano59f, Ano59g, Ano59h, Ano59i, Ano59j, Ano59k, Ano59l, Ano59m, Ano60i, Ano60j, Ano60k, Ano60l, Ano60m, Ano60n, Ano60o, Ano60p, Ano61f, Ano61g, Ano61h, Ano61i, Ano61j, Ano61k, Ano61l, Ano61m, Ano62f, Ano62g, Ano62h, Ano62i]. **IBM** [Ano62j, Ano62k, Ano63f, Ano63g, Ano63h, Ano63i, Ano63j, Ano63k, Ano63l, Ano63m, Ano64f, Ano64g, Ano64h, Ano64i, Ano64j, Ano64k, Ano64l, Ano64m, Ano64n, Ano65f, Ano65g, Ano65h, Ano65i, Ano65j, Ano65k, Ano65l, Ano65m, Ano65n, Ano65o, Ano66n, Ano66m, Ano66o, Ano66p, Ano66q, Ano66r, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67n, Ano67o, Ano67p, Ano67q, Ano67r, Ano67s, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, Ano86a, Ano86b, Ano89, Ano90a, Ano90b, Ano90c, Ano92b, Ano92c, Ano92d, Ano92e, Ano92f, Ano92g, Ano93c, Ano93d, Ano93e, Ano94c, Ano94d, Ano94e, Ano94f, Ano94g, Ano94j, Ano94h, Ano94k, Ano94l, Ano94i, Ano94r, Ano94s, Ano94m, Ano94n, Ano94o, Ano94p]. **IBM** [Ano94q, Ano95d, Ano95e, Ano95f, Ano95i, Ano95g, Ano95h, Ano95j, Ano95k, Ano96g, Ano96h, Ano96i, Ano96j, Ano96k, Ano97f, Ano97g, Ano97h, Ano97i, Ano98g, Ano98h, Ano98i, Ano98j, Ano98k, Ano99f, Ano99g, Ano99h, Ano00i, Ano00f, Ano00g, Ano00h, Ano01c, Ano01i, Ano01j, Ano01l, Ano01m, Ano01k, Ano20e, Arc93, ABD+18, AAM+07, AHH+91, AV04, ADH+07, ABC+12, ACD+15, ABD+16, AHHN11, ABD+92, ABB+99, AHM+07, ABG+09, ABB+15, BBGE+14, BEK+02, BGM90, BS81, BEM+92, BS84a, BDN+02, Bar68, BBH+81, BR81, BHRS72, BAB+18, BHH+15, BBC+12a, BPS81, BSK+08, BCF+07, BAB+07, BWB+18, BWB+20, BSJ+13, BBD+17, BHK+02, BAV+09, BMM+20, BAB+13, BBK+08, BGM+67, BBMP92, BBB+20, BKRF02, BCK13, BCS+18, BS03, BBG+14, BRB92, BS70, BBC+12b, BCD+20, BMK+05]. **IBM** [vBBE+02, CNV+15, CCD+13, CSZ86, CDD82, CP99, CMPR64, CCG+81, CJJ+16, CP13, CTS+92, CBB+04, CCD+09, CAC+13, CCC+15, CDM92, CBC+18, CAD+09, CAK+15, CM90, CM00, CKL+13, Col69a, CM98, CNC+08, Cor69, CNC+95, CHT+13, Cov92, CHJ+18, CW91, CCW+02, CFP+07, CJB+15, DTH92, DHK+92, DSM+99, DGG+92, DT08, DSW82, DLJ+08, DL02, DEH+12, DHC20, DFF+15, EO13, EMM+18, Eic18, EWT+07, ES92, EGH+96, Eng81, EWS+13, FCS+04, FMPS93, FLS78, FKL+08, FGC92, FLR77, Fle95, FGK+07, FWR+11, FDS+13, FRS+18, FL67, FN71, FAJ+94, FBG12, FPB+11, GP06a, GGRW91, GRSW86, GLOS92, GWS+04, GRB+16, GR92, GGKK96, GT87, Gon99, GZM92, GKMP04, GPE99, GE02, GCS+12, GMS+12, Gro90, Gsc16, GS82b, HW12, Haj91, Har81, HPW+02, HDW+07, HHM70, HLS81, HHSR96, HTH+09, HF04]. **IBM** [HYA03, Hen68, Hip70, HAG+13, HBL+02, HM90, HS14, How84, HCTS81, HO96, HOWP92, ICO71, IS20, Ito97, Ito00, JL99, JWS+09, JSR+18, JML+18, JS81, JSM+18, KKS02, KS90, KN81, KMM+16, Kis96, Kis03, KLM+91, KKM02, KKB+09b, KWH+12, KDG15, Kos15, KDT18, KTD20, KBG+09, KAB+12, KHZ+08, KHK+18, LSF+07,

LGW+15, LVT+18, LL93, LH57, LH00, Lip92b, MSSM07, MO84, MWS09, Mar90, MIL+18, MD12b, MC09, Mau97, May81, MDR+07, MBB+18, MBB+20, MBF+07, MTS84, MLMP+12, MCG+15, MCH+82, MDN+18, MPP+15, Mil84, MHR90, MAF+99, NRD+09, NNF15, NAN+18, NK81, Nun09, OHK+07, OCB+90, OG90, ODA+08, OWG+13, PMS+08, PBC+04, Pat80, PMV15, Pat18, PGS+98, Pig88, PPS82, PC07, PSW+07, PVAK02, PHCR81, Pul07, RV89, RES+15, RAG11, RGP+97, RKW99, RB90, RSNG82, Rey69, Rit13]. **IBM** [RFC+07, RMM20, RBL+18, RGPP95, RWL81, RIB+13, SWF+09, Sam81, Sam64, SKK+08, SRJ+20, Sar97, Sar91b, SSW91, SHR+09, SRL+11, SLA+15, SAA+18, SCS+02, SKC09, SKP+15, SF81, Ser82, SWB+91, SBDT+09, SGK04, SNA02, SRO93, SAB+02, SKS+11, SSN+15, SVE+15, SV91, SPM04, SLJ+15, SKS+20, Sor79, Sor00, SG99, Spi93, SCM+82, SSD+15, SDS+18, Ste01, SvBC+04, SRH+18, SBC+02, SBC+12, SSI+18, Stu70, SdS89, SCG+13, Sur15, SKE+18, SLP+20, SHM+12, Tag09, TFJ+96, TS82, TAE+07, TBB+09, TBG+15, TFR+01, TJHK03, TCK+15, TSC91, TBS09, UDP+12, VWE02, VOW+12, VCM+20, Vay12, VLB+09, Wai05, WMB+15, WHC+18, WBW+15, War90, WMK+07, WLB+15, WLS+20, WBD+11, WGF+06, Wil93, WCB+86, WHK+09, WBS+18, YSH12, ZST+07, ZCM+96, ZDB+18, ZFG+11, ZTC+13, ZFD+15, Ano06c]. **IC** [Coo84, FS82, HHSR96, NSOO98, PBK96]. **iCARE** [SMX+14]. **ICU** [OOL+12]. **IDB** [TPF+91]. **Ideal** [FH84, KG80, Roe66]. **Identification** [Cio86, CLOR87, Dah67, Boh70, HRWZ87, JC00, PAZ72, NRA+07]. **Identifying** [APRS16, CCBLM12, FSG+73, KSH+08, RWB+10, GDB16, Mar12]. **Identity** [MBF+13, RCP15, SSY12]. **IEEE** [ABC+99b, GHW+20]. **IGFET** [HMO81]. **IH** [RAG11]. **II** [BK74, Bar68, BRA84, CGLL93, CAS+91, DMN+59, FDN59, HMO81, LDDB63, MS87, Mic59, NB61b, ND57, ND00, Sam67, SNM69, SJ89, SS59b]. **III** [AAH68, BBB+20, BHHO59, CASP91, Gun64, KSF90, MKP73, RW59]. **III-V** [KSF90]. **Illustrating** [Joz04]. **Image** [ABC+85, AMG+87, BK74, Ber76b, BDS+97, CCP85, DG84, FGM+83, Gar86, Har65, KB74, LC82, McA83, Par66, SM78, San83b, WSW83, WR83, AW82, ACC+15, ARG00, CBK+98, CJH+15, CGLL93, CNH73, DBK82, JN82, KWB+15, MHR+15, Mon82b, OMA+96, PB89, Pri94, SCC+15, SJZ+15, TPF+91]. **Image-Forming** [Par66]. **imagery** [Pri94]. **Images** [Man85, Sch62a, TLR85, van77, AP82, ATL+88, CNP+17, Dan82]. **Imaginary** [Hun59]. **Imaging** [Arm65, DV74, CNC+08, Far82, KJP11, Sch91, SLK+97, TKV00, ZVW+11]. **Immersion** [GS82a, KT84]. **Impact** [Bos97, Bru97, Hel79, Hen83, MT84, Zab79, ZL87, CXZ+17, GWB+17, HS04, Kum92, SAPT01, SSFF11, TCP+16, ZL97]. **impacts** [TPTH20]. **impaired** [AKNR10]. **Impedance** [Hor76, Maz70, Pen79, HRW69]. **Impedances** [BBT60]. **impinging** [MKJM93]. **Implantation** [GT80, ZCK71]. **Implanted** [DYHS78, GS80, RGL75, WS75, YDHS78]. **implement** [VRA+09]. **Implementation** [AK82, ABB+85, AC84, Ber85, BBGP94, EFR+05, FT80, GCPVG85, HF94, LBH+75, MS87, SW83, Sow84, Wil85, AAC+05, AHH+14, BCG+09, BDHH+09, BMK+05, CBV08, CRDI07, DDZ+07, FAD+07, HFH94, RB90, RWW07, Stu70]. **implementations** [BBG+14, MP88b, NFI+08]. **implemented** [LBB+13]. **Implementing** [NMF10, SW86, Har71]. **Implications** [RS79, Tu90, Del08]. **implicit** [CCBLM12, Mic72, Shu94, Wid67]. **Importance** [DBK82]. **imposed** [Coo90].

Improve [LV62, FKOW16, KEKP20, YT16]. **Improved** [BEM+92, Blu79a, CPZ63, KDT18, KTD20, Lew83, Sav90, SK80, Dan82, GB71, Mat89, SRD94]. **Improvement** [DW58, Fle58, Lin84, RKL88b, EM94, EK08]. **improvements** [BWB+20, HS04, JWS+09, SvBC+04]. **Improving** [AGZ94c, FE75, KVP+20, LF77, LKL+81, MI10, Tol97, BHP17, Sit71]. **Impurity** [GK60, KO65a, KM66, Key61b, Pri58b, KMK68, KO69a, MFPJ71]. **in-host** [BCH+16]. **in-line** [ABC+99a]. **in-memory** [EGN+19]. **In-Plane** [Blu79b]. **In-situ** [Ahn66]. **InAs** [Lud78]. **Inch** [BS70, BBT85, FMPS93]. **Incidence** [PBF60]. **Incident** [DHM75, GWB+17]. **Incoherent** [Gef88, PLHJ70, SB62]. **inconsistency** [Sit87]. **Incorporating** [CKE+10, Tar63, SS00]. **Incorporation** [BC60b, BC60a, BC60c, MPCF82]. **Increase** [Ano06b, AAC+06, BWB+20]. **Increased** [Sie63, KDG15]. **Increasing** [AN98, ABH+19, BM96, ON60, WYTO04, WCK+07, Nai02]. **Indelible** [Eas86]. **Independent** [Fra83, AT78, CS84, MLMP+12, MM94]. **Index** [Ano93b, Ano93g, Ano93h, Bax58, PC64, Ano92a, Ano92h, Ano93c, Ano94a, Ano94b, Ano94t, Ano94u, Ano95a, Ano95l, Ano97a, Ano97j, Ano98a, Ano98l, Ano99a, Ano99i, Ano00a, Ano00j, Ano01a, Ano01o, Ano02a, Ano02b, Ano03a, Ano03b, Ano05a, Ano05d, Ano06a, Ano06d, Ano07a, Ano07b, Ano08a, Ano08c, BGO03, HSL+10, KEKP20, Sit87, WL73, Bar75]. **Indexed** [KHKM64]. **Indexing** [Bla59, SNA02]. **Indirect** [Whi70]. **Indium** [CJT62, How82, RL70]. **Indium-Lead** [How82]. **Indium-Mercury** [CJT62, RL70]. **individual** [MHW95, RG90]. **individuals** [CLH+16]. **indoor** [YBF+14]. **Indra** [BNN+09]. **Induced** [Azb88, DJ70, Har63, Hem74, HMR82, JD66, Lun79, DP68, FMS+92, HRC+08, HRS+95, RKL88a, Sri96, SGS+09, Tan96]. **Inducement** [Kuh88]. **Inductance** [BRR79, Rue72, HOWP92]. **Induction** [DB79]. **Inductive** [Dan60, Wat60b, WWMS79, CCH+96]. **industrial** [AAB+16, BOS+95, Peh69, SPP72]. **industries** [LMHM96]. **Industry** [Car10, Gom87, Kov06, DKRS07, HZG+16, KAF+16, SP14, VAB+05, Yan07]. **inelastic** [BEH+89, EHK+89]. **inequality** [Ris76]. **Inertial** [MR76b]. **Inference** [Wat60b, AC92, KBP+12]. **Infinite** [Ins76]. **Influence** [BS78, BB60, BBG60, HBR85, KMH82, Kus70, Mat62b, Pen79, RRB+01, Roe66, SSG69, HBR86, vK62]. **Information** [Ano58f, Hor00, IK00, KW62, Kuh88, Leh78, LP75, Lor70, MHI98, Sea57, Sha58b, Sho04, SY73, Tof88, Wat60a, Wat60b, Win70, AKNR10, AEG+20, AN98, And10, BS03, Cha77, GDA14, GAB+08, HHH04, Joz04, Luh57, MAD+98, PSD+17, SI09, SKC+10, SHM+12, VAB+13, WR00, ZW17]. **Information-Carrying** [Kuh88]. **Information-Content** [MHI98]. **Information-Theoretical** [Wat60b]. **Infrared** [BLLS79, CSH+89, FL74, GHW70, GL62, Heb64, BWB+82, Mah93, Sek93]. **Infrastructure** [RBB+02, AA18, AHH+14, BCG+09, BMS+17, BISN+12, CH06, CJJ+16, GCS+12, HBB+05, KAD+16, MOG+19, RRMD17, SHM+12, TCK+15, VSS+09]. **infrastructures** [BGM+16, CFH+09, KFW+14]. **Inhibition** [GSAP17]. **Inhibition-augmented** [GSAP17]. **Inhomogeneously** [CL74]. **Initial** [MW62, van72, BBF+04, vdP72]. **initialization** [CNSS12]. **Initiation** [HSM84]. **initiative** [NRD+09]. **Initiatives** [Nun09]. **Initio** [Cle65a, BBK+08, Cle00]. **Injection** [Ghe80, HFDN63, Key65, Key70, Las63, LF64, LS64, Mag73, Mar64c, PR65,

HRG80, Key71]. **injector** [JWSP06]. **Ink** [AEE77, BHR77, BT84, BHWW77, BBT83, Car77, CS85, CP77, DLK84, FBW77, LMT84, Lev77, SBT87, Tu75, Twa77, Zab77, Bru76]. **Ink-Jet** [SBT87]. **Inks** [BS78]. **Innovation** [BR81, BS03, CJK+13, GMS+12, HBP+81, KDT18, KRS+17, Viv14]. **Innovations** [HPWW81, HYA03, MT81, Nun09, TCK+15, ADS72, AAC+06, ABB+15, JSM+18, VCM+20, WHC+18]. **innovative** [MZS+03]. **inorganic** [MCK01]. **Input** [Fra79, Fra80a, Ins77, TW62, Tit61, BSK+08, DWW90, HBL+02]. **Input-Output** [TW62]. **Input-Restricted** [Fra79]. **input/output** [BSK+08, HBL+02]. **InSb** [FP69, Gli69, MNP+69, RK69, TK69, Tur69]. **Insensitive** [LR65a]. **Insider** [ASR07, CLH+16]. **insight** [CFH+09]. **insights** [GB93, LDSA02, RDL19]. **Inspection** [WSW83]. **Instabilities** [Boe69, Fri69, Gun64, SSG69, Bra69, HC69]. **Instability** [Kat89, MN67b, Whi72]. **Instagram** [SPB+17]. **installation** [Lie20]. **Instantons** [CCE+88]. **institutions** [VRA+09]. **Instruction** [AST67a, Bla94, GR90, VBE94, War90, BGAJ94, EV93, KMA+20, MHI01, Mat03, SLC+97]. **instructional** [WA15]. **Instrument** [Shi85, CM19]. **instrumentalism** [HHH04]. **instrumentation** [CLP+13b]. **Instrumenting** [CRHPP09]. **insulated** [CDS73, CDS00, KM73]. **insulated-gate** [CDS73, CDS00]. **Insulating** [PDLM67, TY64]. **Insulator** [RM70, HD73, IFB+11, Sta02, SRH+18]. **Insulators** [LMD70, CKG+99]. **Integer** [Mur57, GS72b, GS72a, Joh87, Lee07]. **Integral** [LC80, Ode64, Pri58c, Swi62]. **Integrals** [CCE+88]. **Integrated** [Ame80, BSS82, GPE99, GKK+80, Gsc09, HZG+16, KL70b, KL80, KW83, LRMT95, MW80a, OCR+98, OMA+96, RSSS82, RTM65, Rot66b, Rot74, RB92, Rue79, SLJ+15, Sta83, Sta84a, Sta84b, Sta85b, Sta87, SSTF77, BNN+09, BGLM09, CBBS90, DSZ+12, FMS+92, FMP+03, Hei90, LFR05, LD72, LGF+03, MPHC90, Ngu99, OR92, PZGL91, RP14, RFB+03, Rue72, SSY12, Sri96, Sta89a, Stu70, TFJ+96, TLS+06, Vor71, Wie90, WSBL90, EGS+85, RKW99, SY92]. **integrated-circuit** [Sta89a]. **Integrating** [AFFS98, HLZ+09, RBL+18, IFB+11, KBJ+18, BGL07]. **Integration** [BL15, BBH+67, Lev66, RR83, SKS+20, Thr65, War63, ABB+99, Buc99b, CAC+13, FW67, HKD06, IJV19, KAD+08, KYY+08, MDZH+02, MLM+19, NMTP14, PSP06, SMP+04]. **Integrity** [RM10, Irv89]. **Intel** [BCC+01]. **Intel-based** [BCC+01]. **Intelligence** [Gri92, Luh58b, AAB+16, BGM+16, CM19, DNZ+19, HJW+16, MLM+19, PL20, Rao16, RC09, SSK+16, ZBG+10]. **Intelligent** [GR58, WGF+06, YMR14, FGH+06, SN15, IMSV10, RKMY02]. **intensities** [Zie98]. **Intensity** [SA66, ZS03]. **intensive** [AHN+03, AHH+91, BBPS91, GR92, SSB+12]. **Intent** [HRZ14]. **Intent-based** [HRZ14]. **intentionally** [Irv89]. **inter** [SBG+13]. **inter-application** [SBG+13]. **Interaction** [Gre79, Les71, VMH+83, BBI94, Tan96]. **Interactions** [Kau81, Kuz70, Laf80, KWN01, TOKN18]. **Interactive** [AS74, Cha87, Dic91, Eas75, Far83, HMW74, PWFB91, PW72, SSL73, Sow84, AEZ84, Bal91, BKM+69, BL15, CSW73, FGW81, Kan15, KGT88, Koe18, NMH+07, PS91, SA98]. **interagency** [HS11]. **Interatomic** [Col59, HB74]. **Interatomic-Force** [Col59]. **Intercalate** [Kau81]. **intercalated** [ZVW+11]. **Intercept** [ABCR65]. **Interconnect** [LCHL95, MDZH+02, Sec95, HDW+07, HBB+07, IJV19, MSB+04, WDA05]. **Interconnected** [Str83, FGT91]. **Interconnection** [BSS82, BBH+67, Fra87, Kua95, ABC+05, ESHM95, HBL+99,

KAB+05, LFR05, RGPP95, The00]. **Interconnections** [KLC84, Rue79, AUD+98, DKS+95, Gol69, MCAW95, NL69, SAT+08]. **interconnects** [BIK+05, DSM+99, YCB05]. **Interdependence** [BLR84]. **INterface** [LH03, Ada80, BBT85, DV74, FT77, Sow76, AEH+04, BCF+07, HKLM97, HSH+88, HBL+99, HBL+02, HPZ+05, Led71, Lew12, Mir61, Okt71, Sek93, VWPB90, CMW92, SBJS15]. **Interfaces** [CW78, HKM+86, KG80, Ker64, BBF+05, KJSG+88, MYKK+17]. **Interfacial** [RF78, RRB+01, Tu90]. **Interfacing** [ABM+01]. **Interference** [Kob70, KT73, Mid70b, RP67, SH57a, ALH95, Bus71, Cha73a, Gou89, Pau89]. **interference-suppression** [Bus71]. **Interferometer** [Fan64, FL74]. **Interferometric** [PSH80]. **Interferometry** [GHW70, Le 62, VG74, AL76, GLCW93, LS72, WS72]. **interferon** [NBF+00]. **interferon-** [NBF+00]. **Interim** [Var89]. **interlayer** [Far98]. **Interleaving** [Gra71]. **interlock** [PV93]. **Intermetallic** [BTH62, CGHK77]. **intermiss** [Thi88]. **Internal** [BP75, DV74, RG90, FR01, Hei90, Rab69]. **Internet** [JS14, NMV+09, WLKS98]. **Internet-scale** [NMV+09]. **Interpolation** [LR65b, MM75b, AW82]. **Interposer** [MR79]. **interpretable** [HHC+18, VVHL16]. **Interpretation** [Far83, Far91, Leh78, Pri58c, FAFL91, GLCW93]. **Interpreter** [SW86, AT78]. **Interrogation** [Far87]. **interrupt** [AA18]. **intersections** [O'C89]. **Intersymbol** [Kob70, KT73]. **intervention** [HHC+18, RSS+15]. **intracellular** [PSP06]. **intrasystem** [DAS+94]. **Introduction** [Cro70, Fer12, FXB+10, GK60, HW12, JB07, KDH+05, LS75a, Mil84, MT84, Par98, PC85, Pen91, SS01, YS64, AN98, Dat98a, FM75, FT98, FBG12, How92, Lan84a, Lan84b, LBC+14, Tof04, CS97]. **Intuitive** [EWBR09]. **Invalidating** [Lom75]. **Invariant** [Ull65]. **Inventors** [Ano67n, Ano67o, Ano67p, Ano67q, Ano67r, Ano67s, Ano94c, Ano94d, Ano94e, Ano94f, Ano94g, Ano95d, Ano95e, Ano95f]. **Inventory** [BCE+07, KSB07, Sop59, KBA07, el 69]. **inverse** [HA00, Sit71, Tom72]. **Inversion** [FT64, SS00]. **investigated** [Dür94]. **Investigation** [AS74, MVK85, SGC+87, WB70, BNT86, BHHO59, Shi72]. **Investigations** [GMW80, SH63]. **investment** [GRS13]. **Iodine** [BC60c]. **Ion** [DG93, LG88, Lev66, RGL75, Bag94, Cop00a, KBF+92, Kuo92, LCL+98, RKL88b, Spo94, ZCK71]. **ion-beam** [RKL88b]. **ion-beam-processed** [LCL+98]. **Ionization** [KO65b, Pen79]. **Ions** [CGHK77]. **IoT** [PL20]. **IPV** [GDB16]. **Ir** [HKvG+11]. **Iron** [BB60, KS66, KP63, MHS62, NBRB70, PBF60, SK69, Sha58a, SOC59, KWT+11]. **Iron-Nickel** [NBRB70]. **irradiation** [SMVK90]. **Irredundant** [(Ga57]. **irregularly** [AG72]. **Irreversibility** [Lan61, Lan00a]. **ISA** [CT06]. **islands** [WTS+11]. **Isn't** [Knu90]. **Isolated** [CGR88, LS78]. **Isolation** [BH82, OG80, DHK00, HB73, Vor71]. **Isometries** [CLW79]. **isomorphism** [HHH04]. **isoparametric** [DF15]. **Isotope** [GM62]. **Isotropic** [Blu79b, Che64, CS65a]. **Issue** [Ano60f, Car81, MT84, Ano67h, Ano67i, GM60, Mar62]. **Issued** [Ano66n, Ano66o, Ano66p, Ano66q, Ano66r, Ano67n, Ano67o, Ano67p, Ano67q, Ano67r, Ano67s, Ano94c, Ano94d, Ano94e, Ano94f, Ano94g, Ano95d, Ano95e, Ano95f]. **Issues** [Ano57j, Ano58g, Ano58h, Ano58i, Ano59e, Ano60g, Ano60h, Ano61e, BBD+02, FGM+83, Ano62d, Ano63e, Ano66g, Ano66h, Ano66i, Ano67j, Ano67k, Ano67l, Ano67m, Lee07, MNWH20, ODK+99, PPG+01]. **IT-enabled** [DDDKW12, Vay12]. **Italian**

[DFM+88]. **Iterated** [MN70]. **iteration** [GON+06, Mir72]. **iterations** [Lan66]. **Iterative** [ET86, HMW74, Jam89, Lin84, TC84, BS71b]. **Iterative-Improvement** [Lin84]. **Iterative-Interactive** [HMW74]. **Itinerant** [Hon70]. **IUPS** [NNN+06]. **IV** [CFG64]. **iWARP** [NMF10].

J [ACG+87, Ano93c, Ber76a, DCB77, Lan96, Sta75, TFJ+96, Wie76, WH94]. **J90** [PBK96]. **Janeiro** [TPC+13]. **Japanese** [MMUS88, TSNF88]. **Java** [AAB+10, SSMGD10, TWX+10]. **JBIG** [CM98, Mar98]. **JBIG-ABIC** [CM98, Mar98]. **Jeopardy** [Lew12]. **Jet** [AEE77, BS78, BHR77, Bog79, BT84, BHWW77, BBT83, Car77, CP77, DLK84, FBW77, Lee74, Lee77a, LMT84, Lev77, Pim76, PL77, SBT87, TC63, Twa77, Zab77, Bru76, MKJM93]. **Jets** [Fro84]. **Jitter** [BS85, Nob95a]. **job** [DKR12, SHL+20]. **Jobs** [Cho75]. **joined** [Okt69]. **joining** [Mil69, Mil00]. **Joints** [CN79, KLS+05]. **Josephson** [Ame80, Ana80, BKM80a, BJMO80, BMWL80, BKM80b, Bro80, Don80, FHVZ80, Ghe80, Gou89, GKK+80, GMW80, KL80, MW80a, Mat80, Tsu80, ZG71]. **Journal** [Ano67v]. **Journals** [Ano57k, Ano57l, Ano57m, Ano57n, Ano58j, Ano58k, Ano58l, Ano58m, Ano59f, Ano59g, Ano59h, Ano59i, Ano60i, Ano60j, Ano60k, Ano60l, Ano61f, Ano61g, Ano61h, Ano61i, Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67w, Ano67x, Ano67y, Ano67z, Ano67-27, Ano94r, Ano94s, Ano94o, Ano94p, Ano94q, Ano95i, Ano95j, Ano95k]. **journey** [UDP+12]. **JSP** [Tsu80]. **Junction** [KMO64, KO65a, KO65b, KO66, KO67, KO69b, KO70, MG63b, PR65, Rei66, TDM+87, VCP80, Ano06c, GP06a]. **Junctions** [BKM80a, BS69, BJMO80, BMWL80, BKM80b, CL64, CSE66, Dum63, FPS66, Gef88, GS80, Han86, Lik88, OMAW60, PF66, SAL63, GP06a, MC68, OKH+02, Sun06]. **Just** [Kan15, SMC+14]. **Just-in-time** [Kan15, SMC+14]. **justification** [Gil60].

Kalman [God74]. **Kantorovich** [RS66]. **Kapitza** [Lit62]. **kappa** [Hos94]. **Keeper** [RK66]. **Kenya** [FKOW16]. **kernel** [NMF10]. **Kerr** [Shi73]. **Key** [ABC+99a, Eas86, KAB+12, SR63, vKCD+10]. **Key-Sequence** [Eas86]. **Key-to-Address** [SR63]. **Keyboard** [DWGC85, Yha75]. **Kiln** [MS67]. **Kinematics** [TO77]. **kinetic** [Hun71]. **kinetics** [GI88, SR71]. **kinoform** [LHJ69]. **Kinoforms** [PLHJ70]. **Kittyhawk** [AUW+09]. **knapsack** [GS72b, GS72a]. **knit** [MDMN10]. **Knots** [Ins76]. **Knowledge** [BP92, FLDC86, HKM+86, Kuh88, Wal86, ADG+92b, FKGF12, FGP+85, FJSS89, GLS86, Nic92, WN92]. **Knowledge-Accumulating** [Kuh88]. **knowledge-acquisition** [Nic92]. **Knowledge-Base** [HKM+86]. **Kr** [BKB76]. **Kraft** [Ris76]. **Kutta** [War63]. **KWIRE** [Elm84].

L [ABC+05, AAC+05, ADG+05, BGH+05, BBK+08, BHD+05, CBB+05, CNC+08, CBC+05, DT08, DLJ+08, EFR+05, FKL+08, GBC+05, GBB+05a, HBB+05, IBP+05, KHZ+08, LKFU05, MSW+05, MAA+05, OBB+05, PMS+08, WAB+05]. **lab** [DFF+15]. **Laboratory** [Kov59, LL83, Ros03, Col69b, Gra71, LS69, Mol69, PMS+08]. **Lagoon** [SCRV78]. **Laminated** [Blu79b]. **LAN** [VWPB90]. **Land** [CRM02]. **Landau** [Dou62, Sch89]. **Landauer** [SS88]. **Landsat** [DBK82]. **landscape** [EHLSW01]. **landscapes** [MM91]. **Langevin** [Gar88]. **Langmuir** [RSSS82, TZZ+11]. **Langmuir-Blodgett** [RSSS82]. **Language** [All81, ADST78a, BS06, BHP83, BKU88,

DFM+88, Hei76, KRD+14, Kin61, LG78, Leh78, LN79, Pet76, Pla76, SFT78, Sow84, AKB+17, ADST78b, ARS+17, BCD+17, BHP17, CFK+91, CGH+17, Den80, Kel73, KVP+20, MIL+18, NMTP14, SMS80, TYSS19, WN92, HAG+13]. **Languages** [Lom76, Luc81, MO84, Sam81, AR87, CGS61, Dun57a]. **LANs** [BS85, CS03]. **Lanthanide** [GSG+90]. **Laplace** [KRC68, LC80, Lew75, Sug59]. **Laplacian** [KJP11]. **laptop** [LGF+03]. **Large** [Ast58, BSS82, BHP83, Bra64, BBH+67, CD85, DFM+88, DO74, DAB+97, EMM+18, ETWO08, GHK67, Mer88, Mon82a, RBB+11, Sch80, Sta89b, Wre83, ABM88, BKF+16, CBK+98, CHG04, Dav69, Elg11, HdTR06, HBT+16, KJS09, Kum98, LSW13, MSB+04, PS91, RBB+02, TWRW89, TBS09, VNT16, Hud76]. **Large-Area** [DO74, Sta89b]. **Large-field** [DAB+97]. **Large-Scale** [BSS82, BBH+67, CD85, Mon82a, EMM+18, ETWO08, RBB+11, BKF+16, HdTR06, HBT+16, KJS09, LSW13, RBB+02, VNT16]. **large-tree-search** [CHG04]. **Large-Vocabulary** [DFM+88]. **Larger** [CAS+91]. **Larger-scale** [CAS+91]. **Laser** [Bro78, BH79, CCC+79, Chu82, Cro79, DN97, EHMW81, FL74, FLR77, Gab70, Gar64, HHM66, Har63, HD69, HMR82, HDK+11, HFDN63, Key65, Key70, LS64, Lun79, LSH79, SA66, SLLP64, SLHM67, Zwe65, vAR82, DAB+97, DP68, HA71, Key71, Mar71, Sor79, Sor00, SPP97, Spr71, TWRW89, WW71, vS98]. **Laser-Enhanced** [Chu82, vAR82, vS98]. **Laser-excited** [HDK+11]. **Laser-Induced** [Har63, HMR82, Lun79, DP68]. **Laser-Optical** [FLR77]. **Laser-pumped** [SLHM67]. **Lasers** [AH79, Cha79, DC82, Har65, JWL82, KMCY82, Las63, LF64, Mar64c, MG63b, PR65, SL67, TB82, CBCM79, MG68]. **Latch** [Cor84, Gra80, Mat85]. **Latch-Up** [Mat85]. **latencies** [BS06]. **latency** [CHJ+18, FGG+13]. **Latent** [Dui59, Sch62a, YCB05]. **Lateral** [Gil79, LJ92]. **Latin** [HBC70]. **Lattice** [ASV76, BKB76, CERS76, CCD57, Dod63, Pic87, Seg62, SdS89, WY76]. **Lattice-gas** [SdS89]. **Launch** [BDH76]. **launches** [RMR94]. **Law** [Col59, Swi62, CPD+09]. **Layer** [BW83, Kue90, Lee77a, RWC80, RVV88, Wre83, CDD+10]. **Layered** [CS65b, Sch89]. **Layers** [FT64, Gar86, KLBP64, Mid70b, O'H78, PW78, TY64, CU98, PM72, Whi93]. **Layout** [Coo84, FLKA84, BGH+05]. **Layouts** [Lew80]. **LC** [YL98]. **LCD** [JPTW92, KSK98]. **Lead** [GL62, How82, JC63, Vil82, BCSE89, KLS+05, SAT+08]. **lead-free** [KLS+05, SAT+08]. **Lead-Thallium** [GL62]. **leadership** [ADF12]. **Leading** [HM90]. **Leading-zero** [HM90]. **leads** [EG00, Gus97]. **Leakage** [GT80, VCP80]. **leaks** [SBG+13]. **learn** [BBMR19]. **learned** [DRB+20, Mer04]. **learner** [CFP20]. **Learning** [BBD+17, Fri58b, FDN59, OD17, RSS+15, Sam59, Sam67, WM92, BHW+17, BSRG17, CK17a, CFS+19, CNP+17, CNP+15, DBNK+17, EGN+19, Fri58a, GKT17, HKD06, KCML13, LRMT95, LGBV17, MBK+15, NG17, NML+20, NBM+19, RK15, Sam00, SCC+15, TGL+12, ZBBB17, CNP+15]. **Least** [Cio86, Goz94]. **Least-Squares** [Cio86, Goz94]. **Leduc** [Pri58a]. **Leed** [Jon70, Bru78, MJJ69]. **legacy** [HS11]. **Legendre** [Rob67]. **Legendre-Clebsch** [Rob67]. **Legion** [GHN04]. **Lemmas** [Kuh60]. **Length** [Don81, Fra70, GLP76, DY89, JVP+90, SHWK+90]. **Lens** [RHM63, TH11, Bru97]. **lenses** [DH69, TW69]. **lesion** [BSRG17]. **Lessons** [DRB+20, DSZ+12]. **Letter** [And60, BC60b, BBT60, BB60, BD62, Bre60, BA62, BLB+63, BN63, Car60, COC61, Con60, CK63, Dam66, Die62, Dod63, Dum63, FMP61, FK62, FC63,

Has62, IM60, Ken61a, Key61b, KW62, KKK61, KP63, Ku63, Kue60, LDDB63, Le 62, Lei62, MW62, MVB62, Mar60b, Mat62b, MS60a, MP61, Mel60a, MWN63, MHS62, MG63b, NM62, ON60, Pal61, Par60, PK61, Rad62, Sch67, Seg62, Smi60, SB62, SS61, Tid62, Tit63, WKW60, Yu61]. **levee** [SvNH13]. **Level** [BCK13, Bru78, Cle83, FHL+82, Sam81, SH69, AW82, Agn02, BOS+95, BSJ+13, BBS+03, DSW71, GON+06, GPL+92, HPW+02, JK93, KYY+08, Pat89, RBK+08, SM16, SG95, Wil97, WBH+04]. **Levels** [Fle58, KLC84, Sop59, KSB07]. **Lewy** [Lax67]. **LEXX** [Cow87]. **Li** [Les71]. **libraries** [Agr01, Aus90]. **Library** [LS75b, BPS+96, MBC+96]. **Life** [ABD+14, BB09, Kov06, Kuh88, CDS+19, McC69]. **lifecycle** [BGJ+17, KAA+18, WTT+14]. **Lifetime** [FL59]. **Lift** [HCS80, MW80a]. **Lift-Off** [HCS80, MW80a]. **liftoff** [CH82, HMM82]. **Ligand** [STW+08]. **Light** [BLB+63, CJ78a, Dum63, FPS66, Her66, Key63, KHKM64, LDDB63, LS64, MWN63, PRY65, SW98, SB62, VG74, BLDM97, CU98, CA01, DSRC98, DP68, ESS+20, HP01, Lax67, LS72, Rab69, RRB+01, RDD+98, SGY+98, SST+98, SS00, Shi73, TMS98, YL98]. **Light-absorbing** [Her66]. **Light-Activated** [PRY65]. **Light-Emitting** [BLB+63, Dum63, LDDB63, MWN63, FPS66, CA01, HP01, RRB+01]. **light-source** [DSRC98]. **Light-Valve** [SW98, SST+98]. **Lightly** [Lan63]. **lightwave** [BGO03]. **like** [Key61b]. **likelihood** [Boh70, EÖH10, Sta73]. **likely** [OKH+02]. **Limit** [Heb64, Tau02, Var19]. **Limitations** [LS64, BJW72, CBBS90]. **Limited** [BJM+06, Fra70, Mag73, MS60a, HC69]. **Limits** [Bro88, Key88, DDA+93, DAS+94, Emm97, EHPS05, Fra02, Key00, NBF+16, PK88, Sta02]. **LiNbO** [HD69]. **Line** [BF77, Ber64, Dah67, GHW70, GC81, GM63, Hop61, SAL63, Sve78, Tay79, Tod78b, ZL87, ABC+99a, ATW97, BH95, BP74, BFH+93, HRW69, MBC+96, RS94, Rei69, Tib93, Wee72, WC69, WWA+98, YG81]. **Linear** [Ast67b, CW72, ET86, GK64, MY67b, MW70, Nus77, Pim76, Pli66, Pri57a, Sch85, Sie63, Tuc60b, AW82, AGZ94c, BE03, BM68, CIE+03, DWW90, GB71, Gus76a, Gus76b, Gus97, Gus03, Las61, May60]. **linear-algebra** [Gus97]. **Linearization** [Ger73]. **Linearly** [KO67]. **Linearly-Graded** [KO67]. **Lines** [Gru79, Hor76, Mul67, Ost84, Wit85, Bra68, Cha88, DKR+90, Ho73, HRS+95, Kep75, Lan60]. **linewidth** [CAC+95]. **linguistic** [BC00]. **Link** [Cro79, MT77, DRSM15]. **Linked** [CT76]. **Links** [TW62, CBB+04, FMP+03, GLOS92, KACS95, PK03]. **Linpack** [KGBB09]. **Linux** [BBK+16, BBB+20, ZST+07]. **LinuxONE** [BBB+20]. **Liquid** [BL62, Bog79, DC82, Lan85, Lee74, Lee77a, McG92, Pim76, PL77, RL70, SW98, Spr63, Tu75, AT00, APOI92, AIH+98, CJ78a, CJ78b, How92, KFYU92, KRC68, LL98, LCL+98, NSOO98, RDD+98, SHWK+90, SST+98, SS00, TSH92, TCCH98, WWA+98, Yan71, YHA71]. **Liquid-Crystal** [DC82, McG92, SW98]. **liquid-nitrogen** [SHWK+90]. **Liquids** [MW62, DP68, Shi73]. **Literary** [Tas57, Luh57]. **Literature** [Luh58a, BWK20, MIL+18, Bax58]. **Lithographic** [DMWW77, MPS77, BDS+97]. **lithographical** [BTWY92]. **Lithography** [BLDM97, Bro88, Dav80, Gil84, HWC88, JWL82, Par80, PS80, RFK+97, Rot80, War93, AWHK97, Arc93, BRB+01, BGK+82, Bru97, CS97, DEG+01, GHP+93, GC93, HMH97, Ito01, LL93, LMW+01, MBB+01, PGN88, See93, SMVK90, SGL+97, SRO93, SS93, Spi93, Wil93]. **lithological** [BBPS91]. **Lived** [SH84]. **LLNL** [CCD+13]. **Load** [Chi60a, Con58, Con60, Mar59, MR76b, BZ06a, CHG04, EV93].

load-balancing [CHG04]. **Load-Sharing** [Chi60a, Con58, Con60, Mar59]. **Loaded** [GM63, HG83, Lan63, EC71]. **Loading** [van72, BBF+04, CGLL93, GLCW93, vdP72]. **Loads** [ALL77, BGT74, KS01]. **Local** [Cro79, DJBT81, Fra83, HS85, HS81a, Str83, BSRG17, MCAW95, OCB+90, RC17, ST89, SJZ+15]. **Localized** [FWW88, Hon70, JT66, Lan88, Lan57, Lan96, Lan00b]. **Localized-Field** [JT66]. **Location** [DYHS78, LMPP69, YBF+14]. **Locked** [KHBC66]. **Locks** [HS82]. **locus** [Dan66]. **log** [McN94, RRMD17, WLH+17]. **log-structured** [McN94]. **Logarithms** [Che72]. **Logic** [AFR62, Bei92, Bra87, CGG+64, Cle83, DJBT81, DBG+84, DHSC64, DHSC00, DLW86, Don80, Don81, EL80, EL83, GRS87, Ghe80, Gia66, GLL80, GHKO57, HMW74, Jon75, KL70a, KC66a, Koz81a, LM80, LBH+75, MS05, Mat80, NW64, RWL81, SKB+96, TC84, Vil82, Voi65, Wei79, Woo75, AAH68, BEM+92, BJM+06, BGL+92, BMT+90, CCJH81, CAC+95, DBG+00, Di 88, Don74, Fag77, FM75, FN71, dTGHC92, HCO74, HBB99, KL63, KCA+95, Koz81b, MTB+90, WPL+12, Wei91]. **Logic-based** [MS05]. **logic/firmware** [WPL+12]. **Logical** [AHJ+57, Ben73, BDH83, Bon62, DMN+59, PR59a, SGK04, Swa60, WW75, Win62, Zul01, Ber76a, Wie76, WYTO04]. **logistics** [BCE+07, BKP82, SS20, SCH+09]. **Lognormal** [NB61a, NB61b]. **Long** [Kuz70, SH84, BBC+08, DKS+95, GCL+19]. **Long-Lived** [SH84]. **Long-Range** [Kuz70]. **long-term** [BBC+08]. **Longer** [MG63a]. **Look** [Kin61, LT70, CGS61, Dan66]. **Look-Ahead** [LT70]. **Look-up** [Kin61, CGS61]. **Loop** [Ben59, MS67, WC75, BSSZ76, BCH+16, Cov92, Hip70, ST89]. **Loops** [BA62, CT76, MKP73]. **Lorenz** [Pri57b]. **Loss** [Kar74, Las63, MVK85]. **losses** [Yas07]. **lossless** [Bra68, Ho73]. **Lossy** [GC81, DKR+90]. **lots** [NBF+16]. **love** [Mer04]. **Low** [BH89, CFH64, CNC+95, CHJ+18, Cre58, GM62, GBB+05b, HOWP92, HS91, Ins77, Jon65, Jon70, KDBT60, KBC+03, MJJ69, Mey90, Mey00a, MPD86, RL70, SKB+11, SCYK78, Tay81, Tro00a, Bea90, BJM+06, CNL+19, CT06, DTTK95, EB91, EO13, FGG+13, HSS+10, JK93, LZZ+16, LCHL95, MZS+03, MHK+11, NHKI03, PZK+03, SAT+08, SN02, SKSP06, SPR+95, SCG+13]. **Low-cost** [GBB+05b, HSS+10, LCHL95]. **Low-End** [Tay81]. **Low-Energy** [Jon65, SKB+11, Tro00a, MHK+11]. **Low-field** [BH89]. **Low-inductance** [HOWP92]. **Low-latency** [CHJ+18, FGG+13]. **low-margin** [LZZ+16]. **low-noise** [DTTK95]. **Low-Operating-Voltage** [MPD86]. **Low-overhead** [HS91, EO13, SKSP06]. **Low-power** [KBC+03, BJM+06, CT06, MZS+03, PZK+03, SPR+95]. **Low-temperature** [Mey90, Mey00a, Bea90, SN02]. **Low-Toxicity** [RL70]. **low-voltage** [NHKI03]. **low-volume** [SAT+08]. **Lower** [DH73, FL75, LF77]. **LPE** [Lew78a]. **LRU** [BK75]. **LSI** [CHS82, FS82, KMH82, Mon82a, OK82, Rot82, Sak79, Sta76, Sta00, Ver80]. **LSS** [DBG+84, DBG+00]. **LSSD** [BTP+90, Cor84, EL83, LSF84]. **LT1280** [Bar83, PW83]. **LTO** [Jaq03]. **Lubricating** [Lan85]. **Lubrication** [TT74, VG74, BHHO59, Gro59, Mat95, Mic59]. **Luminescence** [PF66]. **Lumped** [Rut59]. **Lumped-Parameter** [Rut59]. **Lung** [Tay57]. **lysozyme** [ZEH+08]. **LZA** [HM90].

M [Don00, BDN+02, Bra72b, HWC88, PZK+03, SHWK+90, SWC+95, TMF+95, ACM+89, Yet89]. **m-gate-length** [SHWK+90]. **MAA** [Lye77]. **Machine** [AST67a, Ast67b, Bax58, Fri58b, FDN59,

Gro90, HF78, HKD06, LH57, ND57, RR83, Sam59, Sam67, WM92, ZBBB17, AT78, Bei92, CGS61, Fri58a, HM71, MYKK+17, NML+20, OD17, Sam00, SSMGD10, ZY72, LH00, ND00, VBE94].
machine-independent [AT78].
Machine-Made [Bax58]. **machine-printed** [HM71]. **Machines** [Bau84, BMS80, GR58, Gum83, SH57a, FHPR01, PLS20]. **Macro** [GLL80, HY84, MM82, Ver80, SPR+95].
macromolecules [HMK01]. **Macros** [Jon75, Sch80]. **Made** [Bax58, BA70, SBF+97]. **Magic** [CSS83, Par98]. **Magnet** [JT66]. **Magnetic** [AKK+67, Adl70, ABK89, Ahn66, ABPS66, Azb88, BTW62, BBP72, BBG60, Blu79a, Boy60, BBKW86, BS70, CDS+86, CHBH85, Cha62, CLW80, CC76a, Dav77, DP59, DPW60, Die62, Dou62, DSSS64, EGS60, Fan61, FLP90, Flu67, FP57, FK62, GLS67, Goo62, HPWW81, Hoa58, Hoa61, KPST61, KJMS67, Kro58, Ku63, KHBC66, Kus70, Kuz70, LL83, LR65a, Map62, MPST66, Mat70, MP61, Met70, Mid65, Mid66, MW67, ND57, ODR70, OHSP76, PW67, Par60, PH74, Pat75, Pat85, PFS+70, PSS67, RK66, SSW65, SH57b, SH57c, Sch85, Sea58, Sie63, Sko58, Slo66, SM66, SHSY90, SHSY00, SN98, TW74, Tin62, TH64, Whi70, WCB+86, WY76, AF68, AW98, Ano70b, Ano06c, BP88, BW81b, BS03, Coo90, Dec90, DPW00, EÖH10, EKS+04, FCH70, GP06a, GDR70, HJS98]. **magnetic** [Hoa00, Hsi99, ICO71, Jon98, KT70, Kob71, Lew73, Meh89, NDM+04, ND00, OCR+98, Par98, Pat89, RE71, Ste81, SHCS05, TB00, TFL+98, Vin81, Yan71, van89].
Magnetic-Core [FP57]. **Magnetic-Disk** [ND57, ND00]. **Magnetic-Field** [EGS60].
Magnetic-Field-Induced [Azb88].
Magnetic-Recording-Head [Sea58].
Magnetically [NW64, ETWO08].
magnetism [KIF+89]. **Magnetite** [Sie70].
Magnetization [DP59, KG63, Mee67].
magnetized [YTF+11]. **Magneto** [Beb62, WB70, Bro72, Pat72].
Magneto-Optic [Beb62, Pat72].
Magneto-Optical [WB70, Bro72].
magnetoresistance [Far98].
Magnetoresistive [BCRT74, CPL+74, Hem74].
Magnetostatically [Cha62].
Magnetostrictive [Pre66].
Magnetotransport [SKEG+98]. **magnets** [YTF+11]. **Magnitude** [Par80, CIE+03].
Main [Gha75a, GMW80, PSS67].
Mainframe [AK82, DP13, EDGL+13].
Maintaining [Now02, Tom72].
maintenance [CHMW07, WLH+17].
Majority [LM80]. **Majority-Logic** [LM80].
Make [GW57a, GW57b]. **maker** [MD12a].
Making [CP91, CAS+91, CASP91, ESI+12, Kis03, Pen91, PBBL07, MAG+01, PW72, RDL19].
maleimide [GA88]. **malicious** [APRS16, VNT16]. **malware** [HJW+16].
Man [BA70]. **Man-made** [BA70].
Managed [CJJ+16, ISV16, KAA+18, Pon17, VSS+09].
Management [Ano20d, CT76, GLP76, LS76a, Pri07, RM10, Skl76, AAB+14, AEG+20, ABB+12b, BKN10, BWK20, BMD+20, BPS81, BGM+16, BSD+20, BNN+09, BNSG09, BFRT13, BHH03, BBB+05, BM96, BGJ+17, Car10, CHH+01, CTD+16, CNP+15, DB20, DM03, DJL+16, DYK10, EB06, EWBR09, FGK+07, FWR+11, FM10, FGG+13, FLMKS06, GDA14, GAB+08, GAJ+16, HZG+16, HS11, JS14, JWW+11, KKB+09a, LRV+09, LSS14, MSV14, MBA+12, MN97, MS07, PL20, PKXK07, PAB+05, RAR+14, RHM+99, SCI05, SBD+10, SPB+17, SGK04, SvNH13, SHL+20, SCH+09, SCM+82, SCG+13, Tal20, VRL10, VOW+12, VCM+20, VAB+13, WLB+15, WLS+20, WSE+16, YSH12, vKCD+10, CHY92, PS09].
Manager [Kov06, Mau18, Mau20, FBG12,

MBA+12, YSH12]. **Managing** [Aus90, BCC+16, Jen10, Kru84, WAC+16, BC18, SPS+06]. **manganate** [SKEG+98]. **Manganese** [Sha58a]. **Manganese-Iron-Oxygen** [Sha58a]. **Manipulation** [AMG+87, CAE+76, THL85, Agn02]. **Manipulator** [Tay79]. **Manley** [RP66]. **Manned** [Jam81]. **manufacture** [CAC+95, GHP+93]. **Manufacturing** [BW83, Don00, EGS+85, GAC85, Har81, HMH97, MT81, SW67, AP69, BBH82, CDD82, CMS85, CNC+95, FGP+85, FS82, KL70b, KL94, LRMT95, MCH+82, Osb93, Ros99, Rot82, SCH+09, Stu70, Tib93]. **Many** [Adl64, BCSE89, BMPS91, Di 88]. **many-body** [BMPS91]. **Many-Valley** [Adl64]. **many-valued** [Di 88]. **mapper** [BMK+05]. **Mapping** [ABC+85, CA84, GHLW84, MY65, Ost84, LPPT86, PB89, RK15]. **Mappings** [Cve87b]. **MapReduce** [SXW+13]. **maps** [BBPS91]. **margin** [LZZ+16]. **Mark** [Dav80]. **market** [Sav69, SGESR10]. **Marketing** [Sel07, BDMN14, LB07, TYM+14]. **marketing-mix** [TYM+14]. **markets** [Car10]. **Markov** [Bir01, Hei80, LB07]. **Markovian** [IS83a, IS83b]. **Maser** [Fan64, SS61, Smi57]. **Mask** [Ham78, KO65a, KM66, Rot74, BM93, BDS+97, MAG+01, Rot82]. **mask-making** [MAG+01]. **Masking** [JMLW94, Mid70b]. **Masks** [RHM63, SPP97, GHP+93, SMVK90]. **Mass** [Lev66, MKJM93, Pat80, SFD77, MS89, Spo94]. **mass-production** [MS89]. **Massey** [Gus76a, Gus76b]. **Massive** [CP13, SCC+15, Sof13, BBC+08, GGK+13, KCML13, SXW+13, ZSY+13]. **Massive-scale** [SCC+15, Sof13, GGK+13, ZSY+13]. **Massively** [CNC+08, VBC+08, ZEH+08, BSHM01, CBV08, CDD+10, RQBW08, STW+08]. **Masterslice** [Bra75, CCJH81]. **Match** [BR82]. **Matched** [VSF65]. **Matching** [KR87, Kur87, LC80, Maz70, Tap82]. **Material** [BS84b, CS65a, Hai85, Par60, AAC+06, DVM81, RK72, Yan07]. **Material-Handling** [Hai85]. **Materials** [Ame80, BHR77, BS77, Buc99b, Hat88, Hov78, KN81, Lew78b, Lip92a, Mer78, STCR84, ARM+01, ABR71, AR98, BK76, BWB+82, CBH+05, Cop00a, DG93, EKS+04, Gri99, Hsi99, JS00, Kel89, MBC+96, Nes98, NSOO98, See93, SA00, Tan96]. **math** [EFG+05]. **Mathematical** [DB69, KO67, KO69b, Opr03, Paz75, Pul03, SH57b, SH57c, SS59a, Var19, CFL67, KM68, KM73, WH94]. **Mathematics** [Coh87, HM87, Wan60, AKM+03]. **Mathieu** [Lev66]. **Matrices** [Erd59, Fla65, Sch84, VM79, AGZ94c, CW58, Fil70, Gus03, PS91, Tue68]. **Matrix** [Chi60a, Con58, Con60, Her66, Mar59, McA83, Tuc60b, ZH89, AGZ94b, ABG+95, AIH+98, CAW+98, Gup97, LCL+98, RSS91, Ris72, Sit71, Tol97]. **matrix-multiplication** [AGZ94b]. **Matter** [FRE+08, GZE+05]. **Mature** [Tay84]. **maturity** [CM19]. **Maximal** [Ari69, Mar64a, MS60b, Pat70]. **Maximizing** [RMM03]. **Maximum** [Bar80, Bar86, Boh70, EÖH10, FHSD06, Mac60]. **maximum-energy-concentration** [Bar86]. **maximum-likelihood** [EÖH10]. **Mb** [FKOP90, GP06a]. **Mbps** [OCB+90]. **Mc** [Rut59, RS59b]. **MCAW** [EBH+16]. **MCM** [KBM+99, KPT+02, Lee77b]. **MDGRAPE** [EKS+04]. **MDGRAPE-2** [EKS+04]. **Mean** [Col62, Pri58c, Mat03]. **mean-value** [Mat03]. **meaning** [AC92]. **Meaningful** [Sha12]. **Means** [AK82, Sie63, CNH73]. **Measure** [SS88, DB01]. **Measured** [SS88]. **Measurement** [BDS+97, Cha73b, EGS60, FF73, Hun59, KKS+73, Smi60, VCP80, BP74, DR93, GRH+08, GLCW93, HD73, KMK68, KO69a, KS01]. **Measurements**

[Ahn66, Bro66, CEY84, DKAC67, FFH64, KC89, KWB88, Map62, PSH80, Sie70, WB70, ABC+99a, CDM89, ESHM95, EFR+05, LS72, NBF+16, Peh69]. **Measures** [FH84, Gia66, HP84a, Sav70]. **Measuring** [Beb62, DH69, FL74, KRS+17, RSL+70, Yan71]. **Mechanical** [AOR62, BBKW86, DH83, LW77, Tay57, TBG+15, Wan60, WLPL+80, WCB+86, Bal91, BBF+05, Fer70, GPL+92, KLS+05, Pri66, WGC93]. **Mechanics** [CF72, Pri58b, Moi91, Tho94]. **Mechanism** [Bay78, Cla79, HP66, Mee67, MWEJ05, HMM82]. **Mechanisms** [BLR84, BRA84, Cha69, Gom86, Ho66, Kas70, PL79, Sch62a, vAR82, BW72, MMV+01, PAZ72, Whi93]. **Mechanistic** [GB93]. **mechanized** [Luh57]. **Media** [Bay69, Blu79a, Pol78, SW74, BDMN14, BEJ+14, HPZ+05, JMM+96, KSSC+13, MA96, NMH+07, RVT+13]. **mediated** [GB93]. **Medical** [Pet77, ACC+15, GDLS14, KWB+15, OMA+96]. **medical-image** [OMA+96]. **medicine** [Far82]. **Medium** [Cop00a, Gru79, Mir60, CDD+10]. **Medium-energy** [Cop00a]. **meeting** [MWL+14, KSB07]. **meets** [MBB+01]. **Megacycle** [WRLA57]. **megapixel** [SGY+98]. **Meissner** [Mat62b, vK62]. **melanoma** [CNP+17]. **Mellin** [Lew75]. **MEM** [KJP11]. **Membrane** [DWGC85, Pet79]. **membranes** [ABM+01]. **Memories** [Ast58, Gra80, Sch63, WT77, FR01, Gab69, Hui90, KMB+08, Lai08, ORT+96, VTMB+90, WW71]. **Memory** [Aic84, ABPS66, Bar75, BBC+64, Bla63, BCH84, CFL73, CH84, CR84, CLW80, CPZ63, Cro57, Cve87a, Dah63, Dub72, FHVZ80, FMP61, FP57, Gar57, Gha75a, Gha75b, GMW80, Has62, Hor62, JM64, KPST61, KJMS67, KHBC66, LL99, LH57, LH00, LST80, MRH89, MLGD84, Mat80, MP61, NAB+15, ND57, ND00, OBB+05, Ost84, Pea69, PSS67, PHCR81, RS94, RRSW61, RWC80, SSW65, SMD80, Swa60, TFR+01, Tro80, WWLF67, AGZ94b, BS06, BBP72, BMD+20, BPS81, BAB+13, BH80, BCCK92, BKS+08, CNL+19, CP97, CTT91, CGN72, CW91, Don74, DMR+81, EGN+19, FP73, FHPR01, FW08, GBK+19, Hat72, HRG80, Lar80, LGW+15, Lee77b, LH84, MBJ+97, MDB+02, MHI01, Mat03, MLMP+12, MCG+15, NFS+17, OWG+13, Pat72, RBB+08, RHC73, SKSP06, SSD+15, SDS+18, Sur15, Tol97, TGB+80, VLT+12, Won90, AFP+01]. **Memory** [SAPT01]. **memory-system** [Tol97]. **mentor** [WA15]. **Mercury** [CJT62, RL70]. **Merge** [Tod78a, TW85]. **Merged** [SS76, Lee77b]. **merging** [GLK+12]. **Merit** [Esa62, Gia66]. **Mersenne** [Nus76b, Nus77]. **mesa** [AA71]. **MESFET** [Moh70]. **MESFETs** [JVP+90]. **mesh** [FGH+06]. **mesh-connected** [FGH+06]. **Mesoscopic** [CGR88, KH88]. **Message** [Age04, Age05, Age08, Bal05, Cal81, Che06, Che08, DR08, Des02, Des04, Don00, Kov06, Mau18, Mau20, Mey03, NNF15, Nun09, Pea09, Pic18, Pri07, PS09, Pul07, Ros03, San12, Str81, Viv14, AAC+05, KLMV19, LDSY91]. **message-passing** [AAC+05, LDSY91]. **Messages** [MG63a]. **messaging** [BEE+02, NNMJ01, SCW10]. **META** [AGH+16]. **Metabolic** [NBF+00]. **metabolism** [LPPT86]. **Metal** [BLR84, BRA84, Fre70, LMD70, RM70, RWC80, Was88, BNT86, CWC95, Dat98b, DN97, Dür94, GB93, GNF06, HSH+88, KMB+08, OHWR88, SN98, VWJK11]. **Metal-Insulator** [RM70]. **metal-mediated** [GB93]. **metal-oxide** [VWJK11]. **metal-polyimide** [DN97]. **metal-polymer** [HSH+88]. **Metal-To-Polysilicon** [RWC80]. **Metallic** [Coo62, Lan88, SC88, CCG73, Lan57, Lan96, Lan00b]. **Metallization** [FHL+82, Ham78, Mid70a, WKD98, CU98, GPL+92, LV94, WDA05]. **metalloenzymes** [MMV+01]. **Metallographic** [Han57, KWT+11]. **Metallography** [Kov59]. **Metallurgy**

[GRS87, KT84, BA69, TS69]. **metalorganic** [Tis90]. **Metals** [KJ86, Lit62, Dat93, KJSG+88]. **Metastable** [RVV88]. **meteorite** [KWT+11]. **Meteorology** [Kol67]. **metering** [Sch96b]. **Methacrylate** [AGLM85, GOJN77]. **Methacrylate-Based** [AGLM85]. **Methacrylates** [Hir77]. **methane** [HHA93]. **Method** [ARV64, Beb62, BP84, Bre72, Dan60, GS87, Hua79, LC80, Man85, MJJ69, MS67, MVI+07, Pri58c, Rot66a, SR63, Thr65, VCP80, WSW83, Wel61, Yha75, BGK+82, Boh70, BBK+08, BS72, Bra72a, CP72, CW72, Dan66, FRPG01, Fra80b, Fro71, Gil60, GB71, HRW69, JP94, KN91b, KSK98, Lan66, LS77, Lei61, MN70, MC87, Mic72, MTB+90, SNA02, Sit87, TLM83, Tom72, WLEF89]. **methodologies** [GGKK96]. **Methodology** [CW83, LSH76, SH84, TS82, ABB+99, BAB+07, BWB+18, BBS+03, CCW+02, DL02, EGH+96, FPB+11, HNS+03, HKR+97, KBK+97, KEL+00, Mat98, RB90, RBK+08, RFC+07, SCC+97, TMF+08, WBW+15, ZFG+11, EPP10]. **Methods** [Bro66, Dub83, Fra70, FP83, Gaz78, HS85, HW81, HS61, KLS66, Meg63b, Mir69, Ode87, Sch62b, ATW06, Boh73, GM72, GK64, Ham99, HHR99, HM71, HKD06, Hor98, HRS07, HE10, Kri82, LO72, Mac60, MDR+07, Meg63a, RW59, Wid67, Wol72, WBT+10]. **Methyl** [AGLM85, GOJN77]. **metric** [DRSM15, FM10]. **metrics** [BC18]. **Metrology** [Rot74, Rot82]. **Mexico** [HF78]. **MgO** [AS78, JWSP06, PW78]. **MHz** [RHC73]. **Michelson** [GHW70]. **Microanalysis** [NM62]. **Microarchitecture** [FAD+07, BBS+03, LSF+07, MWS09, SCS+02, SBDT+09, SKT+05, SVE+15, TDF+02]. **microarchitecture-level** [BBS+03]. **Microarchitectures** [CNL+19]. **microbiome** [WSE+16]. **microblogging** [CGM+15b]. **microcode** [vBBE+02, GMS05, KKM02]. **Microcoded** [CN74]. **Microcontact** [BLDM97]. **Microdisplays** [HP01]. **microelectronic** [Cop00a, CNC+95, KLS+05, TW69]. **Microelectronics** [DHSC64, Ang01, BRB+07, DHSC00, JS00, KBF+92, OSP+98, RWM+05, RB92]. **microelectronics-related** [JS00]. **Microfabrication** [Dat98b, Dat98a, vS98]. **microfractography** [Mon82b]. **Microglossaries** [Tar63]. **Micrographs** [Kra81]. **microinch** [CMR72]. **Micromechanical** [Pet79]. **Micromechanics** [LDL84, Poh95]. **Micrometer** [Ghe80, BK76]. **Microminiature** [LFR05, VLKW14]. **micromodels** [LS73]. **micron** [KCA+95, MTH71]. **Micropitch** [NSOO98]. **Microprobe** [KM74]. **Microprocessor** [AK82, CT82, Cor82, HS81b, ML82, ADH+00a, BGW+04, BBH+95, BAB+07, BCJ+96, BBGP94, BBC+12b, CCW+02, CFP+07, CJB+15, FGK+07, FPB+11, GP81, HKR+97, JSR+18, JO96, KL97, KAB+12, LR97, LRH+02, MBF+07, MP82, SRJ+20, SRL+11, SBDT+09, SWC+97, SPM04, SMK+99, VMM+94, VLP+05, WKP+02, WL97, Web00, ZS03, ZFG+11]. **Microprocessor-Based** [HS81b, GP81, MBF+07]. **Microprocessors** [RS85, Sta85a, ABB+99, BBS+03, CS99, CT06, DKS+95, GBRJ05, SLC+97, SCC+97, WBS+18]. **Microprograms** [Bir74]. **Microscope** [AMGC86, APS86, BMC86, CW86, DHTW86, KJ86, vv86b, BNT86, KKT+95, MPHC90]. **Microscopy** [Ano86c, DPR86, FF86, Fin86, Gar86, GH86, Gom86, HG83, HBR85, Poh86, SB86, TH11, WKB+86, All00, Bat00, BR00, Dür94, EBd+86, HBR86, KWT+11, Lud00, LFC95, Mat95, MHK+11, Poh95, Ros00, SKB+11, SA00, Sto91, Tro00a, TTI98, VWJK11]. **Microsecond** [RRSW61]. **Microsectioning** [Han57]. **microstrip** [HRW69].

Microstructural [SGC+87]. **Microstructure** [GH86, Hat88, KLS+05, KWJJ84, Kuh88, Lye77]. **Microstructures** [SC88]. **Microtasking** [CSZ86]. **microturbulence** [ETWO08]. **Microwave** [BGS64, FP69, Gli69, GRT74, RS69, Smi57, SOC59, Wol70, BH89, Tur69]. **mid** [Jaq03]. **mid-range** [Jaq03]. **Middleware** [AGH+16, KOP14, FGG+13]. **midplane** [HPZ+05]. **migratable** [BPS+96]. **Migration** [GRSW86, AT00, CBV08, HBT+16, NML+20, WGS04]. **military** [BCE+07]. **Millicode** [HF04]. **Millimicrosecond** [DP59]. **Millipede** [VDD+00]. **MIN** [BP74]. **MINI** [HCO74]. **Miniaturization** [Key88, Key00, Llo67]. **Minicomputer** [Rad83, Rad00]. **minima** [LMPP69]. **Minimal** [GJ00, KL70a, Moo60]. **Minimal-storage** [GJ00]. **Minimaximal** [Rai69]. **Minimization** [OH74, Pal61, Rot60a, Rot60b, RK62, Tid62, HCO74, RW59]. **minimizing** [MWL+14]. **minimotor** [OCR+98]. **Minimum** [Hsi70, Mar61, Pat70, HZB+06, Kar73, Mac60]. **minimum-distance** [Mac60]. **minimum-energy** [HZB+06]. **mining** [ASR07, BGL07, KSSC+13, MIL+18]. **Mira** [CKL+13]. **Mirror** [Kue60, Pet80]. **MIS** [CL74]. **Miss** [SS76, MHI01, Thi88]. **missile** [RMR94]. **misuse** [SJW+16]. **mitigate** [ESA02, SLZL18]. **mitigating** [BDH+19, SP14]. **mix** [TYM+14]. **Mixed** [Azb88, BLR84, GS72b, GS72a, Lee07, NBF+16, Mey00b, NML+20, VWPB90]. **Mixed-effects** [NBF+16]. **Mixed-integer** [GS72b, GS72a, Lee07]. **mixed-signal** [Mey00b, VWPB90]. **Mixing** [FGMPK05, SB62]. **Mixtures** [GBC65, CJ78b]. **MMA** [Lye77]. **MMA-Co-MAA** [Lye77]. **MNETS** [Mat98]. **MnO** [Mat70]. **MNOS** [FP73]. **MnRh** [Sui75]. **MnTe** [MDJ+70]. **Mo** [HBL62]. **Mobile** [CJK+13, GRB+16, Rit13, CLP+13b, CLP+13a, HHC+18, KKT09, OYHSB14, RRMD17, RFB+03, SSK+16, YGR14, MBF+13]. **mobile/BYOD** [SSK+16]. **Mobilities** [PK61]. **Mobility** [LB85, PB69, Sie70, AAM+07]. **Mode** [Dum63, GHW70, KHBC66, PK61, SAL63, Tie61, WS75, CJM96, HB73, SGK04]. **Model** [AKKJ72, AST67a, AEGP67, And73, AHH+91, BBS78, BM63, BGM+67, BH82, BHWZ63, Cha74, Cho75, CP77, DB69, Doo83, Eas75, Eas78, El 74, FL67, Ins77, KS79, Kle64, LS75b, Lom76, Lom80, MDJV08, MTS84, MMV+01, Nor58, NM65, Sav69, SH57b, SH57c, SNP06, SFT78, SMD80, Sta84b, TY64, TC63, TO77, AP69, Agi74, ABK89, AKRS04, Bar78, BC00, CG71, CBD+09, Fla91, Gam72, GGRW91, Gsc09, GSAP17, HCL72, HdTR06, JL90, KMGD19, Koc59, Lew78a, LGBV17, Moo72, MS07, PLK09, QS67, QGT13, RBL+09, SHC+72, SM71, Sta75, TWM+14, TMW+17, Var89, Wor06, Yar12]. **Model-based** [SNP06]. **Model-driven** [MDJV08, TWM+14]. **Modeling** [BS81, BKM80b, CH06, DKS+95, EGS+85, Fla81, GL87, GC93, Ham99, Hoh78, Irv93, KW76, KGCS85, LS76a, LGBV17, LBT99, MMJ69, OHM+85, PB89, Pau89, RR87, SCRV78, Sri96, Sta83, Sta84a, IBM13c, VDP94, Was77, WLPL+80, Wes90, WWK+87, Yas07, AHN+03, BWK20, Boh73, DJK14, FGW81, HNS+03, HS11, KCOW08, KTD20, Law02, LLF+92, Lee07, Mah93, Man90, MS96, NNN+06, Osb93, PLS20, PCW+17, RES+15, RWM+05, RBK+08, Rub90, SJMBK08, Sta76, Sta00, Tan08, VMG99]. **modelling** [DSW71]. **Models** [BS84a, CW85, ET86, Fer75, FN71, LB85, Mil84, Ohb84, SC75, ZG65, ADG+92a, AKB+17, ARS+17, BHP17, BW16, Bir01, Car10, CCF+10, CKE+10, HA00, Mat03, NBF+16, NLP17, OTC14, OIM+13, SMS80, TCP+16, VVHL16, el 69]. **Modem** [CN74, GP81]. **Modems** [HS81b, Nob95b]. **modern** [ZBBB17]. **Modes**

[Bei74, Fan64, AL76, YL98]. **MODI** [MBF+13]. **Modification** [AMGC86, KMCY82, ACM+89, EM94, LV94]. **Modified** [Ho75a, JP94]. **modify** [TMW+17]. **Modular** [Bra75, LV62, Mat98, NCM+01, FGH+06, KMC+11, WPL+12]. **Modulated** [ASV76]. **Modulation** [Ano66j, Bla65, Hop59, PL83, Pat75, CN71]. **Modulation-Demodulation** [Hop59]. **modulator** [SGY+98]. **modulators** [YL98]. **Module** [BGR82, BB82, CW83, HCBA82, HW87, OK82, PW83, San83a, DHK+92, ESA02, GZM92, KLM+91, KPT+02, PGS+98, YCB05]. **Modules** [Cle83, Mul74, BRB92, HOWP92, MKW+05, WKD98]. **Moduli** [AW62]. **Modulo** [CM80]. **modulus** [AEG+02]. **Moiré** [GLCW93, Abb66]. **Moisture** [BP84, MLSS84, MVK85, BBF+05]. **Molecular** [ABR71, BBS78, Dem78, Lun79, MY67a, MY68, RSSS82, AHK+18, ACM01, ABM+01, BBK+08, DP68, EB06, EFG+05, Far98, GZE+05, GI88, Gyg08, KHZ+08, Mat95, SPP+05, WNBP91, ZEH+08, ZHP+18]. **Molecule** [MY67b]. **Molecules** [Cle65a, SLLP64, Cle00, Hun71, MHW95, TWRW89]. **Moment** [Cas70, HC70, CBH+05]. **momentum** [Sun06]. **monetization** [CDL+14]. **Monitor** [MHI98, MHR+15, MAD+98, WCNSH94]. **Monitoring** [Cle83, CMR72, Irv91, ABC+99a, BCH+16, BAV+09, BISN+12, BFG+99, CDSW06, HKA+13, Hor98, KCH+09, LR97, MSV14, MC09, ODL+09, SCW10, Sta76, Sta00]. **Mono** [Fin86]. **Mono-Atomic** [Fin86]. **monochromatic** [PW68]. **monogamous** [Ter04]. **Monohydride** [Pan78]. **Monolayer** [Mor79, BLDM97]. **Monolayers** [DK79, RSSS82]. **Monolithic** [BFL66, DHK00, CGN72, KACS95, Spr71, TS69]. **Monopole** [Lev66]. **monoxide** [KLE71]. **Monte** [Ken61a, LFF90, MNR86, MS96]. **Moore** [HS60, Koc59, Lam77a]. **Moore-Shannon** [Koc59]. **Morphological** [Ins77, BBPS91]. **morphologies** [KSH+08]. **morphology** [SRD94]. **MOS** [BBHS84, Lud00]. **MOSFET** [Ano06b, AAC+06, EKTT90, Gae79, OKH+02]. **MOSFETs** [LBT99, LDSA02, WS75, RGL75, SFG+06]. **Motion** [BBT83, Hau67, Hen83, Her65, Mir60, RVV88, Bau72, BS71a, GYK99, Gre60, HAG+13, MHW95]. **motion-estimation** [GYK99]. **Motions** [ASV76, Oht95]. **Motor** [MR76b, BSSZ76, LRNS17]. **motorneuron** [DC73b]. **Motors** [Fre67]. **mounted** [Hei90]. **move** [BGS13]. **movement** [BSY+15, McN94]. **Movements** [Pic87, LRNS17, PAH+18]. **Moving** [ALL77, AAM+07, BGT74, LPA+15, Sti79, BM68]. **moving-coil** [BM68]. **MPEG** [AFFS98, AF99, BNW99, GYK99, MRG99, RT99, WRG99]. **MPEG-2** [AFFS98, AF99, BNW99, GYK99, MRG99, RT99, WRG99]. **MR** [Lan96]. **MRAM** [Ano06c, ATW06, GON+06, GP06a, MDG+06, Wor06]. **mu** [Bra72b]. **Much** [Goo58]. **Multi** [BT67, BW83, CW83, HSL+10, Kru84, Okt71, Ros66, Sak79, TYM+14, Wre83, ATL+88, BBMR19, CLP+13a, GWRS90, Irv93, KMM+16, LQRS04, Mon82b, NLP17, Okl03, RBB+02, SLC09, ST89]. **multi-adaptive** [LQRS04]. **multi-armed** [BBMR19]. **Multi-Chip** [CW83, GWRS90]. **multi-core** [SLC09]. **multi-delay** [NLP17]. **multi-factor** [CLP+13a]. **Multi-fluid** [Okt71]. **multi-gigahertz** [Okl03]. **Multi-Head** [Ros66]. **multi-image** [Mon82b]. **Multi-index** [HSL+10]. **Multi-Layer** [BW83, Wre83]. **multi-loop** [ST89]. **multi-node** [Irv93]. **Multi-period** [TYM+14]. **multi-purpose** [ATL+88]. **multi-site** [RBB+02]. **Multi-Stage** [BT67]. **multi-tenant** [KMM+16]. **Multi-Terminal** [Sak79]. **Multi-Version** [Kru84].

Multiband [DG84]. **multibook** [BGW+04]. **multibooks** [WGS04]. **Multichannel** [WA79]. **multichip** [KPT+02, MKW+05, PGS+98, WKD98, YCB05]. **multicolumn** [Bil72]. **Multicommodity** [VJA07]. **multicompartment** [TMW+17]. **Multicomponent** [Bil70, WC69]. **Multiconductor** [Wee72]. **Multiconic** [DJ75]. **multicore** [BFH10, CBD+09, FNY+10, SSMGD10, SKS+11, TWX+10, WNW+10, ZCLS10]. **multicore-processor** [FNY+10]. **Multidimensional** [KM77, FAFL91, TG91]. **Multifaceted** [GSC12, HJW+16]. **Multifont** [RH75, KL63]. **Multilayer** [BB82, LDL84, Cha88, DN97, FLP90, GA88, RRB+01, TKK+92]. **multilayers** [Jon98, Par98, SN98, VWJK11]. **Multilevel** [CM80, Gec74, Kan74, Mer88, RT75, BSHM01]. **Multimedia** [DFS98, FT98, Gon99, SS15, BBD+98, DFaDNS98, Has98, MMWLN99, BBD+98]. **Multimode** [SA66, ABD+92]. **Multiobjective** [Agr01]. **multiparty** [BHH19]. **Multiple** [Ano66j, Bla65, Dah63, DLK84, DK67, DW58, Elm84, FLCB85, GFHW82, Hor57, Pat86, RK75, Sch80, Slo66, TW62, Tod78a, Tom67, WYTO04, Bra72a, DWW90, DSS+92, GA68, KBJ+18, LKY80, LD72, MN70, Oht95, Hei80]. **Multiple-Access** [Ano66j, Bla65, LKY80]. **Multiple-Curie-Point** [DK67]. **Multiple-Element** [DW58]. **multiple-input** [DWW90]. **Multiple-logical-channel** [WYTO04]. **Multiple-Nozzle** [DLK84]. **multiple-output** [MN70]. **Multiple-Technology** [Elm84]. **multiple-valued** [GA68]. **Multiple-Variable** [FLCB85]. **Multiplexing** [RTM65, Thr65, BNW99]. **Multiplication** [Ken61b, Meg62, RSS91, AGZ94b, ABG+95, Tol97]. **Multipliers** [VPS88, BH95]. **Multiply** [MS87, SN87, AEG+02]. **Multiply-Connected** [MS87, SN87]. **Multiprocessing** [KSW74, MSB+04]. **Multiprocessor** [FL75, KDH+05, LDSY91, LRH+02, MHI01, RSS91, SRL+11, SWB+91, SON+91, VLP+05]. **Multiprocessors** [CSZ86, BLM+92, FGT91]. **Multiprogrammed** [CDW75, Cho75]. **Multiprogramming** [And73, CFL73, Gha75b]. **Multipurpose** [Dun57b, DMN+59, EBD+95]. **Multiqueue** [Lei62, Lei61]. **Multiqueueing** [Sch62b]. **Multiscale** [DKA+05, PSP06, NNN+06]. **Multispectral** [Kan78, SM78, DBK82, NT72]. **Multistep** [Ode87, LO72]. **multithreaded** [ABF+10, BEKK00, CDD+10, CJB+15]. **Multithreading** [Ano05c, ABB+15, MMM+05]. **multivalued** [BP74]. **Multivariate** [Wat60a, BS72, OOL+12, YR91]. **multiwavelet** [FBHJ04]. **Muon** [Kel89]. **Muon-spin** [Kel89]. **Murphy** [Mei83]. **Mutually** [LF64]. **MVS** [ALS81, CHY92, SV92]. **MVS/ESA** [SV92]. **MXT** [AFP+01, SAPT01, TFR+01]. **mycotoxin** [NBF+16]. **myocardial** [LPPT86]. **myofilament** [HdTR06].

n [HC69, KO66, MG63b, BS69, BGK+80, EB99, KO67, Kog58b, Kog58a, MN67b, SS87b, VM79, Wei65, Bay69, LDSA02, MNP+69]. **N-Alkane** [VM79]. **n-Ge** [Bay69]. **n-InSb** [MNP+69]. **n-MOSFETs** [LDSA02]. **N-Queens** [SS87b]. **N-type** [MN67b]. **NACME** [Gar00]. **NAMD** [AHK+18, KHZ+08]. **name** [AFCB94]. **nanocrystal** [MSG+01]. **nanocrystals** [MSG+01]. **Nanolithography** [UBK+88, SS93]. **nanomagnetic** [Sun06]. **Nanoscale** [ZVW+11, HST06]. **Nanoscience** [TH11]. **Nanosecond** [DPW60, DPW00, PSS67, WWLF67].

Nanostructure [CKK+88, HST06]. **nanostructures** [HJS98]. **nanowires** [SHCS05]. **NaOH** [PM72]. **narrative** [GCL+19]. **Narrow** [DKAC67, KM66, LC83]. **National** [Coh87]. **Natural** [BKU88, Hei76, Leh78, O'C89, Pet76, Pla76, SFT78, AKB+17, BCD+17, CGS61, KVP+20, KM20, MIL+18, TYSS19, WN92]. **Natural-Language** [BKU88]. **Nature** [BD62, MKP73, VMH+83, Eme89]. **Navy** [Com83]. **Nb** [HBL62, ZBL+72, ZBL+72]. **Nb-Zr** [HBL62]. **NChilada** [LQRS04]. **Nd** [TCCH98, YTF+11]. **Near** [DPR86, KG80, KO65a, Mee67, Pri60, Tau02]. **Near-Field** [DPR86]. **Near-Ideal** [KG80]. **Necessity** [Sch67]. **need** [Agn02, BGS13, BH11, VRL10]. **needles** [CCFB+12]. **needs** [KVP+20]. **Negative** [Bay69, CGHK77, ET70, Goo62, HA58, MNS69, PB69, Rut59, Rut64, SGL+97, SNM69, CASP91, Pai69]. **Negative-Resistance** [HA58, Rut59]. **negatives** [CP91, CAS+91, CASP91, Pen91]. **Nematic** [YL98, LJ92]. **neocortex** [DLJ+08]. **neonatal** [OOL+12]. **nested** [HS91]. **Net** [Chi60b, AKG+19]. **NetMessage** [AEH+04]. **NetMessage-protocol-based** [AEH+04]. **nets** [AKG+19, Mat98, PS86]. **Network** [Ahu79, BCH+16, CW77, Cve87b, HP84a, HS81a, Ho75a, HS81b, KP63, MHS62, Pal61, RK15, SL76, Sie63, SW83, Str81, Str83, Tid62, ABC+05, ABB+03, Ari69, BCE+07, CFS+19, DXZS13, FNY+10, HW72, HT69, JAC+19, LDJ+10, LSW13, LSZ+10, MYKK+17, Moo72, NQ20, OCB+90, ODA+08, PSP06, Rey69, SHCV19, SMS80, Sed67, SM71, VJA07, ZSY+13]. **network-attached** [ODA+08]. **network-centric** [BCE+07]. **network-optimized** [LDJ+10]. **Network-structured** [RK15]. **networked** [QGT13]. **Networking** [Whe88, BAB+18, DM03, DOJ+14, HSCG05]. **Networks** [Ahu80, Bra64, CHW75a, CHW75b, Cha67, Fra83, Fra87, HS85, MT77, MFT77, Moo60, RK75, Sau81, Alf89, ATC+15, BSRG17, Bra68, DFNNS17, EPP10, Gla97, HF91, Irv93, Ism00, Lam77a, Lam77b, MMWLN99, MM94, MDMN10, Pip87, RR69, SP17, SS82, SXW+13, ST89, SPS+06, SGS+20, VNT16, WP11, WT91, YCJ+17]. **Neumann** [AG72]. **Neural** [JAC+19, MYKK+17, AKG+19, DFNNS17, LGBV17, MM94, SP17, WT91]. **Neural-network-based** [MYKK+17]. **neurodegeneration** [PCW+17]. **neuroimaging** [PCW+17]. **Neuromorphic** [NLP17, FLB+19, LRNS17, MYKK+17]. **neuron** [KSH+08]. **neuronal** [TMW+17]. **neurons** [GSAP17]. **neurophysiology** [TR77]. **neuroprosthesis** [DBNK+17]. **neuropsychiatric** [CGH+17]. **neuroscience** [CK17b]. **neurosynaptic** [ATC+15]. **neutron** [BEH+89, CP72, EHK+89, HHB+89]. **neutron-scattering** [BEH+89, EHK+89]. **newspaper** [ZW17]. **NEXAFS** [CHL+11]. **Next** [AEG+20, ACD+15, DEG+01, EK08, FW08, JGD+08, KAB+05, OW00, SFH+16, WD94]. **Next-generation** [AEG+20, DEG+01, JGD+08, KAB+05]. **Ni** [MMT60, Mid62, CW78, Dem78, LR65a, MFS+11, Mid65]. **Ni-Fe** [MMT60, Mid62]. **Ni/Fe** [CW78]. **Nicholas** [Don00]. **Nickel** [AC63, BB60, Fre62, NBRB70, PBF60, AT00]. **nickel-base** [AT00]. **Nickel-Iron** [BB60, PBF60]. **Nicolson** [Fla65]. **NiFe** [Flu67]. **Nigeria** [TBH+17]. **night** [ESS+20]. **nighttime** [ESS+20]. **NIL** [SS87a]. **nineties** [Pul03]. **Niobium** [BMWL80]. **NiS** [HC70]. **nitridation** [Hes99]. **Nitride** [DA77]. **Nitrided** [HBB99, GLG+99, Luc99]. **nitrogen** [SHWK+90]. **nitrogenous** [MFPJ71]. **nitrones** [YHA71]. **Nitrous** [EB99]. **NLP** [KMC+11]. **nm**

[AWHK97, BRB+01, BFG+06, BWB+18, FAD+07, FRS+18, FCE+15, Ito01, IFB+11, KACS95, LBB+13, RFK+97, SS93, SRH+18, WBS+18, WNV+02]. **NMP** [SGT78]. **NMR** [CSS83, KIF+89, Lye77, LY83]. **No** [Car60, ACG+87]. **Noble** [VGC79]. **Nodal** [Ho75a]. **Node** [SL76, BWB+18, DRSM15, FRE+08, Irv93, WNV+02]. **node-link** [DRSM15]. **Noise** [Ano66j, Bla63, Bla65, CCM65, DG84, Eli58, Fal70, Gar88, PL83, PH65, Pri59, SA66, SW74, TK69, VSF65, DTTK95, EÖH10, PAZ72, Tur69]. **noise-predictive** [EÖH10]. **Noiseless** [Chi60a, Fra82]. **noisy** [Gri04]. **Nominal** [Bau63]. **Nominally** [IM57]. **Non** [IS83b, LS76b, MT84, Roe66, Sch64, Sta67, BTWY92, CHdTG92, IS83a]. **Non-Bandlimited** [Sta67]. **Non-ideal** [Roe66]. **Non-Impact** [MT84]. **Non-Markovian** [IS83b, IS83a]. **non-normal** [BTWY92, CHdTG92]. **Non-Ohmic** [Sch64]. **Non-Stationary** [LS76b]. **nonbinary** [Dan82]. **Noncoded** [CMP87]. **Nondegenerate** [Gar64, Lew73]. **Nondestructive** [AH79, KJMS67, PC64]. **Nondestructive-Read** [KJMS67]. **Nonexistence** [CLW79]. **noninvasive** [Hei90]. **Nonlinear** [Bre72, ELMR77, GM63, Hau67, Key63, LC82, Mul67, RP67, BS71b, Bra72a, Can73, DHMP94, Dur70, Fro71, GM72, GK64, HA00, Lan60, Lee07, Mir61, Peh69, Whi72]. **Nonlinearity** [ON60]. **Nonmetallic** [HSM84]. **nonohmic** [Vur70]. **Nonparabolic** [PB69]. **nonrigid** [RG09]. **nonsingular** [RW59]. **Nonsupervised** [NT72]. **Nonsymmetric** [Hau67]. **Nonuniform** [BKM80b, Cal81, van88]. **nonvacuum** [ZSZ96]. **nonvolatile** [NFS+17]. **Nonzero** [Pet77]. **Normal** [Bei74, Dui59, Erd59, Gef88, Lit62, Mei62, BTWY92, CHdTG92, CSH+89]. **Normalization** [Cas70]. **normally** [EC71]. **northeastern** [BJW72]. **Note** [Ano01b, Ano05b, BD62, Fan64, KKK61, Lei62, MG63a, Par60, Wyn64, CW58]. **Notes** [Ben88, Ben00, Jam89, Swa61]. **Noun** [SFT78]. **Noun-Phrase** [SFT78]. **Novel** [HJ88, Hov78, KCML13, KN81, Man85, NDM+04]. **Nozzle** [DLK84]. **Nozzles** [Lev77, SBT87]. **NP** [Koz81a, Koz81b]. **NP-Complete** [Koz81a, Koz81b]. **NPML** [EÖH10]. **ns** [MMR89]. **nsec** [ABPS66]. **NStrace** [SLC+97]. **Nuclear** [Mas62, Meh89, Tan96, ZBL+72, Bev69, BKM+69, FL69, Mol69, Yan71]. **NUMA** [KFB+97]. **Number** [LHW81, Nus77, Pri57b, AEG+02, BW81b, DB01, Lan66, LBB+13, Nus76a]. **Numbers** [BD96, Cli90, SW90, Hol78, Kum98]. **Numeral** [CK63]. **numerals** [GMNE63]. **Numeric** [SCRV78]. **Numerical** [Bei74, BFT79, BS72, CPL+74, DB76, DBC+06, Dub83, Fro71, Fro84, GS87, LS78, LLF+92, Lev66, LR65b, NB61a, RE71, San83a, SBT87, Shi73, Shi72, SM63, Sug59, AGZ94a, BS71b, BGL66, FW67, KS01, MY65, SRCW97, Whi72, Mic59]. **numerically** [AHH+91, BBPS91, GR92].

O [CSE66, KLBP64, MKP73, WTP64, ZBL+72, ABB+12a, ABB+15, BAB+18, BBC+12a, BPL+89, BH89, Bra72b, Bru78, CDM89, CBB+04, CCD+09, CAC+13, CCC+15, CSH+89, CHJ+18, EB99, GSG+90, GMS05, Gre97, GE02, GCS+12, HBB+07, HBL+99, HS04, HSL+05, MRH89, OHK+07, SHR+09, SBC+02, Var89, WMK+07, WYTO04, vHv+89]. **Obeying** [Tof88]. **Object** [Bea74, SK80, Alf89, MS89, NFI+08]. **object-based** [NFI+08]. **object-oriented** [Alf89]. **objectives** [And10]. **Objects** [Gro76, Lom76, EKR87]. **oblivious** [PVDF95]. **Observation** [Ber76b, BA62, KP63, MHW95, PW68]. **observational** [SXYP12]. **Observations** [AAB+10, Jon65, MHS62, She59b, ESS+20,

NT72]. **Observed** [SL66]. **obtain** [DN97]. **Obtaining** [Ham78, HRW69]. **occupational** [BC00]. **OCR** [CJ83, RH75]. **Odd** [Hsi70]. **Odd-Weight-Column** [Hsi70]. **Off** [HCS80, MW80a, MSW69, DTTK95]. **Off-Axis** [MSW69]. **off-chip** [DTTK95]. **offering** [BDN+02]. **Officer** [Pea09]. **offloading** [TMT+20]. **Ohmic** [Sch64]. **Oil** [ET86]. **Omega** [Cve87b]. **On-Board** [CC76b]. **On-Chip** [Kua95, CU98, SP90, BAB+13, DKS+95, ESHM95, LFR05, NFS+17]. **On-demand** [Elg11]. **On-Line** [BF77, Dah67, GHW70, Sve78, Tod78b, BP74, MBC+96, RS94, Rei69, WC69, YG81]. **On-The-Fly** [Pat86]. **One** [Bog79, BH79, CHS82, Erd88, Gri90, LM80, Pim76, RWC80, She59a, WA15, CIE+03, FRE+08, Gam72, Mar71, MN03, SGY+98]. **One-And** [BH79]. **One-Device** [RWC80]. **One-Dimensional** [Bog79, CHS82, Erd88, Pim76, Gam72, Mar71, MN03]. **one-megapixel** [SGY+98]. **One-Step** [LM80]. **one-terabyte** [CIE+03]. **One-Way** [She59a]. **Online** [RP14, SS20, BBMR19, Koe18, MOG+19]. **Only** [FMP61, Has66, JT66, MPST66, TK64]. **onto** [DKA+05]. **Ontology** [Pon17, FPST14, HHH04]. **Ontology-driven** [Pon17]. **Open** [AHM+07, BHP17, HTH+09, LD74, SP14, ZST+07, ADG+92b, BBE+20, CBD+09, GHL+04, GDA14, GWRS90, LH03, Mat03, RBL+09, van73b]. **open-queuing** [Mat03]. **open-source** [BBE+20, LH03]. **Open-standard** [AHM+07]. **Open-Tube** [LD74]. **open/short** [GWRS90]. **OpenCAPI** [SSI+18]. **OpenCL** [CIJ+10]. **Opening** [KM66]. **OpenMP** [EO13, EBB+20, TMT+20]. **opens** [SSI+18]. **OpenStack** [CJJ+16, ACFS16]. **Operated** [BMC86, SW67, Col69b, SHWK+90]. **Operating** [BCR91, Gau77b, HS82, MMS05, MPD86, PS09, ALS81, Irv93, JDBP10, MMR89, MAA+05, Cal70]. **Operation** [Gar57, HFDN63, LCH74, Mag73, Mar64c, PR65, BP92, HD73, HSL+10, SBD+10, ZG71]. **Operational** [Col69a, MP67, BWT+14, DJK14, VOW+12, YMR14]. **Operations** [CT76, DR08, LH03, PR59a, Win62, BCE+07, EGH+86, Sur69]. **Operator** [Ben59]. **Operators** [TL70, FBHJ04, GM73]. **Opportunities** [JAC+19, SFG+06, HvKI+09, MDZH+02, MLM+19, PPG+01]. **OPRO** [SLK+16]. **Optic** [Beb62, ABD+92, DSM+99, GLOS92, KACS95, Pat72, Wie90]. **Optical** [BDWZ83, Cha73b, CS97, DB79, DDMS92, Dim70, DPR86, EHHP67, FLR77, HD69, HCS80, MA96, OPR+78, PFS+70, SH63, SB62, SS61, SSTF77, WSW83, WR83, WB70, AAH68, AFF96, Bar68, BIK+05, Bro72, Bru97, DH69, DSRC98, GM69, HHF69, Hei90, Hen68, PK03, PR71, SGL+97, SRCW97, TJHK03]. **Optical-Digital** [WSW83]. **Optics** [LC82, MPS77, RSSS82, Zwe65]. **Optimal** [BJ67, Bud67, Chi60a, Her75, Hsi70, Kan74, LF77, Lew80, Low74, Mil83, MP88a, PH74, Rob67, BM68, EBD+95, FXL01, GHH+17, GB71, HSL+10, MD12a]. **Optimization** [BBH82, BDH83, Bou97, BMS80, Bra80, Cho74, Hal76, How82, Jur78, KLC84, LH03, MS75, PSW+07, SK80, SKK14, SMD80, Agr01, AAS+14, BCC+12, BKN10, BBH+95, BSJ+13, BGL07, BDHH+09, BR09b, CDSW06, Cor93, DFNNS17, DXZS13, DBNK+17, FRS+18, Gol69, GCFW07, HHSR96, KBA07, KKL+14, KSB07, Mey00b, MS07, NRA+07, PK18, Sel07, SC20, SS20, TYM+14, TGL+12, TMT+20, ZFG+11, ZFD+15, Pul07]. **optimizations** [HS04]. **Optimized** [Bea74, MBF+13, BEE+02, EBB+20, FCE+15, LDJ+10, MDN+18, Mye72, SDS+18, Wei91]. **Optimizing** [Ada84, BGH+05, FHSD06, GKT17, LB07]. **Optimum** [vdP72, van72, van73a, van73b].

optoelectronic [HVK+90]. **Orbital** [BBS78]. **Orbiter** [Soh76]. **orchestration** [AAS+14, HBT+16, NBM+19]. **Order** [El 74, Koz81a, Pet77, SM62, Swa57, Tri58, van89, Agi74, BMK+05, DBK82, Koz81b, Kri82, Sar97]. **Ordered** [HC70, JM64, DH03]. **Ordering** [Kus70, PFS+70, Sie70, Gup97]. **orders** [CIE+03]. **ordinal** [HE10]. **ordinary** [FW67]. **Organic** [BH79, DM01, GFHW82, Lew78b, Mer78, MCK01, SS01, SL66, SL67, SLHM67, ARM+01, CA01, DVM81, DG93, HP01, RRB+01, Sch71]. **Organic-inorganic** [MCK01]. **Organization** [BMK+05, LH57, RR83, WY76, BBP72, Cor69, FR01, GA68, Gro90, Jee58, LH00]. **organizational** [DSZ+12]. **organizations** [NQ20, VRL10]. **Orientation** [BTW62, Cam57, RSSS82, DDMS92, WTS+11]. **Oriented** [FE75, LP75, Lom80, SGT78, Alf89, GGH+13, Pes71, RD12]. **Origin** [CGHK77, Kuh88, Cre81]. **original** [Lan96]. **Originating** [Dah63]. **Origins** [MS05, Mat95]. **ORNL** [LSS+20]. **Orthogonal** [HBC70, OG87]. **Orthotropic** [BBT79]. **OSA** [BEE+02]. **OSA-Express** [BEE+02]. **Oscillations** [BGS64, FP69, Gef88, Gun66a, SH69, WS64]. **Oscillator** [Ros59, Rut59, Las61, MWW+07]. **Oscillators** [Net60]. **Oscillatory** [AW98]. **Oscilloscope** [GFS71]. **OSI** [FP83]. **Other** [Ano57k, Ano57l, Ano57m, Ano57n, Ano58j, Ano58k, Ano58l, Ano58m, Ano59f, Ano59g, Ano59h, Ano59i, Ano60i, Ano60j, Ano60k, Ano60l, Ano61f, Ano61g, Ano61h, Ano61i, Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, CPD+09, NB61a, NB61b, WR83, Ano94r, Ano94s, Ano94o, Ano94p, Ano94q, Ano95i, Ano95j, Ano95k, LZZ+16]. **our** [FvGGM90]. **out-of-order** [BMK+05]. **outages** [CHMW07, MVI+07]. **outlook** [GGK+13]. **Output** [BHWW77, HW81, Sve78, TW62, BSK+08, HB73, HBL+02, MN70]. **ovary** [NBF+00]. **Oven** [GMT57a, GMT57b]. **Overflow** [SL76]. **overhead** [EO13, Fla91, HS91, SKSP06]. **Overlap** [Bra72b]. **overlapped** [AGZ94b]. **overlapping** [CN94]. **Overlay** [Rot80, BTWY92, CL86, MMWLN99]. **Overlying** [Lan85]. **Overview** [Ame80, BCC+05, Bro80, BKS+08, CAC+95, GBC+05, GCS+12, IBM08, Mat80, SPP+05, YS99, BGM90, CdLS92, DBC+05, FBG12, GR92, Oht95, PMLA88, Pen91, SAB+02, Sri96, TFJ+96, ZL97]. **Own** [CLP+13b, JKB+13]. **Oxidant** [LD74]. **Oxidation** [DJ70, KEJ87, Pli66, Hes99, MFS+11]. **Oxide** [BKM80a, Gar86, OG80, RF78, EB99, GLG+99, KMB+08, Lud00, RG90, SF93, VWJK11]. **Oxides** [Fre70, Hon70, RM70, BPL+89, HBC+99, HBB99, KIF+89, LBT99]. **Oxygen** [HHB+89, MPCF82, Sha58a]. **oxynitride** [EB99]. **Oyster** [KW83].

P [Ber76a, IBM08, MB75, Wei65, Wie76, Lye77, PK61, BS69, KO67, KLBP64, Wei65]. **P-N** [BS69, KO67]. **PACE** [ET69]. **Package** [BB82, CHS82, Dav82, HCBA82, JH80, KMH82, BCK+05, CS84, CBC+18, KAB+05, KRT98, Pai72, CMS85]. **packages** [PGS+98, RBWH93, Rub90, SJMBK08]. **Packaging** [Att92, Bro80, BHWZ63, CBC+05, CHT+13, HW87, KLC84, KT84, PBC+04, SF81, STCR84, TBB+09, Wee79, WHK+09, AKRS04, Ano01c, BHH+15, BBF+05, CAC+05, DHK00, HPW+02, HDW+07, KDT18, KTD20, LFR05, PK88, SAB+02, SBC+12, TBG+15, VLKW14, WBH+04, YT16]. **Packet** [Str81]. **Packets** [MFT77]. **Packing** [KM77]. **Packs** [BT78]. **Padé** [Ris72]. **Page** [CFL73, AAH68, Ano58e, Bar68, Hat72,

Hen68, KGT88, LS73, Bar75]. **page-reference** [KGT88]. **Paged** [FLW78]. **pages** [TBS09]. **Paging** [Bar73, BP74, TKG89, Tue76]. **Pair** [Cor84, HL83]. **palette** [KLMV19]. **palmitate** [VBM71]. **Panda** [CMP87]. **Panel** [Ham78, Lan74, LS78, LCH74, PW78, RBC78, Wre83, Wym57]. **Panel-Drilling** [Wre83]. **Panels** [AS78, BdM$^+$78, OPR$^+$78, O'H78, RP78]. **Paper** [Ast67b, Bay78, BS84b, CD78, Sve78, Lax67]. **Papers** [Ano57k, Ano57l, Ano57m, Ano57n, Ano57v, Ano57u, Ano58j, Ano58k, Ano58l, Ano58m, Ano59f, Ano59g, Ano59h, Ano59i, Ano60i, Ano60j, Ano60k, Ano60l, Ano61f, Ano61g, Ano61h, Ano61i, Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano64k, Ano64l, Ano64m, Ano64n, Ano65k, Ano65l, Ano65m, Ano65n, Ano65o, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67t, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, Ano01c, Bos97, Buc99a, CP99, Gri92, Hau96, Kle91, Kuo99, McG92, Tro00b, Ano86b, Ano92a, Ano92h, Ano01n, GM60, Mar62, Par98]. **Paprs** [Ano67g]. **para** [HKvG$^+$11]. **para-sexiphenyl** [HKvG$^+$11]. **Parabolic** [Pli66, Wid67]. **paradigm** [RCFN$^+$08]. **Parallel** [ABC$^+$99b, ARG00, CP72, CCC$^+$79, Cha79, CD85, Cve87a, CTT66, DKN87, DSM$^+$99, DGL$^+$97, DEH$^+$12, ECD$^+$99, ET86, GPE99, Kle91, Kog74, Mir69, RGP$^+$97, RKW99, RHM$^+$99, SSM97, SCC$^+$97, SWC$^+$97, SG99, SKE$^+$18, VPS88, WMH$^+$97, AGZ94b, ABG$^+$95, BSHM01, BHH03, BCR91, CBV08, CFK$^+$91, CN94, CIJ$^+$10, CNC$^+$08, EG00, Fla91, JZ91, MKJM93, PMW06, RQBW08, Sar91a, SSW91, SNP06, STW$^+$08, SZ91, VBC$^+$08, ZEH$^+$08, ABB$^+$91, DP13]. **parallelism** [AGZ94a, HS91, LDSY91]. **parallelizable** [SG94b]. **parallelization** [BBK$^+$08]. **parallelized** [CJ91]. **Paramagnetic** [SG64, Tit63]. **Parameter** [FL59, LHW81, Rut59, TLR85, Twa77, EKTT90, GFS71, Hos94, Sta73]. **Parameterization** [ZHP$^+$18]. **Parameters** [CCD57, GOJN77, Lei62, WF87, DBNK$^+$17, NG17]. **Parametric** [CHW75b, Okt69, ZZ69, Lan60]. **Parity** [Pat85]. **Parkinson** [PAH$^+$18]. **Parrinello** [BBK$^+$08]. **Parsers** [Mou86]. **parsing** [MMB12]. **Part** [Hun59, KKS02, BLB$^+$63, Dun57b, DMN$^+$59, Fri58b, FDN59, Kin61, LDDB63, Swa59, SS59b]. **Partial** [BLR84, BRR79, CHL$^+$11, Die62, Her66, CFL67, Dan66, EC71, Ger73, KT70]. **partial-response** [KT70]. **Partial-Switching** [Die62]. **Partially** [SMD80, DH03]. **Particle** [BTW62, Sta87, Tan96, ETWO08, GRH$^+$08, HRC$^+$08]. **Particle-induced** [Tan96]. **Particles** [CHBH85, Sta86]. **Partition** [SKLC20, AAM$^+$07, SGK04]. **partitionable** [SWB$^+$91]. **Partitioned** [WF83]. **Partitioned-Block** [WF83]. **Partitioning** [AK82, DH73, Gha75a, Gha75b, HMW74, Luk74, Luk75, PS80, Gup97, Mic72, Sar91a]. **Partner** [BDMN14]. **Partner-marketing** [BDMN14]. **pass** [MRG99, WRG99]. **Passage** [SS82]. **Passing** [BS85, AAC$^+$05, LDSY91]. **Passivated** [CL64, IBC64, Leh64, TY64]. **passivating** [PM72]. **Passivation** [KLBP64]. **Passive** [Sie63, SSK$^+$16]. **past** [KLRS96, SLK$^+$97]. **pastes** [FGMPK05]. **Patch** [DB76]. **patent** [MIL$^+$18]. **Patents** [Ano57o, Ano57p, Ano57q, Ano57r, Ano57s, Ano57t, Ano58n, Ano58o, Ano58p, Ano58q, Ano59j, Ano59k, Ano59l, Ano59m, Ano60m, Ano60n, Ano60o, Ano60p, Ano61j, Ano61k, Ano61l, Ano61m, Ano62i, Ano62j, Ano62k, Ano63j, Ano63k, Ano63l, Ano63m, Ano66n, Ano66m, Ano66o, Ano66p, Ano66q, Ano66r, Ano67n, Ano67o, Ano67p, Ano67q, Ano67r, Ano67s, Ano94c, Ano94d, Ano94e, Ano94f, Ano94g, Ano95d, Ano95e, Ano95f, Ano95b, Ano95c, Ano96a, Ano96b, Ano96c, Ano96d, Ano96e, Ano96f,

Ano97b, Ano97c, Ano97d, Ano97e, Ano98b, Ano98c, Ano98d, Ano98e, Ano98f, Ano99c, Ano99b, Ano99d, Ano99e, Ano00e, Ano00b, Ano00c, Ano00d, Ano01d, Ano01e, Ano01g, Ano01h, Ano01f, Ano64f, Ano64g, Ano64h, Ano64i, Ano64j, Ano65f, Ano65g, Ano65h]. **patents** [Ano65i, Ano65j, Ano86a, Ano90a, Ano90b, Ano92b, Ano92c, Ano92d, Ano93d, Ano94h, Ano94i]. **Path** [CCE+88, Col62, Fra87, GLP76, GS74, HJK+01, Mat62b, Pri58c, Sve78, GCL+19, vK62]. **Paths** [MS60b, HT69, Rai69]. **Pathway** [SPS+06]. **Pathways** [RSS+15]. **patient** [PMS+08, Sha12]. **patient-centric** [Sha12]. **Pattern** [Bon62, Bra80, DB69, EL80, EL83, KR87, KGF77, MD65, PS80, TC84, AL76, FRPG01, GK64]. **pattern-based** [FRPG01]. **Pattern-Matching** [KR87]. **patterned** [Duk93, SGS+09]. **patterning** [MBB+01, PSP06]. **Patterns** [FGS75, Ham78, Sta84a, Bar82, CR15, FSG+73, Hat72, RWB+10, RC17, WLEF89]. **Pb** [BKM80a, BJMO80, HHA93, Hor98]. **Pb-alloy** [BKM80a, BJMO80]. **PC** [Shi85, CFK+91]. **PC-Based** [Shi85]. **PCI** [GCS+12, SNA02]. **PCIXCC** [AV04]. **PCOS** [Cal70]. **Pd** [Dem78, Kah71]. **PdO** [Kah71]. **PdO/Ag** [Kah71]. **PdO/Ag-Pd** [Kah71]. **PdSn** [OHWR88]. **Peak** [BTW62]. **Peculiar** [Mid65]. **pedestal** [GAOD71, SLYR72, ZCK71]. **pedestrian** [BMS+17, Tof04]. **pedestrian-centered** [BMS+17]. **PEEM** [CHL+11, HDK+11, YTF+11]. **peer** [RK15, TBH+17]. **Penalty** [Lin84, MHI01]. **Penalty-Function-Driven** [Lin84]. **PENGUIN** [dTGHC92]. **Penrose** [HM89]. **people** [CGM+15a, DDDKW12]. **Perception** [Ano59n, SMSC14]. **perceptions** [AWK20]. **Perceptual** [San83b]. **PERCS** [RAG11]. **Percus** [HBW70]. **Performance** [ABPS66, Ano06b, Arc93, BCD+17, Bar75, BS81, BGR82, BDMW81, BB82, BAH82, Bos97, BBI94, BBKW86, CDS+86, CDSW06, CDW75, CW77, Cve87a, DHSC64, DAS+94, DS70, Dur70, Esa62, FCE+15, GCPVG85, Gia66, GA84, GMS+12, HS81a, HS61, HCBA82, HS82, KFB+97, Kam98, KW76, KACS95, OK82, Pat73, RS79, RTM65, Sch81, SGC+87, WHC+18, AFP+01, AGZ94a, AGZ94b, AGZ94c, ADH+00a, AAB+10, AAC+06, BLM+92, BCC+12, BEM+92, BBE+20, BBH+95, BFG+06, BSJ+13, BDHH+09, BBS+03, Bro72, BGL+92, CPvR00, CH06, CBB+05, CRDI07, DHSC00, DDA+93, DKS+95, ESHM95, EB91, EFR+05, EBD+95, EG00, Emm97, EK08, EWS+13, FKK+03, FHSD06, FNY+10, FAJ+94, GZE+05, GOVC71, GAOD71, GW18, GJ00, Gus03, Hat72, HS04, ITS+15, Irv91, IS20, IFB+11, JL99, JWS+09, KBK+97, KPT+02, Kum92, KEL+00]. **performance** [LR97, Luc99, MCAW95, MIL+18, MSW+05, Mat89, Mat03, MWL+14, MPP+15, MZS+03, Ono93, PV93, RES+15, RAG11, RKW99, RHM+99, Rub90, SHWK+90, SGS+96, SBP+03, SWC+95, SC20, SPR+95, SWC+97, SV91, SLJ+15, SHL+20, TWX+10, TW69, Tol97, TFL+98, TKK+92, VLB+09, WCNSH94, WBS+18, WKD98, WNW+10, YSH12, ZCLS10]. **Performance-optimized** [FCE+15]. **Performances** [MW79]. **period** [TYM+14]. **Periodic** [LC80, Mil83, Mir61, Bau72, CPvR00]. **Permalloy** [Ahn66, DKAC67, GM63, KC66b]. **Permanent** [BH82, JT66, YTF+11]. **permission** [SBG+13]. **Permissive** [GW57a, GW57b]. **Permissive-Make** [GW57a, GW57b]. **Permits** [Lew83]. **Permutation** [BF77, BCH84]. **Permuting** [CLW80]. **Perot** [Fan64]. **perovskite** [GSG+90]. **perovskite-type** [GSG+90]. **perovskites** [SKEG+98]. **perpendicular** [Sun06]. **Persistent** [CGR88, Gar57]. **Persistent-Supercurrent** [Gar57]. **person**

[CPCC18]. **person-generated** [CPCC18]. **Personal** [GBS+87, ABD+14, BC18, Shi85]. **personalized** [BEJ+14, RSS+15]. **Perspective** [Har81, AG06, ACM01, Bra69, CNG09, CDM92, DDZ+07, GBK+19, SG99, Tan96, WCT06]. **perspectives** [MD12a]. **PERT** [Nad79, KC66a]. **Perturbation** [Bog79, Par60]. **pervasive** [JSM+18, WPL+12]. **Petabytes** [WGF+06]. **petaflops** [GBW+09, LQRS04]. **petascale** [PLK09]. **Petri** [PS86]. **Pg** [MHI98, SW98]. **pH** [DR93, JK93]. **Pharmit** [Koe18]. **Phase** [BF63, BBG60, CJ78b, CDH64, DG84, Dui59, GS70, GBC65, Hop61, Kov59, MP81, RBB+08, SJK70, Sha58a, Hun71, LG88, Nob95a, Ros00, Tis90, Woo04, YL98]. **Phase-change** [RBB+08]. **Phase-Contrast** [Kov59]. **Phase-Hologram** [SJK70]. **Phase-Reversal** [CDH64]. **Phased** [RBK+08, LGBV17]. **Phaser** [RBK+08]. **Phases** [Pan78]. **Phenomena** [BT84, KH88, LeB62, MNP+69, RP67, SBdF64, Tro80, MNS69, SNM69]. **Phenomenological** [O'H78]. **philanthropic** [LHS+17]. **philanthropy** [CCE+20]. **philosophical** [GHN04]. **Philosophy** [AST67a]. **phonological** [MC87]. **Phonon** [YWWK64]. **Phosphorus** [JD66, JD67, MFPJ71]. **Phosphorus-Diffusion** [JD66]. **phosphorus-impurity** [MFPJ71]. **Photo** [EHHP67, MC68, Gri69, MS89, OCT68]. **Photo-** [MC68]. **photo-digital** [Gri69, OCT68]. **Photo-Optical** [EHHP67]. **photo-polymer** [MS89]. **photoablation** [VDP94]. **Photochemical** [GFHW82, PL79, VM79]. **Photochemistry** [BH79]. **Photoconducting** [Boe69]. **Photoconduction** [Cas71]. **photoconductive** [SG71]. **photoconductor** [Sch71]. **Photocurrents** [DA77]. **Photodecomposition** [Her66]. **photodetector** [KACS95]. **Photoelectric** [AC63]. **Photoelectrochemical** [Koh98]. **Photoelectron** [RF78, KWT+11, MPHC90]. **Photoemission** [Bru78, DV74, CBBS90, RG90]. **Photographic** [BT67, Fal70, ZG65]. **Photographs** [Har63]. **Photography** [BLLS79, MG62]. **Photoinduced** [GDR70]. **Photolithographic** [Sta84a]. **Photolithography** [Rot74, ATW97, Lin76]. **Photon** [BH79, Gar64, Loy79, MNR86]. **Photoproducts** [Her66]. **Photoresist** [DS77, Mid70b, SFD77, RKL88a]. **Photoresists** [AWHK97, PL79, SGL+97]. **photothermal** [vS98]. **Photovoltages** [Swa61]. **Photovoltaic** [Lew78b, Mer78]. **Phrase** [SFT78]. **Phthalocyanine** [SLLP64, SL66]. **Physical** [BWB+20, Cor82, DHK+92, MM82, PK88, Pri58c, Swa60, AEZ84, AAM+07, BBD+02, BAB+07, BHD+05, HHSW01, SGK04, WKP+02, WBS+18, CP91]. **physicist** [Tan96]. **Physics** [CD85, Fri69, KN81, Kuh88, Bev69, CFL67, HST06, Mol69, Tan96]. **Physiome** [NNN+06]. **PI** [Shi85, Kau81]. **Pi-Donor** [Kau81]. **Picosecond** [CBBS90, Hei90, MPHC90, TKV00, RHC73, WSBL90]. **Picture** [Sto91]. **Pictures** [Kan78]. **Picturing** [Pic91, Woo04]. **piece** [WS72]. **Piecewise** [RR87]. **Piecewise-Circular** [RR87]. **Piezo** [JJ64]. **Piezo-Hall** [JJ64]. **Piezo-Resistance** [JJ64]. **Piezoelectric** [BBT83, Vie86]. **pilot** [ATW97]. **Pins** [HW87, PW83]. **Pioneer** [WM92]. **pipe** [TMS98]. **pipelined** [EV93]. **pipelines** [ZS03]. **pipelining** [KZP03]. **piston** [GZM92, Gre60]. **pitch** [KAB+05]. **Pivoted** [SM63, BHHO59]. **pixel** [SS00]. **PL8** [GHL+04]. **PLA** [Sch80]. **Placement** [DKN87, HY84, Twa77, HHSR96, SKLC20]. **Placements** [Don81]. **Planar** [AA71, CL64, KO65a, KO66, KO69b, vM66, ABK89, BGO03, SAK70, You90]. **planarization** [GPL+92, WDA05]. **Planck** [HJ88]. **Plane** [BC65, Blu79b, SM63].

Planes [BBC+64]. **Planet** [Pal14, CRHPP09, Jen10, MVCW10, MI10]. **planned** [CHMW07]. **planner** [SG94b]. **planners** [GBJ+08]. **Planning** [Buc62, Tay79, ABD+14, GCFW07, JWW+11, KRTN+12, LB07, LSS14, PKXK07, SGS+96]. **plans** [HRS07]. **Plant** [MW82, HHM70]. **Plasma** [AS78, AHW+99, CK79, CNS+99, EM94, Fon99, Gri99, Hes99, KOT99, Kuo99, Luc99, MM64, OR92, RS69, BBH82, GMP90, Ham99, MMJ69, Ngu99, ODK+99, VDP94]. **Plasma-assisted** [CNS+99, Hes99, GMP90]. **Plasma-based** [OR92]. **Plasma-deposited** [Gri99]. **Plasma-etching** [AHW+99]. **plasmas** [ETWO08]. **Plasmons** [Mor79]. **Plastic** [DH61, CF72, Pai72]. **plastic-encapsulated** [Pai72]. **Plate** [CCC+79, Cha79, CASP91, DKRS07]. **plates** [CP91, CAS+91, CASP91, MKJM93, Pen91]. **Platform** [MBB+18, ZSY+13, BBE+13, CGM+15a, CHM+16, DGH+14, HKA+13, HSS+10, IBP+05, IJV19, KAA+18, LRV+09, PMS+17, RRMD17, SFH+16, TBB+09, WHC+18, YSH12]. **platforms** [GDA14, HRZ14, KdAC+15, ZCLS10]. **Plating** [BLR84, BRA84, HSM84, vAR82, GB93, JK93, VBDA05, WKD98]. **Playback** [Fan61]. **playfulness** [CR15]. **Playing** [NSS58]. **PLL** [VMG99]. **plot** [PS91]. **Plotter** [Kro58]. **Pneumatic** [Voi65]. **pnp** [Gil79]. **PNPN** [KK59]. **poaching** [FNS+17]. **Point** [ABC+99b, BD96, Cli90, DK67, Kar74, LC80, RS67, SW90, AEGP67, CBB+05, DTH92, DXZS13, DDZ+07, GWS+04, HFH94, HM90, JO96, MHR90, RS66, SSM97, SK99, SKC09, SG94a]. **Point-Matching** [LC80]. **Point-To-Point** [Kar74]. **Points** [MLGD84, McA83]. **Poisson** [BSHM01]. **Polarimetric** [Beb62]. **Polarity** [Cor84]. **Polarization** [Cha79, KH75]. **Polarized** [BBT83, Le 62, Mar61, All00]. **polarizing** [TMS98]. **Polarographic** [Hor98]. **Polarons** [CCE+88]. **policies** [BBC+09]. **Policy** [Kan74, KKB+09a, Pea09, EWBR09, HHC+18, NBM+19]. **Polishing** [GBC65]. **pollution** [CXZ+17]. **Poly** [Blu79a, GOJN77, Hir77]. **Polycrystalline** [BV78, Cha69]. **Polydisperse** [SH63]. **Polygonal** [MS87, SN87]. **polygons** [MN90]. **polyhedra** [MN90]. **Polyhedron** [AW76]. **Polyimide** [GS84, DN97, KFSZ92, LCL+98, RKL88b, SRD94]. **Polymer** [BRB+07, BBT79, GSVE83, Gre68, RSSS82, TO77, EM94, HSH+88, KJSG+88, MS89]. **Polymeric** [BS77, SSTF77, LG88]. **Polymers** [AGLM85, BMW83, BP84, CSS83, GFHW82, HG83, Kau81, LY83, SC81, Ang01, Bro94, Ito01, LV94]. **Polymorphism** [VBM71]. **Polynomial** [FC63, LR65b, Rog66, Dor62, HA00, Kri82, NQ78, Sur69]. **Polynomials** [Meg63b, Meg63a]. **Polypyrrole** [DH83, DVM81]. **polySi** [GNF06]. **Polysilicon** [GS80, RWC80, SGC+87, LBT99]. **pooling** [GSAB93]. **Population** [Dum63, BISN+12, Can73, Lam77b]. **Porphyrin** [VM79]. **portability** [BBE+20, GW18]. **Portable** [ZSZ96]. **portal** [Tag09]. **portfolio** [BKN10, VRL10]. **portfolios** [GRS13, GMX14, MR14]. **Porting** [PLS20]. **Posets** [MR76a]. **Position** [KST58, Tin62, Ull65, DDMS92]. **Positioners** [Her65]. **Positioning** [MR76b, Osw74]. **Positive** [Koz81a, Koz81b, Mur57, SFD77, HHSW01]. **Positive-Integer** [Mur57]. **positive-tone** [HHSW01]. **Positron** [Pet89]. **Possession** [Sau81]. **Possibility** [KW62]. **Possible** [Gli69, Gom86, ZCK71]. **Post** [PSH80, DFF+15, HHSW01]. **Post-Detection** [PSH80]. **post-exposure** [HHSW01]. **post-silicon** [DFF+15]. **Postprocessing** [RH75]. **posts** [VMAB18]. **potable** [BR09b]. **Potential**

[BLR84, CRAG18, CL74, KWB88, MW80a, RVV88, Sak79, TY64, TR77, UC62, DC73b, GC68, GBBM90, Les71, TMW+17]. **Potentials** [Erd88, HB74, Swa57, ABF+10]. **Potentiometer** [MPD86]. **powder** [HHB+89]. **Power** [BDMW81, BAV+09, CNV+15, CFP+07, Fra02, Gau77a, Hor76, MN67a, Mar64c, RP67, Wel61, ZFG+11, Ano01c, BPG+16, BZ06a, BJM+06, BBH+95, BSJ+13, BHH03, BBS+03, CH06, CT06, Cov92, CAC+05, EB91, EBD+95, FGK+07, FDS+13, GAJ+16, HSL+10, JGD+08, KAD+16, KKM02, KBC+03, MAB+03, MZS+03, PZK+03, RMM20, SBP+03, SPR+95, SAB+02, SCG+13, TBG+15, WLB+15, WLS+20, Yet89, ZTC+13, Gsc16]. **Power-constrained** [CFP+07, Fra02]. **power-on** [KKM02]. **power-performance** [BBS+03]. **Power/Performance** [BDMW81, BBH+95]. **POWER2** [FAJ+94, AGZ94a, BGAJ94, HFH94, SG94a, WCNSH94, WD94, HF94]. **POWER3** [OW00]. **POWER4** [BKRF02, BMK+05, LRH+02, TDF+02, WKP+02]. **POWER5** [AAB+05, MMS05, MMM+05, SKT+05, VLP+05, Ano05c]. **POWER6** [PC07, AAM+07, BSK+08, BAB+07, CFP+07, EWT+07, FGK+07, LSF+07, MSSM07, MBF+07, SKK+08]. **POWER7** [BAB+13, FDS+13, LBB+13, Rit13, ZTC+13, AHHN11, FWR+11, FPB+11, RAG11, SRL+11, SKS+11, WBD+11, ZFG+11]. **POWER7-IH** [RAG11]. **POWER8** [CNV+15, DFF+15, LGW+15, MPP+15, PMV15, RES+15, SLA+15, SSN+15, SVE+15, SSD+15, ZFD+15]. **POWER9** [ABD+18, CBC+18, FRS+18, JML+18, KHK+18, LVT+18, NAN+18, Pat18, SAA+18, SDS+18, SSI+18]. **PowerNP** [ABB+03]. **PowerPC** [Wai05, BBH+95, BCJ+96, BEKK00, BBGP94, HF94, JO96, KMH+98, LR97, NCB03, OW00, SLC+97, SBP+03, VMM+94]. **PowerStorm** [GH96]. **PR** [SKLC20]. **PR/SM** [SKLC20]. **Practical** [Rog66, WMK+07, HRW69]. **practice** [KSB07, Wal86, WBT+10]. **practices** [Mal13, PP09]. **pragmatic** [WN92]. **Pre** [And73, LSS+20, TWM+14, BW16, CBV08]. **Pre-Emptive** [And73]. **Pre-exascale** [LSS+20]. **pre-harvest** [BW16]. **Pre-release** [TWM+14]. **pre-stack** [CBV08]. **preamplifier** [KACS95]. **Precipitation** [JD67, MPCF82]. **Precise** [Hua79, KKS+73, San83a, SLK+16, THL85]. **Precision** [GHW+20, RSL+70, MR72]. **precursors** [ZHP+18]. **predict** [TCP+16]. **Predicted** [MW79]. **Predicting** [Bry75, FNS+17, LRNS17, TPTH20, WSCK17, VMS+14]. **Prediction** [Doo83, KB74, AKB+17, BC00, EHLSW01, HHR99, ITS+15, RQBW08, SJZ+15, TMS+01]. **Predictive** [GCPVG85, WLH+17, AHN+03, BK74, EÖH10, GWB+17, GAJ+16, KB74, PCW+17, VVHL16]. **Preface** [AS06, Ano67t, Ano19g, Ano19h, Ano19i, Ano19j, Ano20d, Ano20e, Ano20f, Att92, BSD09, BNS15, BR09a, BR17, BFH10, Bos97, Bra05, Bra03, Buc99a, BJ06b, CK17a, CP99, CK17b, CRH12, CN18, CGR05, Cor18, CS02, DFS98, DA04, DS03, DLN14, Don90, Don92, Eic18, EJ03, Far91, Fle95, FHL+14, FS05, GP06b, Gar00, Gon99, Gri92, GP09, HI06, Har01, HPW11, Hau93, Hau96, Hef01, HHR08, HT16, HF94, HNRiC07, Hor93, Hor00, HO96, IK00, ISV16, Jor04, KN08, Kle91, Kni08, Kog94, Kos15, Kua95, Kue90, Kuo99, LCB93, Lip92a, Lun02, MVCW10, Mau97, May90, McG92, MW09, Meh07, Min08, Mit94, NHH91, Opr03, Pal14, PWW13, PD10, PMV15, Pat18, Rao16, RM10, RS14, RR02, Rit13, Sch07, Sch04, STCR84, SGESR10, SNB+09, Sof13, SS15, Sol02, SCR01]. **Preface** [Ten05, Tro00b, TH11, Tur02, Tur07, Vay12, War93, Wes90, WR95, Wil09, WCRiC10, WH94, You57, ZS96]. **prefetch**

[AGZ94c, BCK13]. **Prefetching** [CP97, EHPS05]. **Prenucleation** [JC63]. **Preparation** [DO74, Moh70, SG77, YHA71, OS99]. **Prepared** [DH83]. **preparedness** [PKXK07, SLK+16]. **Prescribed** [CS65a, Rem67]. **prescriptive** [GAJ+16]. **Presence** [Eli58, HC78, KWB88, Rad62, KLHW16, Lom77]. **Present** [Har81, Bar62, KLRS96, SLK+97, Sor79, Sor00]. **preservation** [RCFN+08, RCFN+08]. **Preserving** [Irv89]. **President** [Age04, Age05, Age08, Bal05, Che06, Che08, DR08, Des02, Des04, Don00, Mey03, Nun09, Pea09, Pic18, Pri07, PS09, Pul07, San12, Viv14]. **presilicon** [KAB+12]. **Pressure** [BMC86, MNP+69, SAL63, Swe62, SR71]. **Pressurized** [BT78, BFT79]. **pretty** [Fre04]. **PREVAIL** [DEG+01]. **Preventive** [Ada84]. **Previous** [Ano57j, Ano58g, Ano58h, Ano58i, Ano59e, Ano60f, Ano60g, Ano60h, Ano61e, Ano62d, Ano63e, Ano66g, Ano66h, Ano66i, Ano67h, Ano67i, Ano67j, Ano67k, Ano67l, Ano67m]. **Pricing** [Low74]. **Primary** [LMHM96]. **Primitives** [Woo87, CIJ+10, PAH+18]. **Principal** [Kan78, SM78]. **Principle** [Bar80]. **Principles** [GHK67, Hoh78, Mal13, Wal86, BTP+90, CP91, Gyg08, PMLA88, PP09]. **Print** [Car77, CEY84, ELZ79, Hen83, Pre66, Sta97, SW90, Zab79, CFW82, KL63, ZH89]. **Print-quality** [Sta97]. **Printed** [BDWZ83, BAH82, GHKO57, Has62, Has66, LDL84, Man85, Ser82, STCR84, Wal58, Wym57, ABM88, BBMP92, Cha88, DDMS92, GA88, HM71, Pau89, Whi93, WGC93]. **Printed-Circuit** [BDWZ83, BAH82, Ser82, Wal58]. **printed-circuit-board** [ABM88]. **Printer** [ABB+85, AEE77, BS84a, BHR77, BCD+85, Bro78, BHWW77, CD78, Car77, FBW77, FLR77, GT87, MR79, NK81, Sve78, Twa77, Zab79, VW78, WS72, ZH89]. **Printers** [BS84b, CEY84, Hel79, ZL87, Sta97]. **Printing** [BS84a, BS78, BBT83, BD96, CS85, DLK84, EHMW81, FLS78, LMT84, MTS84, MBB+01, Mil84, MT84, PC85, Pre66, Twa85, Zab77, BLDM97, BGK+82, CP91, CAS+91, CASP91, Mas97, Pen91, ZL97]. **Printwheel** [May85]. **priorities** [BBMR19]. **Priority** [And73, GS75, MT77]. **prismatic** [MKP73]. **Privacy** [GDA14, KKT09, Pea09, RM09, BBC+09, CNG09, GDB16, HLZ+09, JMLW94, KKB+09a, KMO+14, PP09, VTC09]. **privacy-aware** [VTC09]. **Privacy-value-control** [RM09]. **Private** [Hop61, Yar12, BHH19]. **Prizma** [Eng03]. **Proactive** [CHH+01, WLS+20]. **Probabilistic** [Nad79, Kob71, QGT13]. **Probabilities** [Bar80, SH57b, SH57c]. **Probability** [PM88]. **Probe** [FT77, KKK61, PSA+08, MTF+95, Poh95]. **Probe-based** [PSA+08]. **Probing** [ALH95, CBBS90, LPMDG14, RG90, WSBL90]. **Problem** [ADST78a, GR58, HP63, HHJW84, HS81b, NSS58, Pal61, Pim76, RD12, SM78, Sch62b, Sch63, SS87b, Tid62, AAA+17, ADST78b, BH80, BK61, BGK62, DHMP94, Ger73, GS72a, Joh87, Mic72, Ray69, VJA07, WYF+03, Yan07]. **Problem-Determination** [HS81b]. **Problem-oriented** [RD12]. **Problem-Solving** [ADST78a, GR58, ADST78b, WYF+03]. **Problems** [Bil70, Cha79, HWC75, HE10, Key65, Key70, Kog74, LC80, MD65, RS59a, RS67, Tuc60a, dG58, BS71b, CP72, CFP20, CHG04, Don69, Gre59, GCFW07, GS72b, Ism00, Key71, Lei61, Mas97, PZGL91, RS66]. **Procedural** [Gro76, Lom76]. **Procedure** [MS75, Har71, Her72, Lom77]. **Procedures** [Ada80, GS74, HP66, HKM+86, Kin61, MP88a]. **Process** [Agn02, Ame80, BHV85, BJMO80, CH82, Dah67, DS65, Fan61, GS82a, GKK+80,

GS82b, HCS80, KS79, KGCS85, Law02, Mar60a, Mey90, Mey00a, OHM+85, SSL73, SRH+18, Twa85, Was77, ABM88, Cal70, CPTW98, CGN72, CKE+10, DN97, HHSW01, KKM02, KRT98, Lan61, Lan00a, LV94, Mah93, SBG+71, SKC+10, Sta76, Sta00, Stu70, VW78, Van97, WSE+16]. **process-characterization** [CPTW98]. **processed** [LCL+98]. **Processes** [Die62, FL59, Hat88, Meg62, Mid62, Mid70a, NB61a, NB61b, Red57, STCR84, Wes90, AHW+99, Bea90, CNC+95, FSG+73, Hei80, LB07, LCHL95, MD12b, OS99, RWM+05, Ros00, SPP72, See93, WT91, vS98]. **Processing** [ABC+85, ABB+91, And65, Ber76b, BKU88, BHWW77, Bur75, BDH76, CCP85, Dav77, DB76, DMP59, FLDC86, FGM+83, GBK+19, HF78, HAG+13, Kin61, Kle91, Kuo99, MW80a, May81, Moh70, Mur57, PSH80, Shi85, Tas57, WSW83, Woo87, AKB+17, ARG00, ARS+17, BK75, BBH82, CGLL93, CGS61, EB99, Fon99, FNY+10, GON+06, GLM+96, Ham99, KVP+20, Kuo92, KOT99, Luc99, Mar98, MIL+18, MP82, MKJM93, NAB+15, PB89, RB92, SPR+95, Sto91, CMP87]. **Processing-in-memory** [GBK+19, NAB+15]. **Processor** [All81, Ber85, Coo82, DR82, Fre67, GCPVG85, GS82b, LS76a, MSB+04, NHH91, PPS82, Ser82, SBJS15, TS82, Tsu80, UMK+85, ABB+03, ABD+18, AEH+04, BGM90, BHH+15, BSK+08, BCF+07, BDHH+09, BAB+13, BEKK00, BKRF02, CJ83, CNSS12, DTH92, ESA02, Emm97, FAD+07, FNY+10, FXB+10, FAJ+94, GGRW91, GH96, GMS+12, Gro90, Haj91, HDW+07, HF04, HSL+05, JZ91, KBG+09, LGW+15, LVT+18, LBB+13, Lip92b, LJV+07, MWS09, Mar90, MDR+07, MME+97, MZS+03, OG90, PBBL07, RB90, RWW07, RG09, SKK+08, Sar91b, SCS+02, SKC09, SHL07, SKS+11, SVE+15, SKS+20, Sta90, SSD+15, SRH+18, SBC+12, TSC91, WMB+15, War90, WBD+11, WBH+04, ZDB+18, RSNG82]. **processor-based** [CJ83, SKS+20]. **processor-performance** [Emm97]. **Processors** [AK82, CW77, Tod78a, Aus90, BBMP92, BS95, BRB92, BMK+05, CNV+15, CMR+90, CTS+92, CDD+10, Cov92, DGG+92, EV93, HOWP92, OW00, SLC09]. **procurement** [GSAB93]. **Produced** [Hut74]. **Product** [Cle83, KB06, SMD80, BMT+90, BKP82, EBD+95, Fil70, RAMD19]. **Product-representative** [KB06]. **Production** [DBG+84, DKRS07, DS65, GAC85, Kov59, WWK+87, BKF+16, DBG+00, LMHM96, MS89]. **Productivity** [FT80, LKL+81, SMD80, LRMT95]. **Products** [Ada84, Wes90, DKRS07, EGH+96, GSAB93, LZZ+16, LCHL95, Man90, Pat89]. **professional** [NRA+07]. **Profile** [Gil84]. **Profiles** [JD66, KP80, FKOW16, KRC68, MFPJ71, Okt69, Pai72, PL73]. **Profiling** [CW78]. **prognosis** [SLK+97, SSB+12]. **Program** [Bar73, Bon62, BCGS81, Chi86, DGB78, Don80, Fer75, FE75, FGS75, GHP+85, Knu90, OHM+85, Paz75, Pri07, PS09, RR83, ABL+84, BBF+04, BCGS00, CDSW06, Col69a, Hat72, Hei94, KN91a, KSL95, LFF90, MS96, PBBL07, Sar91a, Sed67, TBH+17]. **Programmable** [Cow87, EL80, GLL80, LBH+75, Wei79, Woo75, HAMC+04, MMWLN99, Mey81, MZS+03, SKSP06]. **Programmed** [ET69]. **programmer** [LR97]. **Programming** [DLW86, Hei76, KGBB09, LG78, Len58, LW77, Luc81, Sam81, SH84, Tuc60b, Alf89, AKE+92, Bei92, BCR91, Bur72, CFK+91, CCF+10, Gsc09, dTGHC92, HKLM97, JP94, Joh87, Kel73, Lee07, MAA+05, NRA+07, PLK09, el 69]. **Programs** [CD85, Dor60, Fer75, Jee58, KSW74, Kru84, NSS58, SK80, Urs75, ABF+10, Aus90, CJ91, SSW91, Sta89a, SZ91]. **Progress** [HCTS81,

JS81, ARS+17, GNF06, MAG+01, Sam67]. **Progressive** [CBK+98]. **Project** [Ana80, BKN10, CIE+03, RBB+02, SPP+05, IBM13b, VRL10, WGF+06, Buc62, IBM08, NNN+06]. **Projection** [DC82, DSRC98, LC82, MHI98, Mid70b, SW98, DEG+01, MAD+98, RDD+98, SST+98, SS00]. **Projections** [WM81, O'C89]. **projects** [CM19, LHS+17]. **Prolog** [Arb86, AKE+92]. **promote** [SR19]. **Promoting** [LH03]. **promotions** [SMSC14]. **Proof** [CLW79, Dan60, Knu90, PV93, Gil60]. **Proofreading** [TSNF88]. **Propagation** [Bay69, Bei74, BT84, Car60, CS65b, GM63, JH80, JHH+81, Mul67, Sat63, WS64, DKR+90, TMW+17]. **Properties** [Ahn66, Arm65, Blu79b, BJMO80, BMWL80, BS64, CP86, Dav77, DH83, Dim70, Flu67, FN95, Gun66a, Gun66b, HK64, HM60, KP79, Key61a, KL80, Kle64, Log70, Lud78, MU77, MY67a, MY68, Mil83, NBRB70, OMAW60, PDLM67, RS59b, SD85, Smi77, SG77, SSTF77, Wei65, Wol70, Von70, AF68, AW98, BS72, FL89, How89, KLS+05, Kri82, Mat70, Pau89, Pri73, RDD+98, SHCV19, Spr71, SN98, SHCS05]. **property** [Lew78a]. **Proposed** [SB64, CJM96]. **propositional** [Fag77]. **prospects** [Agn02, NHKI03, SKB+11]. **protected** [Irv89]. **Protecting** [BBK+16]. **protection** [BFH+93, FNS+17, GDA14]. **protective** [LG88]. **Protein** [KWN01, EHLSW01, RQBW08, TMS+01]. **proteins** [FXL01]. **Protocol** [GHW+20, WZ78, Wes78, AEH+04, SC20]. **proton** [ZSZ96]. **Prototype** [MHI98, FGP+85, KFB+97, MAD+98]. **Provides** [Ost84]. **Providing** [FP83]. **Proving** [Bir74]. **provisioning** [GBJ+08, LSS14, SBB+09]. **proximal** [MTF+95]. **Proximity** [GSC80, Par80, PS80, BGK+82, GC93]. **Proximity-Effect** [PS80]. **PS** [AHH+91]. **PS/2** [AHH+91]. **pSeries** [BKRF02, GBRJ05]. **Pseudo** [Ano66j, Bla65, CCM65, Meg62, VSF65]. **Pseudo-Noise** [Ano66j, Bla65, CCM65, VSF65]. **Pseudorandom** [RB90, RT99, AEG+02]. **pseudorandom-number** [AEG+02]. **Pseudoternary** [Cro70]. **PSG** [KH75]. **PSI** [Bar75, FLKA84]. **psychiatry** [PCW+17]. **psychology** [KLMV19]. **Pt** [DVM81, Dem78, HBR85, HBR86]. **PTP** [GHW+20]. **Public** [Kov06, AWK20, BCC+16]. **publications** [Ano90c, Ano92e, Ano92f, Ano92g, Ano93e, Ano94j, Ano94k, Ano94l, Ano94r, Ano94s, Ano94m, Ano94n, Ano94o, Ano94p, Ano94q, Ano95i, Ano95g, Ano95h, Ano95j, Ano95k, Ano96g, Ano96h, Ano96i, Ano96j, Ano96k, Ano97f, Ano97g, Ano97h, Ano97i, Ano98g, Ano98h, Ano98i, Ano98j, Ano98k, Ano99f, Ano99g, Ano99h, Ano00i, Ano00f, Ano00g, Ano00h, Ano01i, Ano01j, Ano01l, Ano01m, Ano01k]. **publish** [SCW10]. **publish/subscribe** [SCW10]. **Published** [Ano57k, Ano57l, Ano57m, Ano57n, Ano58j, Ano58k, Ano58l, Ano58m, Ano59f, Ano59g, Ano59h, Ano59i, Ano60i, Ano60j, Ano60k, Ano60l, Ano61f, Ano61g, Ano61h, Ano61i, Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27]. **Pulse** [Dod63, Gar64, LS64, PL83, SFH65, Sko58, GFS71, Shi73]. **Pulse-Slimming** [Dod63]. **Pulsed** [CCM65, Key70]. **Pulses** [Hem74]. **pump** [BR09b]. **pump-scheduling** [BR09b]. **Pumped** [SCHL66, HA71, SLHM67]. **purchasing** [YGR14]. **Pure** [MN67a, Sho04]. **Pure-Tone** [MN67a]. **Purpose** [Tay81, ATL+88, DAUS91, Gra69, LH84]. **pursuit** [LQRS04]. **Pyrolytic** [Kle64]. **Pythagorean** [Dub83, FS90, MM83].

Q [BCK13, ABB+13, BSJ+13, CCD+13,

CP13, CKL+13, CHT+13, EO13, EWS+13, MP88a, MP88b, OWG+13, PMLA88, PM88, RIB+13, SCG+13, IBM13a, IBM13c]. **Q-Coder** [MP88a, MP88b, PM88, PMLA88]. **Qbox** [Gyg08]. **QCD** [BCK13]. **QCDOC** [BCC+05]. **QCDSP** [BCC+05]. **QR** [EG00]. **QS22** [VLB+09]. **QSAR** [PPG+01]. **quadratic** [Ger73]. **quadrature** [MR72]. **quadratures** [MY65]. **quadrics** [O'C89]. **Quality** [Cle83, CEY84, MJS70, MCH+82, BTWY92, CT06, CPCC18, ESM16, HBC+99, OEN+16, SHC+72, Sta97]. **quantification** [Gil60, MWEJ05, Mon82b]. **Quantifying** [NQ20, QGT13]. **Quantitative** [BWK20, KM74, BNN+09, MS07, PWFB91]. **Quantities** [El 74, Agi74]. **Quantization** [GS70, LBT99]. **Quantum** [Azb88, CGR88, FS88, Gar88, Gia66, GMW80, Heb64, HHH04, HMK01, SB64, Whe88, WS64, WA79, ALH95, BHM04, CRAG18, Gou89, Joz04, Pri66, Sho04, Smo04, VBC+08]. **Quarter** [HCTS81, JS81, HBP+81]. **quartz** [KM93, Rat68]. **Quasi** [BEH+89, EHK+89, SBG+71]. **Quasi-elastic** [BEH+89, EHK+89]. **quasi-steady-state** [SBG+71]. **Quasidynamic** [Cha62]. **Quasimaximum** [Sta73]. **quasiperiodic** [HM89]. **qubits** [Woo04]. **Queens** [SS87b]. **Quenched** [LF64]. **Quenching** [Boe69]. **Query** [ADST78a, SFT78, ADST78b, BYY98, NMTP14]. **querying** [EWBR09]. **Question** [LPM+12, Pla76, BCD+17, KPB+12, TOKN18]. **Question-Answering** [Pla76, BCD+17]. **Questions** [Ver88, Fre04, PBCC12]. **Queue** [Cal81, Cha74, GS75, Low74, BZ06a, Sta75]. **Queueing** [CHW75a, CHW75b, CMS85, HWC75, Lam77b, LS75b, Sau81, Sch63, BGK62, SMS80]. **Queues** [Cha75b, SS82]. **Queuing** [RK74, RK75, BK61, Lam77a, MHI01, Mat03, Moo72]. **Quickly** [BD96]. **Qx** [SM98]. **Qx-coder** [SM98]. **R** [HRWZ87]. **R-fields** [HRWZ87]. **Radar** [van77, MMJ69]. **Radially** [BBT83, PH81]. **Radiant** [NGMW57]. **Radiant-Energy** [NGMW57]. **Radiation** [HD69, Hir77, Dav69, TMF+08]. **Radiative** [HC78]. **radical** [MD12b]. **Radii** [Hut74]. **Radio** [CCM65, SH57a, CS03]. **Radio-Interference** [SH57a]. **Radioactive** [VGC79]. **Radioisotopes** [Spr61]. **Radiotracer** [BC60c]. **RAID** [HDBR08]. **railroad** [VJA07]. **railroads** [RC09]. **raindrop** [AKKJ72]. **raise** [YCJ+17]. **RAM** [NHKI03]. **Raman** [RSSS82]. **RAMs** [FT80]. **Random** [DG84, EL83, Erd88, Her65, LH57, LST80, ND57, Pet57, SM71, WT77, CTT91, Don74, DMR+81, FR01, LBB+13, MDB+02, ND00, RBB+08, WLEF89, LH00, ND00]. **Random-Access** [LH57, ND57, Pet57, CTT91, FR01, MDB+02, ND00, ND00, LH00]. **Random-Pattern** [EL83]. **Random-walk** [SM71]. **randomization** [RS94]. **Randomized** [KR87]. **randomness** [Pic91]. **Range** [Kuz70, MPD86, GYK99, Gra69, Jaq03, KDG15, MY65]. **ranking** [GLK+12]. **Ranks** [FR60]. **Rapid** [ATW06, BMF+16, BJ67, Hua79, KKS+73, MS67, GON+06, Gra71, MC87]. **rapid-data-rate** [Gra71]. **Rapid-response** [BMF+16]. **Rapid-turnaround** [ATW06]. **Rapidly** [Jam89]. **RAS** [AFM+02, CAD+09, Del08, FCS+04, MAF+99]. **Raster** [MLGD84]. **Rate** [KS79, KO65b, GRH+08, Gra71, Irv91, MRG99, RHC73, Sri96, TLM83, WRG99, ZMM+96]. **rates** [Dat93, MHI01]. **Rating** [SR19, VTC09]. **ratio** [Thi88]. **rational** [Tue68]. **Rationale** [BJW72, MS05]. **Ratios** [Che72, Gec74, SS76]. **Raw** [Kin61, GAB+08]. **Ray** [COC61, HMR82, Hua79, War93, BM93, CNH73, Col69b, HS71, KWT+11, ORT+96, RF78, Seg68, Spi93, Sri96, SN98, Tan96,

WNBP91, Zie98, Arc93, GHP+93, GC93, JS00, LL93, SF93, See93, SMVK90, SRO93, SS93, SA00, WSK+93, Wil93]. **ray-tracing** [WNBP91]. **Rayleigh** [Poh79]. **Rays** [ZS96, Zie96]. **Re** [MJS70, Kri82]. **Re-Emission** [MJS70]. **re-order** [Kri82]. **reach** [CPvR00]. **Reaction** [Pan78, MMV+01]. **Reactions** [BLR84, HBR85, Lun79, HBR86, SLZL18]. **Reactive** [AS78, Kuo92, JL90, RKL88b]. **reactivities** [MMV+01]. **Read** [Cli90, FMP61, Has66, JT66, KJMS67, MPST66, Sie63, TK64, ILH03, TFL+98]. **Read-back** [Sie63]. **Read-Only** [Has66, TK64]. **read/write** [ILH03]. **Readability** [DRSM15]. **Readback** [TT75]. **Reader** [CK63, AAH68, Bar68, Hen68]. **Reading** [Ost84, Wal58]. **Reading/Writing** [Ost84]. **Readout** [ABPS66, Bro72]. **reads** [LPM+12]. **Real** [Bev69, BFRT13, DR82, HLS81, Her75, Jam81, LPMDG14, OO81, PSD+17, Soh76, SSB+12, ASR07, BISN+12, CGM+15b, EGH+86, HKA+13, KZP03, KCH+09, NMH+07, ODL+09, Osb93]. **Real-Time** [DR82, HLS81, Her75, Jam81, OO81, Soh76, Bev69, BFRT13, LPMDG14, PSD+17, SSB+12, ASR07, BISN+12, CGM+15b, EGH+86, HKA+13, KZP03, KCH+09, NMH+07, ODL+09, Osb93]. **realization** [Bei92, Gil60]. **realm** [OYHSB14]. **reasoning** [Di 88, MDH+12, NS92]. **Reassembly** [Str81]. **Receiver** [KT73, VSF65, RFB+03]. **Receiving** [Raa76]. **Recently** [Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67n, Ano67o, Ano67p, Ano67q, Ano67r, Ano67s, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, Ano94c, Ano94d, Ano94e, Ano94f, Ano94g, Ano95d, Ano95e, Ano95f]. **Recessed** [OG80]. **recipe** [DL02]. **Recirculating** [Sch63]. **Recognition** [AAH68, Bon62, DFM+88, Dav58, Dic60, GHKO57, KT66, Kur87, MD65, Mer88, WR83, ACC+15, BHP17, BHW+17, CNP+17, DDMS92, GMNE63, HM71, KL63, LJV+07, MC87, SP17, Tap82, YAH+96, YG81]. **recombinant** [NBF+00]. **recommendation** [HRZ14]. **Recommendations** [WZ78]. **recommender** [VVHL16]. **Reconfigurable** [Elm84, KZP03, MN97, VRA+09]. **Reconfiguration** [CHY92]. **Reconstruction** [PL81, Sta67, LHJ69]. **recorded** [BD74]. **Recording** [Blu79a, CM74, FK62, Gre79, Hoa58, Hoa61, Ku63, KC66b, Lor70, Pat75, Pol78, Sch85, Sea58, Sie63, SM66, SW74, TT75, Tan74, ABR71, AR98, ABB+08, BP88, BE03, CBH+05, Hoa00, How89, Hsi99, KT70, Kob71, NDM+04, SHSY90, SHSY00, TFL+98]. **recordings** [WSCK17]. **Records** [CLW80, GA68, Sha12]. **Recovery** [DMP59, Lew80, Pat80, SLC09, SLP+20, AAF+09, BGS13, GBJ+08, Gri69, OHK+07, PWW13]. **Rectangular** [Coo82, MS60b, PH74, WWMS79, Jon72]. **Rectification** [MG62]. **Recurrence** [Kog74]. **recurrent** [SP17]. **Recursion** [Gus97, EG00, GJ00]. **Recursive** [Goz94, Her72, HWC75, Pis74, Ris72, Str68]. **Redefining** [RMM20]. **redistribution** [TKK+92]. **Redox** [FLB+19]. **reduce** [CFS+19]. **Reduced** [BBH+95, Kri82]. **Reducing** [CHMW07, WF87, GB93]. **Reduction** [ADH70, AdH00b, Bla63, CM80, DG84, DGB78, FC79, GT80, Kob70, She59a, TLR85, Vil82, BZ06a, Bev69, FDS+13, GWB+17, Gre59, Hei80, LL99, TW69]. **Redundancy** [BR82, Fle58, LV62, Skl76, SMD80, BBI94, Gla97, Irv89, Irv01]. **Redundant** [FT80, HBB+07, MLMP+12, MWW+07]. **Reed** [BP75, Bla84a, Bla84b]. **Reengineering** [GE02, GW18]. **reentry** [MMJ69]. **Reference** [Eas75, Eas78, VDG19, KGT88].

References [FGS75, Lom75, BGW91]. **refill** [SLYR72]. **Refinement** [MR87]. **Reflectance** [PFS+70]. **reflection** [HS71, MS89, Rab69, vHv+89]. **Reflections** [Gol87, MJJ69]. **Reflective** [SW98, CU98, RDD+98, SGY+98, SST+98, SS00, YL98]. **Reflectivity** [Heb64, PW68]. **Reflector** [NGMW57]. **reflow** [Mah93, Mil69, Mil00]. **Refractive** [PL81, PC64, WL73, BGO03]. **regarding** [Tu90]. **Regenerative** [HS85, LS75a, LS75b, SS82, LS77]. **Regime** [Gef88, BFG+06, SWC+95]. **Region** [MWN63, Sha58a, Bra72b, Les71]. **Regional** [Lew83]. **Regions** [RF78, GHH+17]. **Register** [Bea74, CT76, BMK+05, Gus76a, Gus76b]. **register-renaming** [BMK+05]. **Registering** [RWC80]. **Registration** [DMWW77, Dav80, Pri94, RG09]. **Regression** [Lew78a]. **Regular** [Ano01n]. **Regulation** [BDMW81, DPR86]. **regulations** [CNG09]. **Regulatory** [Pea09]. **reinforcement** [NBM+19]. **Reinventing** [JWZ+09, ODA+08]. **Related** [RP67, SARG80, Smi77, WB70, FL89, Gri99, JS00, Kel89, KFSZ92, MNS69, SNM69, VMAB18, WL73]. **Relation** [Ben59, MJS70, Mic78, WKF+12]. **Relational** [ADST78a, BDH83, Hal76, LN79, ADST78b, Fag77, vv86a]. **Relations** [Las63, RP66, EM65, Lew75]. **Relationship** [CA84]. **Relationships** [DG84, CCBLM12, MDJV08]. **Relative** [van88]. **Relaxation** [Mas62, NB61a, NB61b, Red57, JZ91, TWRW89]. **Relay** [GW57a, GW57b, Moo60, Koc59]. **Relaying** [Hor76]. **release** [DN97, TWM+14]. **releases** [MVI+07]. **Reliability** [DW58, FCS+04, Fle58, FL59, FGH+06, HBB99, HCTS81, LV62, NL69, Ohb84, OG80, Sta02, ABC+99a, Buc99b, CGLL93, CAK+15, Ibe03, LH84, Luc99, MSSM07, MCH+82, WBS+18, YCB05]. **reliable** [ACD+15, CDC96]. **relief** [Cha69]. **reluctance** [OCR+98]. **remanent** [BD74]. **Remarks** [FL67, Sta67]. **Remote** [Dav79, KW76, VSS+09]. **Remotely** [HF78, Pri94]. **Removal** [Whi72, Dat98b]. **renaming** [BMK+05]. **renderer** [DAUS91]. **Renewal** [FL59]. **Rent** [LFR05, VLKW14]. **Reorganization** [BF77, Paz75]. **repair** [BM93, WWA+98]. **Replacement** [FLW78, CHMW07]. **Replacing** [MM83]. **reply** [Ber76a, Wie76]. **report** [GMR10, KWB+15, Var89]. **reported** [Pon17]. **Representation** [Far87, Gro76, Hol78, Pic87, AO97, BW81b, GLS86, PMS+17]. **representations** [FTY83, MN90, Oht95]. **representative** [KB06]. **Representing** [FJSS89]. **reprint** [Lan96]. **reproduced** [MS89]. **request** [KJS09, Pla76]. **requests** [Oha10]. **required** [GE02]. **Requirements** [Cro79, GYK99, MR76b, Agn02, JS89, LFR05, LSZ+10, MNWH20, RBB+02, SPP97]. **requires** [KSA+04]. **Requiring** [Car60, WR83]. **Res** [ACG+87, Ano93c, Ber76a, DCB77, Lan96, Sta75, Wie76]. **Research** [Age04, Age05, Age08, Ana80, BYY98, Che06, Che08, Coo82, Gar00, Mar62, NRD+09, Nor58, Ros03, TFJ+96, Tsu80, WH94, AG06, Ano62e, BF69, Far98, GDLS14, Jee58, LH03, MDH+12, McC69, Nic92, OMA+96, SXYP12, CMS85, DR08, LH03]. **Reservoir** [ET86, RBL+09]. **Residual** [Cas60, Fre62, KDBT60, SC88, Ano71]. **resilience** [BSK+08, KEKP20, QGT13, SKK+08]. **resiliency** [EDGL+13]. **Resilient** [SHV13, BGS13, IS20, PWW13, VAB+13]. **Resin** [MS60a, GA88]. **Resist** [Gil84, KP80, See93, CH82, Duk93, HMM82, Ito01]. **resist-patterned** [Duk93]. **Resistance** [HA58, IM57, JJ64, Lit62, Ros78, Rut59, Rut64, Sak79, SS88, KMB+08]. **resistance-change** [KMB+08]. **Resistive** [ABB+85, BCD+85, CS85, Gru79, LM85, LeB62, PC85, RP67, SD85, Twa85,

WWMS79, DKA+05, JAC+19]. **Resistivity** [KDBT60, SC88]. **Resistor** [CP63, Ove70, Kah71, KM68, RHC73]. **Resistor-Coupled** [CP63]. **Resistors** [KL80]. **Resists** [MW80a, BLDM97, HHSW01, Ito97, Ito00, MAG+01]. **Resolution** [BJS80, Bro88, DC82, Gar86, Hoa58, JWL82, KKK61, Kra81, LY83, SW98, Sie63, Bat00, CHdTG92, LPPT86, LL98, LMW+01, MBB+01, PGN88, SST+98, ST17, TPC+13, UBK+88]. **Resolved** [BLLS79]. **Resonance** [DV64, SOC59, SG64, Tit63, Meh89, Var89]. **Resonant** [Fan64, Pre66, Roe66]. **resonator** [KM93]. **Resource** [ADG+05, FBG12, MBA+12, RKMY02, Sau81, YSH12, BM96, CCFSZ12, HS11, KdAC+15, MC09, MN97, SGK04]. **resourced** [GHH+17]. **Resources** [KW76, MWL+14]. **Respect** [AS87]. **responder** [SS20]. **Response** [ALL77, Ano20d, Ber64, Cha75a, ELZ79, Ree69, Rei66, RR69, SY73, SWD74, vS57, BMF+16, HS11, JC00, KT70, SS20, TYM+14]. **responses** [BS06]. **responsibilities** [DYK10]. **REST** [Oha10]. **Restricted** [Fra79, Fra80a]. **Restructuring** [LSH76, Hei94]. **result** [Lam77a]. **Results** [FC63, RS67, BS71b, Fla91, FL89, KN91b, SPP+05]. **retail** [MHR+15, RM09]. **retention** [NCM+01]. **Rethinking** [ABD+14]. **Retrieval** [JM64, SY73, CBK+98, PSD+17]. **retrospective** [WCT06]. **reuse** [BSRM09, WMK+07]. **revenue** [AYA14]. **Reverberation** [MN67a]. **Reversal** [CDH64, DP59, Hop61, Mid62]. **reverse** [PLK09]. **reverse-acceleration** [PLK09]. **Reversibility** [Ben73, Zul01]. **Reversible** [Ben88, Ben00]. **Review** [Bar62, BRB+01, CH84, MW67, NHKI03, OO81, PC85, RR83, SC81, Bag94, BWK20, DM01, Duk90, FL89, Lax67, Sta89b, van89]. **revision** [BBSW97]. **Revisited** [SS88, Shu94]. **Rework** [Doo83]. **Rewritable** [AFF96]. **Reynolds** [Mic59]. **rf** [DAC+03, HNS+03, KM00, GMP90, KP79, KM70, Log70, LMD70, MU77, Maz70, Pen69, Pen79, PDLM67, SK69, SJ70]. **RF-sputtered** [MU77]. **rf/analog** [HNS+03]. **RFID** [RM09]. **Rheology** [Was77, FGMPK05]. **rhodamine** [HA71]. **Rib** [Ham78]. **Rib-Supported** [Ham78]. **Ribbon** [ABB+85, Bay78, BCD+85, CS85, Hel79, LM85, PC85, SD85, Twa85]. **Rich** [KEJ87]. **Righi** [Pri58a]. **Righi-Leduc** [Pri58a]. **Ring** [BS85, Fan61, TK64, HHA93, OCB+90, WSK+93]. **ring-disk** [HHA93]. **Rings** [CGR88, Str83]. **Rio** [TPC+13]. **RISC** [BGM90, FAJ+94, Gro90, HM90, Mar90, MHR90, OG90, RB90, War90, Aus90, BCJ+96, BS95, CMR+90, CM90, CM00, WD94]. **Rise** [Lin67]. **Risk** [GSAB93, LSS14, RM10, AWK20, BKN10, BMF+16, CKE+10, DB20, DJK14, EPP10, FM10, HS14, HE10, KOP14, KEKP20, MR14, MS07, RAR+14, SBD+10, Yas07, vKCD+10]. **Risk-based** [LSS14, MS07]. **risk-metric** [FM10]. **Risk-pooling** [GSAB93]. **risks** [BC00, ITS+15, Jen10, SSK+16, SP14]. **Ritz** [BS72]. **river** [EWBR09, KCH+09]. **RKKY** [Kuz70]. **RKKY-Type** [Kuz70]. **RNA** [BD62]. **Roadrunner** [KGBB09]. **roads** [BCSE89]. **Robin** [Tak87, WC75]. **robotics** [Kis96]. **robots** [Mey81]. **Robust** [WLB+15, ATW+08, NCM+01]. **rock** [Mon82b]. **Role** [Ast58, AAC+06, BJ06a, Far98, GMX14, Tur69, Van97]. **roles** [DYK10, KLRS96]. **Room** [BN63, JWSP06]. **Room-Temperature** [BN63, JWSP06]. **rooms** [Fro71]. **Root** [Kog59, Mir69, Dan66, Pon17]. **root-cause** [Pon17]. **root-locus** [Dan66]. **Roots** [Che72, Jam89, MM83]. **Rosetta** [RQBW08]. **rotated** [Rat68]. **Rotating** [BT78, FT77, Gre79, DR93, HHA93]. **Rotating-Head** [FT77]. **Rotating-Head/Tape** [FT77]. **rotation**

[Kel89]. **Rotational** [She59b, Les71]. **Rough** [GH86]. **Round** [Tak87, WC75, EC71]. **Round-Robin** [Tak87, WC75]. **route** [SG94b]. **router** [HTH+09, PVDF95]. **routes** [SS20]. **Routing** [Fra83, Hai85, Lin84, HHSR96, KJS09]. **Row** [McA83]. **Row-By-Row** [McA83]. **Rowe** [RP66]. **RP3** [BCR91, CJ91, KN91a]. **RSP** [MP82]. **Ruby** [SLLP64]. **Rule** [EP86, Dor62, Tib93]. **Rule-Based** [EP86, Tib93]. **Rules** [Pet77, LS77, MC87, MR72, vv86a]. **Run** [Fra70, KL97, WGS04]. **Run-control** [KL97, WGS04]. **Run-Length-Limited** [Fra70]. **Runge** [War63]. **running** [TWX+10]. **Runtime** [CLP+13a, FDS+13, EO13, KRD+14].

S [ABC+99b, ABB+99, CP99, DSM+99, GPE99, MAF+99, RGP+97, RKW99, SWC+97, SG99, WMH+97, GP81, CS99, DGL+97, ECD+99, Gre97, HBL+99, JL99, KBM+99, KL97, Mau97, RHM+99, SSM97, SK99, SCC+97, SMK+99, TMB+99, Van97, WL97, Web00, WB70, YS99, ESW+95, GLOS92]. **S/390** [ABC+99b, ABB+99, CP99, DSM+99, GPE99, MAF+99, RGP+97, RKW99, SWC+97, SG99, WMH+97, CS99, DGL+97, ECD+99, Gre97, HBL+99, JL99, KBM+99, KL97, Mau97, RHM+99, SSM97, SK99, SCC+97, SMK+99, TMB+99, Van97, WL97, Web00, YS99]. **Safe** [COC61, Gau77b]. **SAFEPRO** [OHM+85]. **Safety** [HT16, BW16, EBH+16, WSE+16, YT16]. **SAGE** [AHJ+57]. **Sales** [BCC+12, TWM+14]. **Sales-force** [BCC+12]. **Salesman** [HHJW84, Ray69]. **saliency** [ATC+15]. **Salute** [FvGGM90]. **Samarium** [SS61]. **same** [BWB+20]. **Sampled** [GHK67, KST58, Sta67]. **Sampled-Data** [GHK67]. **Samples** [DO74]. **sampling** [Sch96b, Wie90]. **Samuel** [WM92]. **SAN** [DHC20]. **SANS** [DBC+06]. **Satellite** [Ano66j, Bla65, CR76, MG62, PL77, RS79, ESS+20]. **satellite-derived** [ESS+20]. **satisfying** [RMM03]. **Saturation** [SM66, TT75]. **Sb** [BS64, LMPP69]. **SBC** [CGLL93, Cor93, GLCW93, Mah93, RBWH93]. **scalability** [AAB+10, BZ06a, WYTO04]. **Scalable** [AHK+18, EFR+05, HJW+16, KHZ+08, SJW+16, SXW+13, SBB+09, SHL+20, WPL+12, ACFS16, CGM+15b, Gyg08, Has98, HSS+10, IS20, KMM+16, NMH+07, RBB+08, VBE94]. **Scalar** [ACG+86, ACG+87, Gsc16]. **Scale** [BSS82, BBH+67, CD85, CP77, Mic78, Mon82a, ODA+08, TLR85, AG06, APOI92, BKF+16, DLJ+08, Duk93, Dür94, EMM+18, ETWO08, FGG+13, GGK+13, HdTR06, HBT+16, KJS09, LSW13, NMV+09, RBB+02, RBB+11, SCC+15, Sof13, TSH92, VNT16, ZSY+13, CAS+91]. **scale-out** [AG06, FGG+13]. **Scaled** [Lev77, OKH+02]. **Scaled-Up** [Lev77]. **scales** [HE10]. **Scaling** [ABB+08, Buc99b, DT08, FRE+08, Agn02, AAC+06, CFW82, Fra02, HND+06, MDB+02, Now02, SWC+95, TMF+95, Tau02, WNV+02, Ano06b]. **scan** [BTP+90, CNSS12]. **scan-initialization** [CNSS12]. **Scanlaser** [MP67]. **Scanned** [McA83]. **Scanner** [Bra80, Cla79, DSW82, Kan78]. **Scanning** [AMGC86, APS86, Ano86c, BMC86, BR00, CW86, DHTW86, DV74, DPR86, FF86, Fin86, Gar86, GH86, Gom86, HBR85, KJ86, KWB88, MHK+11, Pet80, Poh86, SB86, WKB+86, vv86b, All00, BHRS72, BNT86, DAB+97, Dür94, Far82, HBR86, KKT+95, Poh95, Sto91]. **Scatterers** [Lan88, Lan57, Lan96, Lan00b]. **Scattering** [Dav69, FT64, Hun59, Kra81, Pen79, Poh79, RSSS82, Spe69, Tie61, BEH+89, CJ78a, Cop00a, EHK+89, Haa70, JS00]. **scenario** [NML+20]. **scenarios** [LPA+15]. **SCEPTRE** [Sed67]. **scheduled** [MVI+07].

Schedules [FL75, LF77]. **Scheduling** [AS74, FL76, GAC85, Her75, LS76a, Nor58, Tak87, Wit85, WC75, BCE+07, Bla94, BR09b, CSW73, FW83, FN95, GR90, HS91, LMHM96, VJA07, War90]. **Schema** [CA84]. **Scheme** [Gra80, Hop59, Lom75, Pat80, PRY65, RS79, AC84, BSSZ76, BHM04, ESA02, Mir72, TMS+01, Vor71]. **Schemes** [CA84, Kob70, RP70, Yas85, Yas87, AW82, EHLSW01]. **Scholars** [Gar00]. **Schottky** [AA71, DS70, Mid70a, Wol70]. **Schottky-Barrier** [DS70, Mid70a, Wol70]. **Schweitzer** [Sit87]. **Science** [CCD+13, Che06, Che08, DHTW86, Gom87, Goo58, Hor93, KN81, Lip92a, Mit94, ODK+99, PMS+17, RB92, Sor79, Sor00]. **science-1960** [Sor79]. **Sciences** [Kov06, Opr03, Wie58, WH94, CDS+19, McC69, Pul03]. **Scientific** [Ano58f, Ast58, CD85, GS87, dG58, ABB+13, Dun57a, EWS+13, KFH+06, KSA+04, SPP+05]. **scientists** [GR92]. **Scintillation** [Spr63]. **SCISM** [VBE94]. **scopes** [SLC09]. **Scorecards** [HS14]. **scoring** [HE10, WKF+12]. **scrambler** [BBI94]. **screening** [YCB05]. **script** [Tap82]. **SCSI** [BBF+04]. **Scylla** [HHH04]. **SDH** [Cla03]. **SDH/SONET** [Cla03]. **SDRAM** [VLT+12]. **Se** [FA70, Vur70, Kus70]. **Seamless** [MBK+15]. **seamlessly** [AAM+07]. **Search** [CCFB+12, GS74, SS87b, CBK+98, CHG04, DMG+17, GYK99, Rai69, ST17, SS86, WML+16]. **searching** [Luh57]. **SEC** [Hsi70]. **SEC-DED** [Hsi70]. **Second** [Bog79, SM62, Tri58, HPW+02, WBH+04]. **second-level** [HPW+02, WBH+04]. **Second-Order** [SM62, Tri58]. **secondary** [CHL+11, DP68, Irv01, Spo94]. **Section** [Ano67u, Car81, MMJ69]. **sectional** [TTI98]. **sections** [HAMC+04, Les71]. **Sector** [Kov06]. **Secure** [BBGE+14, BBK+16, BBB+20, ACD+15, BHH19, KKT09, KMM+16, WMK20, RBL+18]. **secured** [BMM+20, HSS+10]. **securely** [BC18]. **Securing** [DHC20, KAD+16]. **Security** [AAB+16, BCG+09, BGM+16, HT16, HG14, Rao16, RCP+16, Viv14, AAJ14, And10, BKF+16, BCH+16, BBC+09, FKOW16, HLZ+09, KKB+09a, KMO+14, OYHSB14, PP09, SHL07, SSK+16, DHC20]. **Segment** [Ber76a, WW75, Wie76, Bou97]. **Segmentation** [HM71, BSRG17, Dan82]. **Segments** [Lew83]. **Seismic** [Gaz78, GRSW86, PLS20]. **selected** [DP13, How89]. **Selection** [BHR77, HHM66, Sea58, TLR85, Sar97, WML+16]. **Selective** [GBBM90, RS79, GSAP17]. **Selectric** [Wil85]. **Self** [EL83, FE75, GRT74, HBL+99, HBL+02, HO75b, OCB+90, RWC80, Sea57, SWD74, TDM+87, TH64, Whe88, BRB+07, HSL+10, HMP90, KS90, RB90, Sar91b, Shi73, Tag09, Vor71, DBC+06]. **Self-Acting** [SWD74]. **Self-Adapting** [DBC+06]. **Self-Aligned** [TDM+87]. **self-approximate-optimal** [HSL+10]. **Self-Clocking** [HO75b, Sea57]. **Self-Directional** [GRT74]. **self-focusing** [Shi73]. **Self-Improving** [FE75]. **self-isolation** [Vor71]. **Self-Magnetic** [TH64]. **Self-Registering** [RWC80]. **self-service** [Tag09]. **Self-Synthesized** [Whe88]. **Self-Test** [EL83, HMP90, KS90, RB90, Sar91b]. **Self-testing** [OCB+90]. **Self-timed** [HBL+99, HBL+02]. **selfboot** [WMK20]. **seller** [Sav69]. **Semantic** [SW86, Alf89, SCC+15, WN92]. **Semantics** [FLDC86, Luc81, AR87, SS87a]. **SEMD** [ZHP+18]. **Semi** [OG80]. **Semi-Recessed** [OG80]. **Semiconducting** [Pea69]. **Semiconduction** [Swa57]. **Semiconductor** [Aic84, Att92, BHV85, BKP82, BCGS81, CDD82, CH84, FLCB85, FF86, HMOS81, HMO81, Han57, Har81, HCBA82, Hoh78, Hor62, KH88, KMCY82, LB85, Mar64b, PH79, RTL69, RHM63, RWL81, Yu61, Aas70, AHW+99, BNT86, BRB+07,

BCGS00, CNS+99, KM68, LFF90, LLF+92, LRMT95, LD72, Mar79, MCH+82, ORT+96, Pri73, Ros99, Tan96, TMF+08, Tib93, TWF90, Vin81, Vur70, WL73]. **semiconductor-related** [WL73]. **Semiconductors** [Adl70, Bar69, CFG64, ET70, Fri69, Gun64, Gun69, HM60, KN81, Leh64, Met70, Pri58b, SH69, THv70, Whi70, Zar57, Ano70b, BZ06b, Kit89, Koh98, Lew73, TWRW89]. **Semiempirical** [ZHP+18]. **semilinear** [Ger73]. **Semimetals** [CFG64, MM64]. **Semipermanent** [FMP61]. **SEMM** [MS96, Tan08]. **SEMM-2** [Tan08]. **Senior** [Don00, Pic18, San12]. **Sense** [Gra80]. **Sensed** [HF78, Pri94]. **Senses** [Bla88]. **Sensing** [Dav79, THL85, RBB+11, SKC+10]. **sensitive** [BCC+16, MC87, VNT16]. **Sensitivities** [Sta83]. **Sensitivity** [Bud67, GOJN77, Ho75a, VCP80, JC00, PTRC16, Sch71]. **Sensitometry** [SSL73]. **Sensor** [Ber76b, SvNH13, Vin81, WP11, RBB+11]. **Sensors** [KW76, Ibe03]. **sensory** [Mey81]. **sentence** [AKB+17, MMUS88]. **sentences** [VPD88]. **separated** [FW67]. **separating** [Bar82]. **Separation** [FL74, Pli66, TC63]. **SEQUEL** [CAE+76]. **Sequence** [Eas86, Fra70, Bir01, FRPG01, Goz94, Mas97]. **Sequence-State** [Fra70]. **Sequences** [BBD63, Mil83, LS73, Ris72]. **Sequential** [But88a, Cha75b, Eic65, Jel69, LS77, WT77]. **Serial** [KSW74, Zab79, EG00, ESW+95, FMP+03, JMP96]. **Series** [But88a, LS76b, BFRT13, OOL+12, Yet89]. **Server** [CP99, Cha75b, Cho75, DSM+99, Des02, DGL+97, ECD+99, RHM+99, SC75, SSM97, SCC+97, SWC+97, SG99, VLT+12, WMH+97, BIK+05, CRM02, GWB+17, Gre97, GW18, IFB+11, Kum98, LRV+09, NCM+01, SA98, SN02, SKS+11, SBC+12, WHK+09, WNW+10, ABB+91, Kis03]. **Server-class** [VLT+12]. **Servers** [RGP+97, AAM+07, BBK+16, BEKK00, FKK+03, KPT+02, KEL+00, Moo72, NMH+07, PGS+98, ABC+99b]. **Service** [Ada84, DJL+16, RBL+18, SBD+10, Tag09, ABD+16, BNN+09, BNSG09, BGK62, EBH+16, HRF+17, HRS07, Irv91, JQB+09, KJS09, KL97, KSB07, LRV+09, MBT19, MWL+14, SS82, SIKdL16, VWE02, VMS+14, BBD+17]. **Serviceability** [CMPR64, HCTS81, CAK+15, FCS+04]. **Services** [BR17, GRB+16, Hau96, Pul07, Tag09, Tak87, WC75, AAC+05, ABH+19, BB09, DMG+17, Elg11, GLM+96, HSS+10, ISV16, KFH+06, KMM+16, KAA+18, LRV+09, RP14, RWB+10, RDL19, ST17, TOKN18, VSS+09, VRA+09, WAB+09, Yar12, CJJ+16, ODA+08, UDP+12]. **Servo** [CD78, Hoa61, Osw74, Hoa00, Ono93]. **Servo-Access** [Hoa61, Hoa00]. **Set** [Bry75, CCM65, Gha75a, Ser82, VBE94, Mic72]. **Sets** [Eas86, DH03]. **Several** [BMS80, Cas60]. **severe** [TPC+13]. **sexiphenyl** [HKvG+11]. **Shallow** [FPS66, PF66, TDM+87, Tit63]. **Shannon** [Koc59]. **Shape** [WTS+11, GSAP17]. **shape-selective** [GSAP17]. **shaped** [AG72]. **shapers** [BH95]. **shapes** [Oht95]. **Shaping** [EKR87]. **Shared** [Cve87a, GHW70, GA84, MBJ+97, SSL73, Ano71, AUW+09, Lat73, Rei69]. **Shared-cache** [MBJ+97]. **Shared-Memory** [Cve87a]. **Sharing** [Bar73, Chi60a, Con58, Con60, Mar59, SAB+07, Cre81, FN95, FL69, Gra71]. **Shark** [Has98]. **Shear** [CS65a]. **Sheaths** [Pen79]. **Sheet** [Fie65]. **Shells** [BGT74]. **shelves** [MHR+15]. **Shenzhen** [CXZ+17]. **Shewhart** [Yas85]. **Shielded** [CPL+74]. **Shielding** [Spr63, Yan71]. **Shift** [BTW62, CT76, Fuj92, Gus76a, Gus76b]. **Shift-Register** [CT76, Gus76a, Gus76b]. **Shifts** [SAL63, TY64, ZZ69]. **Shock** [BS69, Lan60, FSG+73, PL73]. **shocks** [MM75b]. **shooting** [CP72]. **shop** [RP14].

Short [DY89, GAC85, Jam89, SL67, GWRS90, Shi73, SSB+12]. **Short-coherence-length** [DY89]. **Short-Term** [GAC85, SSB+12]. **Shortcut** [HT69]. **shortest** [HW72, HT69]. **Shubnikov** [Bro66]. **Shutter** [COC61]. **Shuttle** [Skl76]. **Si** [GDR70, CFH64, Jon65, KG80, KEJ87, KACS95, LFC95, Mey90, Mey00a, Pan78, Pes71, PRY65, RF78, SSFF11, Tu90, WTS+11]. **Si-Fe** [Pes71]. **Si-Rich** [KEJ87]. **Si-SiO** [KG80]. **Si/SiGe** [LFC95]. **SiC** [SHTP11]. **Side** [Sha58b, MY65]. **Sideband** [CDH64]. **Sierra** [Ano20f, BBE+20, DRB+20, Lie20, SGS+20, TTM+20]. **SiGe** [DAC+03, FMP+03, HNS+03, JGD+08, LFC95]. **Sigma** [OB09]. **Signal** [Ber85, Coo82, DR82, GCPVG85, HW87, JH80, PSH80, Shi85, TT75, Tsu80, UMK+85, Bra68, Cha88, DKR+90, Mey00b, MP82, MZS+03, PAZ72, SPR+95, VWPB90]. **signal-processing** [SPR+95]. **Signals** [Cha67, KLS66, Mul67, VSF65, Boh73, CN71, Hei90]. **Signature** [HL77, Lew80, Lew83, DWW90]. **significance** [TR77]. **Significant** [OO81]. **significantly** [BWB+20]. **Silicide** [KEJ87, TDM+87, Tu90]. **Silicides** [MCAW95]. **Silicon** [Ano06b, CSY79, CK79, CGN72, DO74, DJ70, DA77, FT64, FFH64, GK60, GBC65, HND+06, IJV19, JD66, JD67, Ker64, LL83, Leh64, Lev64, LD74, Lip92a, Mar64b, Mey00b, Moh70, Pet79, Pet80, Pli66, PK61, Rut64, SW98, SST+98, SCYK78, SBdF64, TY64, WKW60, YS64, ATW+08, BBH82, CG71, DFF+15, EB99, FMS+92, GI88, GOVC71, GBBM90, GLG+99, HC69, Hei90, Hes99, HST06, IFB+11, JGD+08, KMK68, KAB+05, KAD+08, KOT99, Lar80, MFPJ71, MPCF82, Ngu99, OR92, OS99, PW68, PSW+07, PM72, SAT+08, SRH+18, Tu90, WNV+02]. **silicon-based** [Ngu99]. **silicon-carrier** [ATW+08]. **Silicon-Dioxide** [Moh70]. **silicon-dioxide-based** [WNV+02]. **silicon-gate** [BBH82]. **silicon-on-insulator** [IFB+11, SRH+18]. **silicon-silicide** [Tu90]. **Silver** [JC63, MFS+11, WTS+11]. **SimAPI** [HKLM97]. **SIMD** [CBB+05, SKP+15]. **Similar** [Hau67]. **similarity** [FRPG01]. **Simple** [Dod63, GMT57a, GMT57b, Knu90, OG87, Emm97, Fre04, JL90]. **Simplex** [Dan60, Tom72]. **simplification** [MD12b, MBB+18]. **Simulate** [NM65]. **Simulated** [CCP85, DKN87]. **simulating** [Oht95, OIM+13]. **Simulation** [ADG+92a, BBHS84, BF69, CD78, DS65, EHHP67, GHP+85, GHKO57, GC81, HS85, HW81, Hui90, IS83a, IS83b, KGCS85, Kra81, KP80, LL83, LB85, LS75a, LS75b, LCH74, MJ64, MME+97, Par66, SBT87, Sti79, TGL+12, VSF65, AKRS04, ABM+01, BH11, BGL07, CH06, Dan66, DT08, DLJ+08, Duk93, EWBR09, ETWO08, GZE+05, HKLM97, Ham99, Hei80, JZ91, KL97, KKM02, KKB+09b, KWH+12, KLE71, LS77, NDM+04, PBC+06, PZGL91, SMP+04, SS82, Sta89a, SvBC+04, TMF+08, Tib93, Van97, VMG99]. **Simulation/evaluation** [MME+97]. **Simulations** [Cle81, EKS+04, BS91, CA01, DKA+05, ESHM95, FRE+08, HdTR06, PSP06, ZEH+08, ZHP+18]. **Simulator** [BHV85, ST75, BJW72, vBBE+02, LH84, SBP+03, TAE+07, CR84]. **Simultaneous** [Ano05c, Bre72, Sau81, ABB+15, Bra72a, LPPT86, MMM+05]. **Single** [BGR82, Boy60, BS64, Cam57, Dav77, Fre62, GRH+08, GMW80, Hal76, HCS80, LM85, LS64, Lik88, Mar60a, Mee67, MRG99, RBC78, RWC80, Wor06, BH89, CDM89, Cla03, CH82, DTH92, HMM82, MRH89, Tan08, WGS04]. **Single-Chip** [BGR82, Cla03, DTH92]. **Single-Crystal** [Boy60, Fre62, Mee67, BH89]. **Single-Cycle** [RBC78]. **Single-domain** [Wor06]. **single-event-effect** [Tan08].

Single-event-upset [GRH+08]. **Single-Flux-Quantum** [GMW80]. **single-grain** [CDM89]. **Single-pass** [MRG99]. **Single-Step** [HCS80, CH82, HMM82]. **Single-Stylus** [LM85]. **singly** [Rat68]. **Singular** [FBHJ04, Rob67]. **Sinusoidal** [BF63]. **SiO** [CFH64, CL64, DYHS78, KG80, KLBP64, MJS70, MU77, OG80, RF78, SJ70, SARG80, YDHS78]. **SiON** [BGO03]. **SIP** [WNW+10]. **site** [RBB+02]. **sites** [Fre72]. **situ** [Ahn66, DR93, MFS+11, ODL+09, Ros00, Sek93]. **Situational** [BPG+16]. **Six** [CIE+03]. **Size** [FK60, Mer88, Seg62, Smi60, War63, AKKJ72, ALH95, Bou97, DDMS92, FS82, Hat72, Lam77b, Pes71, Yas07]. **size-biased** [Yas07]. **Sizes** [Bry75]. **Skin** [BSRG17, WWMS79]. **sky** [SJZ+15]. **Skylab** [CI76]. **Slabs** [CS65b, Mee67]. **SLAN** [BHP83]. **SLAN-4** [BHP83]. **SLDNF** [CHdTG92]. **Slider** [SM63, TT74, BCT89, BHHO59, Dec90, Gro59, Mic59]. **Slimming** [Dod63]. **slip** [EC71]. **slow** [Gra71]. **Slowdown** [CW77]. **SLT** [BA69, TS69]. **SM** [SKLC20]. **Small** [ABPS66, Bra68, FWW88, Gae79, Gef88, HLS81, Len58, Lew83, LBH+75, Sta89c, VRL10, BS71a, CCJH81, DKR12, Har71, Lew73]. **small-amplitude** [BS71a]. **Small-area** [Sta89c]. **Small-Computer** [Len58]. **Small-signal** [Bra68]. **smart** [Elg11, HSL+10, RWP16, TYSS19]. **Smarter** [ABD+14, CNP+15, DLN14, HPW11, Pal14, RS14, WP11, BDMN14, DGH+14, GMR10, GDLS14, HMP+11, JWW+11, SFH+16, SKC+10, YMR14, ZBG+10, HEH+10, Jen10, MVCW10, MI10]. **smectic** [CJ78a]. **SMoLCS** [AR87]. **SMS** [WZC+10]. **SMT** [Ano05c, MMM+05]. **SN** [SG77, HHA93, Hor98]. **Sn-Pb** [HHA93, Hor98]. **SNA** [FP83]. **SNC** [JSS13]. **SnTe** [CSE66, MDJ+70]. **SnTe-MnTe** [MDJ+70]. **SOA** [CFH+09]. **SoC** [DL02]. **Social** [BEJ+14, RDL19, BDMN14, DGH+14, EEM15, KSSC+13, MDMN10, RVT+13, SXW+13, YCJ+17]. **sockets** [BEE+02, CRM02, NMF10]. **sockets-based** [BEE+02]. **SoCs** [PZK+03]. **Soft** [BSK+08, MS96, SKK+08, ZS96, BH80, Del08, KCOW08, ORT+96, RBK+08, Sri96, Tan96, ZMM+96, ZCM+96, van89, MBB+01]. **Soft-error** [BSK+08, MS96, SKK+08, Sri96, ZMM+96]. **soft-magnetic** [van89]. **SoftRDMA** [NMF10]. **Software** [AFP+01, Ada84, BHP83, BBG+14, Car81, CBD+09, DR82, DOJ+14, FHL+14, KFW+14, LBC+14, MSV14, MP88b, Ohb84, SMC+14, SH84, Tay84, VMH+83, ABC+99b, AAB+14, ABB+03, AAS+14, AHH+14, BKN10, BFH10, BGJ+17, CHH+01, CDD+10, DYK10, GMR10, GLM+96, JWS+09, JML+18, KRD+14, KM20, LH03, Mar12, MOG+19, MP88a, OEN+16, Pig88, PAB+05, RP14, RIB+13, VRL10, VH81, WMK+07, WTT+14, WBT+10, WA15, DBC+06]. **Software-Cache** [VMH+83, VH81]. **SOI** [FAD+07, FCE+15, LBB+13, Nin02, PZK+03, Sha02]. **Solar** [BV78, CSY79, DHM75, HC78, PCDW78, SCYK78, KLHW16]. **Solar-Grade** [CSY79]. **Solder** [FHL+82, GLCW93, LCB93, Spr61, KLS+05, CGLL93, Cor93, Mah93, RBWH93]. **Soldering** [GS82a, SPP72]. **solders** [Hor98, KLS+05]. **Solid** [CGG+64, Chu82, DHSC64, DHSC00, Far87, Kuz70, LY83, PHCR81, SS61, WWK+87, Wyn64, BKB76, Moi91, Nii95]. **Solid-Burst** [Wyn64]. **Solid-State** [SS61, Nii95]. **Solidification** [CSY79]. **Solids** [BH79, Pri60, FGW81]. **SoLoMo** [CDL+14]. **Solomon** [Bla84a, Bla84b]. **Solubility** [BS77, MLSS84]. **soluble** [SPP72]. **Solution** [BDMW81, Bil70, BGT74, Bog79, CHBH85, CS65b, Dub72, FPS66, FK62, Her66, HWC75, Kog74, Ku63, Luk75, PF66, Sau81, Sch84, SLLP64, VDG19, BSHM01, BBE+20,

Bil72, BH80, CHG04, Dan66, KBA07, KRC68, Lee07, Mas97, MDN+18, Mic59, Sug59, VSS+09, Whi72]. **Solution-grown** [FPS66, PF66]. **Solutions** [Ano19i, BT78, Hau96, Kuz70, SLA+15, Swi62, Bra72a, DGH+14, DP13, DP68, FCP+05, HHA93, JKB+13, Jen10, Mir61, RBL+18, TTM+20]. **Solvation** [Cle81]. **Solvent** [Cle81]. **solvents** [Yan71]. **Solver** [Coo84]. **Solvers** [ET86]. **Solving** [ADST78a, Bre72, GR58, Tuc60b, ADST78b, Mic72, WYF+03]. **Somatosensory** [UC62]. **Some** [AF68, Ano59n, AFR62, BTH62, Bon64, BS71b, CK79, Coo62, FL67, FP83, GS70, Gor63, HBL62, Ins76, JN82, KT66, KLS66, Kol67, Kuh60, Laf80, Lei62, LR65b, Ode87, Poh86, Poh95, RK74, RP78, RS67, Rus04, RS59b, Sam59, Sam67, Sam00, SB64, Yas87, ZY72, Cra98, Emm97, FL89, GBBM90, Kit89, Lew75, Vie86, YHA71, Gro59, Lee07]. **SONET** [Cla03]. **SOP** [KAB+05]. **Sort** [Tod78a, TW85]. **sort-merge** [TW85]. **Sorter** [MTW83]. **sorting** [ZY72]. **Sound** [Adl64, Bei74, Pri65]. **Source** [GS80, Arc93, BBE+20, BCF+07, DSRC98, LH03, PAZ72, SR71, WSK+93]. **source-synchronous** [BCF+07]. **Source/Drain** [GS80]. **Sources** [MN67a, KBJ+18, LD72, SSY12]. **Space** [Che64, CC76b, HC69, HP84b, Hud76, Mag73, MS60a, San83b, Skl76, TY64, Nef90, SKC+10, Woo04]. **Space-Charge** [TY64]. **Space-Charge-Limited** [Mag73, MS60a, HC69]. **Space-Division** [HP84b]. **Spaceflight** [Jam81]. **spacetime** [Tof04]. **Spacing** [Cha73b, TT75]. **sparse** [Gup97, PS91, Tol97, Tom72]. **sparse-matrix** [Gup97, Tol97]. **Spatial** [Fan64, FF73, Ho66, Lan57, Lan88, Lan96, Lan00b, SGY+98, WPH69, YL98]. **spatially** [HdTR06]. **SPEC95** [CP97]. **Special** [Ano67u, PBCC12]. **Specific** [HKM+86, MDJ+70]. **Specification** [BHP83, LN79, MR87]. **specifications** [MS89]. **Specified** [Pat70]. **Specimens** [Keh65]. **Speckle** [AL76, Gab70]. **Spectra** [Bro62, Hua79, Jon70, MJJ69, SG64, WA79, WC69]. **Spectral** [BLLS79, HW81, Bar86, Bra72b, Tue68]. **spectro** [SA00]. **spectro-microscopy** [SA00]. **Spectrochemical** [ÅC64]. **Spectrometer** [Lev66, HHF69]. **Spectrometry** [SFD77, Spo94]. **spectromicroscopy** [CHL+11]. **spectrophotometric** [Gra69]. **spectroscopies** [FNRF89]. **Spectroscopy** [CW78, Gar86, GFHW82, KJ86, RF78, THv70, ARM+01, Hun71, JKG69, SKB+11, SF93, Sek93, SN98]. **Spectrum** [Wel61, Yet89]. **speculative** [OWG+13]. **Speech** [DFM+88, EKMW64, LJV+07, Mer88, BHP17, MC87, SP17, TOKN18]. **speech-based** [TOKN18]. **Speed** [AFR62, BHWZ63, CD78, Car60, CEY84, Dav82, DB76, Gre79, Har63, Hop59, KJMS67, LV67, Lew83, MM75a, MPST66, Pre66, Wei79, Woo75, ZL87, BJM+06, BCF+07, BGK+82, CNL+19, DKR+90, FXB+10, FMP+03, HVK+90, HDW+07, Ism00, KB06, Lin81, MKW+05, MPHC90, Nob95b, SGS+20, Tho70, Ung72, VW78, Wie90, ZG71]. **Speeds** [TW74]. **Spelling** [FZ88]. **Sphere** [NM65, Sat63, Dav69]. **spike** [TYM+14]. **Spin** [All00, Bro62, Haa70, Hor57, Mas62, Sun06, Was77, BZ06b, JWSP06, Kel89, Nes98, TFL+98]. **spin-dependent** [Nes98]. **Spin-disorder** [Haa70]. **Spin-polarized** [All00]. **spin-valve** [TFL+98]. **spinels** [Haa70]. **spines** [TMW+17]. **Spinning** [CSS83]. **Spintronics** [WCT06, ŽFE06]. **Splatter** [Zab77]. **Splines** [Ins76, Dim78]. **Split** [PK61]. **Split-p** [PK61]. **Spoken** [KT66, ARS+17]. **spread** [BMF+16]. **spring** [BW72]. **spring-driven** [BW72]. **Springs** [Hau67]. **Sputter** [CW78, MSG72, Ros99, JL90]. **sputter-deposition** [JL90]. **Sputter-etching** [MSG72]. **Sputtered**

[Flu67, Log70, LMD70, MJS70, SK69, Jon72, MU77, Pen69]. **Sputtering** [CGHK77, KP79, KS79, KM70, Maz70, PDLM67, SJ70, KM00]. **SQL** [KBA07]. **SQL-based** [KBA07]. **Square** [Che72, HBC70, Jam89, MM83]. **Squares** [Cio86, Goz94]. **Squarylium** [Lew78b, Mer78]. **Squeezable** [Han86]. **SQUID** [KKT+95]. **Sr** [KBS+99, BEH+89, EHK+89]. **SRAM** [Fre96, MAB+03, PC07]. **Stability** [Blu79a, Bra64, CHBH85, CTT66, Gil79, GS84, HA00, Ode87, Pis74, van88, vv86b, Bra68, FGMPK05]. **Stabilization** [KLBP64]. **Stable** [Hut74, Gri04, LO72]. **Stack** [Jel69, BK75, CBV08, GGK+13, JSM+18, RIB+13, Shi72]. **stacked** [KBS+99]. **stacked-capacitor** [KBS+99]. **stacking** [DWA+08, SAT+08]. **stacks** [GNF06, OKH+02, SGS+09]. **staffing** [HRS07]. **Stage** [BT67, Kar74, BBS+03, Sch91]. **Staggered** [Bra94]. **Staging** [GLS74]. **Stand** [Don80]. **Stand-Alone** [Don80]. **Standard** [KBK+97, RS85, AHM+07, GHL+04, NFI+08, Cop94]. **Standard-cell-based** [KBK+97]. **standards** [HMP+11, RWP16, SP14, WP11]. **standards-based** [WP11]. **Start** [Mil83]. **Start-Up** [Mil83]. **State** [Bar80, CH84, Fra70, LY83, PHCR81, SS61, van73a, BD74, BGL+92, HBW70, Hun71, ILH03, KM73, Nii95, PL73, SBG+71]. **State-Of-The-Art** [CH84]. **Stateless** [VDO14]. **Statements** [MR87]. **States** [Ahu79, Erd88, Gar86, KJ86, Key61b, Lit62, CSH+89, HJS98, Rus04, Sho04, Swi62, WSCK17, Irv93]. **Static** [Cha62, Cor84, Mid62, CTT91]. **Stationary** [LS76b, Pai72, Boh73]. **Statistical** [BNW99, How89, HRS07, KMO64, LS76b, Osb93, Pri58b, TAR84, Yas87, BTWY92, Fer70, KSSC+13, Luh57]. **Statistics** [SAR81]. **Status** [SP90, Bar62, SKB+11]. **STB** [Kle64]. **Steadily** [Gun66b]. **Steady** [BGT74, BT78, ILH03, KM73, van73a, PL73, SBG+71]. **Steady-state** [ILH03]. **stealthy** [SJW+16]. **Steam** [DJ70, Pli66]. **Steel** [Keh65, DKRS07, Yan07]. **steelmaking** [LMHM96]. **steepest** [Lan66]. **Steering** [Wal57, GKMP04]. **Steiner** [Hal60]. **STEM** [UBK+88]. **Step** [HCS80, LM80, War63, CH82, Gla97, HMM82, SHL+20, SHTP11]. **Step-Size** [War63]. **stepper** [BDS+97]. **Stepping** [Fre67, BSSZ76]. **Steps** [KWB88, ABM88, GI88]. **stewardship** [OB09]. **STI** [SNA02]. **STI-to-PCI** [SNA02]. **stiff** [LO72]. **Stimulated** [BN63, SB64, SCHL66, SL66, SLHM67, SAL63]. **STM** [ARM+01, ALH95, CWC95, MPD86, RCH+86, Vie86]. **STM-excited** [ARM+01]. **STM/STS** [ALH95]. **Stochastic** [AP69, Ast67b, LS76a, PS86, el 69]. **stock** [Her72, NBF+16]. **stop** [ESS+20, Mer04]. **stopping** [LS77]. **Storage** [AKK+67, BF77, BGM+67, BM96, CT76, Cho74, Cio86, DR08, Eas86, Fal70, FB78, FC79, FW08, GLS67, GA84, GFHW82, Hoa61, JMP96, Kan74, Lom75, Lom76, Lom80, MS75, Mul74, Pat80, Pet57, Win70, van72, van73a, ABE+02, ADS72, AAB+14, ABB+12a, ABB+00b, BAB+18, BS03, BBC+08, Bro72, BKS+08, BGJ+17, CPT+08, CMR+90, CAC+13, CDC96, CHJ+18, DM03, EÖH10, FGH+06, GBJ+08, GAB+08, Gri69, GJ00, HKA+13, HYA03, Hoa00, HCK+05, ILH03, IS20, JL99, JS72, KAB+12, MDJV08, MTF+95, MA96, MC87, NFI+08, ODA+08, Okl03, OCT68, PSA+08, Pat89, Poh95, vdP72, RCFN+08, SGY+98, SLC09, SMC+14, SG94a, Sou96, Ste81, Sur15, TB00, Tue76, VDD+00, WSK+93, van73b]. **Storage-Channel** [Cio86]. **Storage-class** [FW08, BKS+08, Sur15]. **storage-hosted** [CPT+08]. **Store** [Ahu80, CM80, Has66, JT66, MPST66, SL76, BZ06a, MHR+15]. **Store-And-Forward** [SL76]. **Stored** [EKMW64]. **Stores** [TK64]. **Storing**

[vv86a]. **STORK** [dTGHC92]. **Straight** [Tay79]. **Strain** [CGLL93, KS01, Seg62, Smi60, SST69, AAC+06, WGC93]. **Strategic** [Nun09, PKXK07, KRTN+12, RAR+14, WCK+07]. **Strategies** [CFL73, Her75, WN92, BBD+02, TGL+12, TKG89]. **Strategy** [DR08, MM82, CHG04, HKR+97, MAF+99, TFL82, WAB+05]. **Stream** [Bur75, HKA+13, SM71]. **streaming** [WLKS98, ZSY+13]. **Streams** [HAG+13, SS76, KCML13, VMAB18]. **Strength** [CM80, Keh65, Smi77, Cop94]. **Stress** [CS65a, CN79, CEHL78, FMS+92, Fre62, LR65a, SM62, Tan74, BBF+05, Cha69, Fuj92, HRS+95, Ibe03, You90]. **Stress-induced** [FMS+92, HRS+95]. **Stress-Insensitive** [LR65a]. **Stretch** [Buc62]. **stretching** [LC83]. **String** [Eas75, GS74, BW81b]. **Strings** [Eas78, KGT88]. **Strip** [ALL77, LC83]. **Stripes** [CH76]. **stripping** [HHA93]. **Strips** [DKAC67]. **Strong** [KT73, OYHSB14]. **Strongly** [FWW88]. **strontium** [Pen69]. **Structural** [SWF+09, Win70, ACM+89, Cor93]. **Structural-Information** [Win70]. **Structure** [Adl70, BW81a, BKM80a, BB60, CH74, DJ70, GSVE83, HK64, Lan86, McC64, MY67a, MY68, OHSP76, Slo66, SAL63, WTP64, AIH+98, BEK+02, CGH+17, CBB+04, DGL+97, EHLSW01, FNRF89, GOVC71, Haa70, Kit89, PS91, RQBW08, SNA02, TMS+01, Won90, YR91, ZVW+11, ZBL+72, van89]. **structure-prediction** [EHLSW01]. **Structured** [BBHS84, Cow87, KBP+12, MW82, Kel73, McN94, RK15]. **Structures** [CFG64, EP86, FFH64, FWW88, Ham78, Hoa58, KW83, Wei65, BGK+82, BFH+93, CJ78a, CPTW98, FLP90, FHPR01, Gri04, Gus03, HHB+89, HS71, KB06, Lud00, MMV+01, SLYR72, SHTP11, TMF+08, Tu90]. **Structuring** [Urs75]. **STS** [ALH95]. **student** [WA15]. **students** [ITS+15]. **studied** [Lud00, Ros00, SN98]. **Studies** [BC60c, BA69, Bru78, DHTW86, DA77, FL59, Lun79, MP67, Sam59, Sam67, SLHM67, Spo94, BEH+89, CSH+89, EHK+89, FNRF89, GDLS14, HMO81, HF91, JS00, LFC95, Mat95, MMV+01, Sam00, TWRW89]. **Study** [Ada80, BBS78, BP84, BFT79, BT84, CEHL78, CK63, Dic60, Fan61, FT77, Fuj92, Gha75b, Gre79, Hor62, HBR85, KW83, Lev77, Lye77, O'H78, PFS+70, Spe69, SS87b, TDM+87, Tri58, AO97, BGW91, BHHO59, CSW73, CWC95, CJ78a, DCC+17, DP68, Dus71, Gro59, HHA93, HBR86, KIF+89, LB07, Mic59, Okt69, QS67, RR69, SKK14, SF93, SXYP12, WLH+17, WS72, YTF+11]. **Stuffer** [Hel79]. **Stylus** [LM85]. **Styrene** [DS65]. **subassemblies** [TJHK03]. **Subclasses** [MD65]. **subdued** [Okt71]. **Subharmonic** [Net60, Las61]. **Subject** [Ano92h, Ano93f, Ano93g, Ano94t, Ano94u, Ano95l, Ano97j, Ano98l, Ano99i, Ano00j, Ano01o, Ano02b, Ano03b, Ano05d, Ano06d, Ano07b, Ano08c]. **subjected** [Bau72, KS01]. **Submicrometer** [CH76, TT75, BK76]. **Submicron** [JVP+90, TDM+87, BGK+82, EKTT90, FKOP90, RG90]. **Submicron-gate-length** [JVP+90]. **submodular** [DH03]. **submonolayer** [HKvG+11]. **Subnanosecond** [DB79, Dha68]. **subnetworks** [SS82]. **suboptimally** [Dur70]. **subpixel** [Pri94]. **Subroutines** [AC86, RV89]. **subscribe** [SCW10]. **subscripts** [HL72]. **Subsequent** [DJ70]. **subset** [Nob95b]. **subsidence** [Gam72]. **subsoil** [Gam72]. **substituted** [Sui75]. **Substrate** [Log70, MU77, ADG+92b, DKA+05, TKK+92]. **Substrates** [KM74, GSG+90, GWRS90, KFSZ92, LGBV17, SGS+09]. **Substructure** [KP63, MHS62]. **Subsurface** [Fre72]. **Subsystem** [BS84a, CDG83, DSW63, FLS78, MTS84, Mil84, Pat85, WCB+86, AFFS98, BSK+08,

BBC+12b, CBB+04, CCD+09, CW91, GCS+12, HBL+99, HBL+02, ICO71, JDBP10, MSB+04, MWS09, McN94, MLMP+12, MCG+15, OHK+07, OBB+05, OWG+13, SHR+09, SBC+02, WMB+15].
Subsystems [HPWW81, GBRJ05, LGF+03, SSD+15, WMK+07, WYTO04].
subtraction [CNH73]. **success** [DL02].
Successes [Lai08]. **successful** [vKCD+10].
suicide [VMAB18]. **suicide-related** [VMAB18]. **Suitable** [JH80, MS89]. **suite** [CP97, CM98]. **Sulfate** [Tri58]. **sulfonic** [HHA93]. **Sulfur** [BS77]. **Summary** [Gli69].
Summit [AHK+18, Ano20f, BBE+20, CFP20, Lie20, LSS+20, SGS+20, TTM+20, WSJ+19].
Sums [Dub83, MM83]. **Sunlight** [Hov78].
Supercomputer [MNR86, ABB+13, AAC+05, ADG+05, BGH+05, BBK+08, CNC+08, CBC+05, CHT+13, DLJ+08, EFR+05, Han20, Pic91, PBK96, TTM+20].
Supercomputers [Ano20f, BBE+20, Lie20, PZGL91, SGS+20].
Superconducting [AW62, AOR62, BBG60, CJT62, Col62, Cro57, Dou62, Dui59, EGS60, GL62, Jon60, JH80, KDBT60, Kro58, Kur57, Lit62, Mas62, Ree59, SM62, ACM+89, BPL+89, BEH+89, BH89, CSH+89, EHK+89, GSG+90, WSK+93].
Superconductivity [BTH62, Coo62, HBL62, Mar62, Mat62a, Men62, SSN+62, ABK89, Ano62e, Bar62, BCSE89, Eme89, Kat89, KIF+89, Pet89, Ano89].
Superconductor [DSSS64, Mei62, AC84].
Superconductors [GM62, Goo62, LeB62, Map62, Mor62, Tin62, DY89, FNRF89, FL89, Gou89, HHB+89, KC89, Kel89, Meh89, Mor89, Sch89, Var89].
Superconformal [MWEJ05].
Supercurrent [Gar57]. **Superimposed** [Coo62]. **Superlattice** [ET70, BA70, Pri73].
superlattices [MSG+01]. **Supermarket** [Bra80, DSW82]. **Superplastic** [Fie65, RK72]. **superscalar** [BGW+04].
Supplier [DKR12, ABH+19]. **supplies** [BR09b, Cov92]. **supply** [BBSW97, DKR12, GCFW07, NQ20, NNGV19, SKK14, SP14].
supply-chain [DKR12]. **supplying** [Yar12].
Support [DR82, AFP+01, ABC+99b, AYA14, AEH+04, BS06, BCR91, CGM+15a, CDG+10, DMG+17, DCC+17, DOJ+14, FGK+07, GDLS14, JWW+11, KBJ+18, KS90, KBK+97, LGW+15, LPMDG14, ST17, SKC09, TBS09, VWE02, VMS+14].
Supported [Ham78, HKvG+11].
Supporting [BHH19, DLW86, EEM15, Kum98].
suppression [Bus71]. **Surface** [AMGC86, AS78, ABM88, CFH64, DV64, DHTW86, DM64, FT64, Far87, GH86, Goo62, HBR85, KS66, Leh64, Mar64b, Mei62, Mor79, ODK+99, TY64, Tu90, WSW83, WS64, YS64, YAJ90, DR93, HBR86, LV94, MFPJ71, OS99, SRD94, SF93, TZZ+11].
Surfaces [Bru78, Chu82, CM74, Dem78, DJ75, DB76, FF86, GH86, HSM84, IM57, Jon65, Lud78, Pan78, PCDW78, Pol78, Pri60, Sch62a, Sou64, ALH95, BNT86, DF15, EM94, EC71, GI88, Kep75, KJSG+88, MSG72, RK72, SA00, SHTP11]. **surgery** [TFJ+96]. **Surplus** [El 74, Agi74]. **surprise** [SMSC14]. **Surveillance** [RMR94]. **Survey** [Hei76, IM57, Met70, Rue79, WET+10].
Survival [Bar75]. **Suspend** [HS82].
Suspension [CHBH85]. **Suspensions** [SH63]. **Sustainable** [YT16]. **SW** [KKS02].
SW4 [PLS20]. **Sweep** [KST58].
Sweep-Position [KST58]. **sweeps** [EKR87].
Swelling [BP84]. **Swinging** [Hea76].
Switch [ABCR65, Con58, DWGC85, LV67, Mar59, PRY65, Sea58, BJM+06, Dha68, DMR+81, EB91, Eng03, GLOS92, HAMC+04].
Switch-Type [DWGC85]. **Switchable** [Rab69, RHC73]. **Switched** [Hop61].
Switches [Chi60a, Con60, Kar74, Pet79].
Switching [CP63, DC73a, DW58, DPW60, Die62, Eic65, HP84b, Kan74, KP59, Net60,

Pea69, RTM65, Roe66, She59b, SLLP64, TW74, Thr65, Cor69, DCB77, DPW00, May60, Rey69, RR69, RW59, RHC73]. **Switching/Memory** [Pea69]. **switchover** [MWW+07]. **SXGA** [CAW+98, SS00]. **Syllog** [FGP+85]. **Symbol** [Kur87]. **Symbolic** [FLKA84, Sur69]. **Symmetric** [Dub72, Key61b, Ost84, PS86, Bra94, MSB+04, RSS91, Sho04]. **Symmetrical** [Wal57]. **Symmetrical-Transistor** [Wal57]. **Symmetries** [AS87, Bra94]. **Symmetry** [But88b, Pen88, Wee79, HM89]. **Symposium** [Ano70b]. **symptoms** [Pon17]. **Synchronization** [ARV64, Cha67, PR71, GHW+20, NG17]. **Synchronous** [Fra80a, BCF+07, CN71]. **Synchrotron** [JS00, Arc93]. **syndrome** [BC00]. **synergistic** [FAD+07]. **synergy** [JWS+09, NQ20]. **Syntax** [Mou86, Bro85]. **Syntax-Driven** [Mou86]. **Synthesis** [BMW83, BHD+05, Bud67, Chi60b, DJBT81, DBG+84, EKMW64, HP66, HO75b, Hud63, Kau81, May60, Rem67, WW75, BOS+95, Ber76a, CT06, DBG+00, DSW71, Gus76a, Gus76b, MSG+01, RW59, SKB+96, Wie76]. **Synthesized** [Whe88]. **Synthetic** [van77]. **Sysplex** [GHW+20, DP13, DEH+12, GPE99, RKW99, SKE+18]. **System** [ACG+87, AST67a, AEGP67, AS74, AHM+07, ABG+09, BEK+02, Bar75, BJS80, BBC+12a, BCF+07, BAV+09, BCD+85, BGM+67, BT67, BS84b, Bro78, BDH76, CdLS92, Cha87, COC61, Cha74, Cha75b, CCD+09, CAC+13, CFH64, CDW75, CLOR87, CAD+09, Com83, CI76, CD85, CPZ63, CDH64, CW91, DFM+88, DTH92, DBG+84, DMWW77, Dav80, DR08, DGG+92, Del08, DMP59, DSW71, EHHP67, ELZ79, ELMR77, FLW78, FLKA84, Fle58, FLR77, FGK+07, FL67, FN71, FGM+83, GGRW91, GLP76, GL87, GRT74, GMT57a, GMT57b, Hai85, Haj91, Hal76, HDW+07, HY84, HTH+09, Hen68, Hoa61, Hop61, HP84b, JWS+09, Kan74, KST58, KKB+09b, KBG+09, Lat73, Leh78, LH57, LH00, Lev64, LS76b, LW77, Lin84, LBH+75, LN79, Luh58b, MWS09, MC09, MDJ+70, MPS77, MDR+07, May85, Maz70, MP61, MW82, Mon82a]. **System** [NHH91, OHK+07, PH79, PL83, PPS82, Pla76, PSW+07, Pri07, PS09, RHM+99, RFC+07, RH75, SWF+09, Sar91b, SHR+09, SKC09, Sea57, Sha58a, Shi85, SBDT+09, SY73, SV91, Sow84, SBC+12, SW67, SLP+20, TSNF88, Tay84, TAE+07, Tit61, Tod78b, TBB+09, TAR84, TSC91, TBS09, WMK+07, WLPL+80, Whe88, WHK+09, Wre83, WC75, Zab79, ZST+07, AHK+18, APRS16, AEZ84, AYA14, AKRS04, AUW+09, ADG+92b, ABD+18, ADH+07, ALS81, AHH+14, BCD+17, Bar78, Bar68, BHRS72, BBD+02, BMF+16, BMPS91, BSD+20, BNN+09, BKM+69, BBD+98, BC18, BH80, BKRF02, BBC+08, BCC+01, Bro72, BCR91, Buc62, BMT+90, BGJ+17, CJ83, CP97, CTD+16, CDM92, Cor69, CBD+09, Cre81, DBG+00, DBB+02, DeM91, DMG+17, DT08, DBC+05, DCC+17, DAB+97, DGL+97, DEH+12, EGH+86, FKL+08, FW08, GBC+05, GDB16, Gra69, Gra71]. **system** [Gri69, Has98, HZG+16, Hoa00, HDK+11, HCG+13, JSS13, JDBP10, JML+18, JC00, JWW+11, KMC+11, KGT88, Kis96, KAB+05, KKM02, KCH+09, Kon69, KSB07, KTD20, KHZ+08, LNT08, LSF84, LSZ+10, LMPP69, MMS05, MBJ+97, MSB+04, Man90, Mat89, Mey81, Mol69, MTB+90, MVI+07, NCB03, OMA+96, OCT68, PMS+08, PBC+06, PR71, RAG11, RRMD17, Rei69, RBK+08, RMM20, RD12, RMM03, RIB+13, SGY+98, SMP+04, SG95, SMC+14, SKT+05, Sta75, Stu70, TW85, TMS98, TDF+02, Tib93, Tol97, TPF+91, VAB+05, VTC09, WZC+10, WMH+97, YAH+96, YG81, ADG+92a, ACG+86, ACF+80, ABB64, ABB00a, AHJ+57, Aus90, BLM+92, BGM90, BEM+92, BM84, BGM+67, BBMP92, BRB92, BDS+97,

Cal70, CMPR64, CMR+90, CTS+92, CDM92, CMW92, CDG83, Cov92, DHK+92, DGG+92, EGS+85, FL67, FAJ+94, GR92, GZM92, Gro90, GFS71]. **System** [Gum83, HHM70, HM90, HOWP92, KS90, KLM+91, Lip92b, Mar90, MHR90, OG90, Pad81, Pad83, Pat80, RB90, Sam64, SSW91, Sta90, War90, WD94, Wil85, WCW82, WCK+07]. **system-level** [RBK+08]. **system-on-a-chip** [BBD+02, DBB+02, NCB03]. **system-on-package** [KAB+05]. **system-wide** [KSB07]. **System/** [BGM+67, FL67]. **System/2000** [Wil85]. **System/3090** [SSW91]. **System/360** [AST67a, AEGP67, ABB64, ABB00a, Cal70, CMPR64, Pad81, Sam64]. **System/370** [ACG+87, FN71, ACG+86, CDG83, Gum83, Pad83, Sta90]. **System/390** [DTH92, KLM+91, CMW92, GR92]. **System/400** [BLM+92]. **System/6000** [Aus90, CMR+90, FAJ+94, HM90, Mar90, MHR90, War90, WD94, BGM90, Gro90, OG90, RB90]. **System/7** [HHM70]. **System/9000** [CW91, GGRW91, Haj91, Sar91b, SV91, TSC91, ADG+92a, BBMP92, BRB92, CTS+92, Cov92, DGG+92, GZM92, HOWP92, BEM+92, CDM92, DHK+92, Lip92b]. **Systematic** [SLZL18, WA79]. **Systematics** [UC62]. **systemic** [MBK+15]. **Systems** [Age04, Age05, AG06, Age08, Bal05, BHP83, CdLS92, CFL73, Cha75a, Cho75, CLW80, Cle81, CC76b, DFS98, DR08, Des02, Des04, DLW86, ES92, FGC92, GLOS92, Gha75b, GS74, GHK67, GA84, HW12, Hal60, HLS81, Hau67, HTH+09, HS82, Hov78, HCTS81, IS83b, Jam81, KP79, KSW74, Kob70, Kuh88, LS76a, Lei62, LD74, Nun09, OO81, Par66, Pen88, Pet76, Pri07, RK74, Roe66, Rot66b, SH57b, SH57c, SY92, SH84, Sur15, Swa60, TW62, Tay81, ZST+07, ABE+02, ABK89, AO97, AO01, AAB+16, Ano01c, AC84, AAB+05, AAM+07, AHHN11, BBMR19, BSJ+13, Bil72, BFH10, BK61, BHH03, BFG+99, BJ06a, BKP82, CSW73, CCJH81, CDC96, CDG+10, CMS85, DSS+92, Dur70, ESM16, EÖH10, Fer70, Fla91, FGH+06, FN95, FNY+10, GZM92, GM72, dTGHC92, Han20]. **systems** [HG14, IS83a, IMC+10, IJV19, Jee58, JL90, KBM+99, KL70b, KT70, Kob71, Koe18, KBC+03, LDJ+10, LQRS04, LJV+07, LRH+02, MLWC20, MDJV08, Mar12, MBF+07, MCH+82, MN97, Mos61, NAB+15, NAN+18, PLK09, PK88, PBK+09, PPG+01, PMW06, Pon17, PAB+05, QGT13, RQBW08, RFB+03, RH90, RW59, Sar91b, SRL+11, SAA+18, SPP72, SSMGD10, SBP+03, STW+08, SSN+15, SHL+20, SR19, SCW10, SDS+18, Ste01, SN15, SV92, TWX+10, Tue76, VAB+13, VLP+05, VVHL16, VLB+09, Wal86, WNW+10, ZHP+18, ABD+92, CNV+15, Pic18].

T [BCSE89, FNRF89, FL89, HHB+89, KC89, Kat89, Kel89, KIF+89, Meh89, Mor89, VAB+05]. **T1** [Irv91]. **T1-rate** [Irv91]. **T10** [NFI+08]. **Table** [Ano57w, Ano57x, Ano57y, Ano57z, Ano58r, Ano58s, Ano58t, Ano58u, Ano12l, Ano12i, Ano12j, Ano12k, Ano13c, Ano13d, Ano14k, Ano14l, Ano14m, Ano14n, Ano15l, Ano15i, Ano15j, Ano15k, Ano16e, Ano16f, Ano16g, Ano16h, Ano17d, Ano17e, Ano17f, Ano18e, Ano18f, Ano18g, Ano18h, Ano19k, Ano19l, Ano19m, Ano19n, Ano20i, Ano20g, Ano20h, Kin61, CGS61, Nob95b]. **table-based** [Nob95b]. **Tables** [Cle65b, MY67b, Mye72]. **tabulating** [KSH+08]. **tackle** [KM20]. **Tactile** [DWGC85]. **Tagging** [Tar63]. **tagline** [RAMD19]. **Tailoring** [Fer75, SRD94]. **Tails** [CCE+88]. **taking** [HST06]. **taming** [ZBBB17]. **tandem** [BCH+16]. **Tantalum** [SM62]. **Tape** [BBKW86, BS70, CDS+86, DM03, FT77, Gre79, HPWW81, Kis03, LS75b, Pat85, SH57b, SH57c, Sko58, WCB+86, ABB+08, Bau72, BP88, BE03, BS03, CIE+03, EÖH10, FCH70, HYA03, ILH03, ICO71, Jaq03, Led71]. **tape-head**

[Led71]. **tape-recording** [ABB+08]. **tapered** [GZM92]. **Tapes** [BTW62, CTT66, PH74, TW74, Voi65, BD74]. **targeted** [PSD+17]. **Task** [Kan74, BGH+05]. **tasks** [AKB+17, BHW+17, EBB+20, Sar91a]. **taxonomy** [CCF+10]. **TCAD** [LMW+01]. **TCNQ** [Lew78b, Mer78, SGT78]. **TCP** [Bou97, NMF10]. **TDI** [Sch91, WYS92]. **Te** [Sui75]. **Te-substituted** [Sui75]. **Teaching** [NBM+19, KdAC+15]. **teams** [DYK10, EEM15]. **Technical** [Ano57k, Ano57l, Ano57m, Ano57n, Ano58j, Ano58k, Ano58l, Ano58m, Ano59f, Ano59g, Ano59h, Ano59i, Ano60i, Ano60j, Ano60k, Ano60l, Ano61f, Ano61g, Ano61h, Ano61i, Ano62f, Ano62g, Ano62h, Ano63f, Ano63g, Ano63h, Ano63i, Ano66s, Ano66t, Ano66u, Ano66v, Ano66w, Ano66x, Ano67w, Ano67x, Ano67y, Ano67z, Ano67v, Ano67-27, Bax58, DR08, Sam81, DCC+17, GHN04, Mar12]. **Technique** [BLLS79, HMW74, Han57, HWC75, MD65, Nus77, PH65, RHM63, RP66, Skl76, Wes78, van77, APOI92, EKTT90, FW67, HHA93, Hun71, KMK68, KO69a, LPPT86, Sit71]. **Techniques** [ÅC64, Aic84, Ber64, Bla59, Bla79, Bon64, BBH+67, BCRW82, Cha73b, GSVE83, Ken61a, Laf80, Llo67, LKL+81, MG62, Ode87, Par80, Smi57, SS87b, SSTF77, Tar63, Tro00b, Bag94, GRH+08, GCFW07, Hei80, JS00, KBF+92, LKFU05, MTF+95, McC69, NDM+04, OR92, Okt69, PBCC12, ST17, Sar91b, SWC+97, SLYR72, SPP+05, TGL+12, TG91, ZBBB17]. **Technological** [OO81]. **Technologies** [Att92, BNS15, CRH12, Cor18, GS80, Gon99, MT84, NNF15, Ser82, SW83, AEG+20, BGLM09, BKS+08, DAC+03, HNS+03, Law02, Rit13, Tag09, MVCW10]. **Technologist** [Mey03]. **Technology** [All81, Ana80, Ano19g, Ano19i, Ano20e, ABB+85, BSS82, Bal05, BMC86, BPS+96, BGK+80, BHWW77, BHWZ63, CKK+88, Che06, Che08, DHSC64, DHSC00, DR08, Des04, Don00, Eic18, Elm84, EHMW81, FHVZ80, Fle95, GHLW84, HW12, Hor93, Hor00, IK00, IBP+05, KGCS85, Kos15, KT84, Kua95, LMT84, LAG+84, LCB93, Lip92a, LSH79, Mat80, McG81, McG92, MTS84, Mey03, Mit94, NK81, Nun09, Pat18, PC85, PPS82, Pri07, RWL81, Sak79, STCR84, SGESR10, Tro80, Tsu80, vM66, ADG+95, ABB+00b, AFF96, ABD+92, BK76, BRB+01, BPS81, BWB+18, BWB+20, BE03, BCK+05, BKRF02, BR82, BGL+92, BL98, CDD82, Car81, CNG09, CIE+03, CDM92, CBC+18, CM90, CM00, CGN72, CCW+02, CCE+20, DWA+08, DEG+01, EK08, Eng03, FRS+18, FN71, FHSD06, FCE+15, FW08, GGRW91, GWRS90, HHSR96, HRC+08]. **technology** [How92, Isa00, IFB+11, JMM+96, KBM+99, KAB+05, KYY+08, KBC+03, Kuo92, Lar80, MAB+03, Mey00b, OR92, OB09, PSA+08, PMV15, PZK+03, PSW+07, PBK96, RBB+08, RB92, RGPP95, SHWK+90, SAT+08, ST17, SI09, Sha02, SvNH13, SPP97, SHSY90, SHSY00, Sta02, SRH+18, SKE+18, SHM+12, The00, TB00, VRA+09, WR00, WBS+18, YT16, AFP+01, SAPT01, TFR+01]. **Technology-migratable** [BPS+96]. **telco** [CDL+14]. **telecom** [MDMN10]. **telecommunications** [Mey00b, VAB+05]. **teleconferencing** [BBD+98]. **Telephone** [ABCR65, BM63, Hop61]. **Telephony** [Dav58]. **teleportation** [BHM04]. **teleported** [Per04]. **TelePOVM** [BHM04]. **Telescope** [Hud76]. **television** [AFFS98, SA98]. **TEM** [Wee72]. **Temperature** [Ano89, Bre60, BN63, CFH64, ESM16, GM62, GS84, GMT57a, GMT57b, Ker64, Lin67, Mee67, ODR70, Sie70, SST69, Swe62, van88, Bea90, CNC+95, Eme89, Fuj92, JWSP06, Kah71, Mey90, Mey00a, Okt69, Pai72, Pet89, SHWK+90, SN02, Sch89]. **Temperatures** [CS85, Cre58]. **template** [TYSS19]. **temporal** [AEG+20]. **tenant**

[KMM+16]. **Tennis** [BHP17]. **Tensor** [Ho66]. **terabyte** [CIE+03]. **Terascale** [FKL+08]. **Terephthalate** [Blu79a]. **Term** [FR60, GAC85, BBC+08, SSB+12]. **Terminal** [Cha75a, Sak79, BA69, Kon69]. **Terminals** [San83b, TL70]. **termination** [Lan66]. **Terms** [Esa62, Pli66]. **terrace** [SHTP11]. **Terrestrial** [ZS96, Zie96, Zie98]. **Test** [CW83, Doo83, EL80, EL83, GGKK96, OH74, Sch67, SW67, VTMB+90, BKP82, CPTW98, Fuj92, HBB+05, HMP90, HKR+97, KS90, KB06, LSF84, MTB+90, RB90, RH90, SWF+09, Sar91b, WLEF89, Won90]. **Test-Pattern** [EL80]. **testability** [Sta90]. **tester** [FKOP90]. **Testing** [BDWZ83, HO96, PW83, TC84, BTP+90, CAS+91, DDZ+07, FCH70, GWRS90, JPTW92, MKW+05, MPHC90, ORT+96, OCB+90, VWPB90, ZMM+96]. **tests** [Ibe03]. **Text** [Kin61, TSNF88, AAA+17, GGH+13, Irv89]. **text-oriented** [GGH+13]. **texts** [AC92]. **Textual** [CCFSZ12, MFL+12]. **TFT** [JPTW92, KSK98]. **TFT/LCD** [JPTW92, KSK98]. **th** [Kog59]. **Thallium** [GL62]. **Their** [Arm65, DG84, RS59a, Tro80, AO97, CCF+10, HK64, HA00, HBR85, HBR86, Jam89, Kum92, Lan60, Lud78, Sch96b]. **Theorem** [Dor60, Ode64, RS66, Shu94]. **theorems** [Mor73, Var19]. **Theoretical** [BT84, Coo62, FK62, Ken61b, Ku63, MP67, SB64, SM66, TC63, Wat60a, Wat60b, Gro59, Okt71, RR69]. **Theories** [Jon72, KJP11]. **Theory** [ARV64, Ast67b, BW81a, BBS78, BLR84, Bog79, DC73a, Dou62, FP73, Gar86, Gun69, HP63, Ho73, Hor57, IM57, Jon98, KO67, KP59, Lor70, LR65b, Mag73, Nes98, NB61a, Pip79, Pri59, Red57, RK75, RVV88, SS59a, Slo66, Tu75, Ung72, Ver88, Yas87, ZG65, Aas70, Bar62, Cha77, DCB77, EHLSW01, Gil60, GLS86, HBW70, KM73, MN03, MHI01, Mat03, May60, Mor73, Pai69, Pip81, Pri70, Riv87, Sch89, Str68, Wee72, WG19]. **Thermal** [BB82, CJT62, CN79, CS85, DS77, Jan69, Key65, Key70, Key71, LM85, LS64, Mah93, PC85, PW83, Rei66, San83a, SFD77, Str59, Twa85, WGC93, Bea90, BAV+09, BRB92, BSRM09, CGLL93, FGMPK05, GLCW93, HOWP92, Ibe03, ILH03, KLM+91, KS01, LD72, PHCM05, SCI05, VDP94, You90]. **Thermal-mechanical** [WGC93]. **thermal-to-plasma** [VDP94]. **Thermally** [Hem74, SGS+09, SST69]. **Thermally-Activated** [SST69]. **Thermionic** [VWJK11]. **Thermodynamic** [Jon60, Map62]. **Thermodynamics** [SI09, YHA71]. **Thermoelastic** [SMVK90]. **Thermoforming** [Fie65]. **Thermogravimetry** [DGB78]. **Thermomagnetic** [Hut74]. **Thermomechanical** [SJMBK08]. **thermoplastic** [ABR71]. **Thermostrictive** [KC66b]. **Thiacarbocyanine** [SCHL66]. **Thick** [JT66, MPST66]. **Thick-Film** [JT66]. **Thickness** [CC76a, PC64, HD73, PW68]. **Thin** [Bag94, BBG60, BBT79, Boy60, Cha62, CCH+96, CPTW98, DP59, DPW60, Die62, EGS60, FK60, Gar86, GM63, HM60, HCBA82, How92, JMM+96, JD67, Klo87, Kue90, KG63, Kum65, KM74, Lin67, McG92, MMT60, Mid62, Mid65, Mid66, MW67, Mid70b, NM65, Ove70, PGS+98, PDLM67, RSSS82, RK66, Ree59, SLK+97, Seg62, SBdF64, SSTF77, TY64, APOI92, AR98, BFH+93, CNS+99, DPW00, DM01, Fuj92, HBC+99, HRS+95, KC89, KFYU92, Kuo92, KOT99, LL98, LS72, MFPJ71, SHSY90, SHSY00, SGS+09, TSH92, TCCH98, Tho94, TTI98, TKK+92, WL73, WWA+98, You90, van89]. **Thin-Film** [HM60, HCBA82, JMM+96, PGS+98, SLK+97, AR98, DM01, Fuj92, HRS+95, KC89, SGS+09, Tho94, TKK+92, van89]. **Thin-Film-Transistor** [McG92, CPTW98,

How92, APOI92, KFYU92, Kuo92, KOT99, LL98, TCCH98, TTI98, WWA+98]. **thin-film-transistor-driven** [TSH92]. **Thin-film-transistor/liquid** [How92, APOI92]. **Thin-Layer** [Kue90]. **thin-line** [BFH+93]. **Things** [JS14]. **Thinking** [EMM+18]. **Thomas** [TFJ+96, WH94]. **THOR** [TWX+10]. **thoughts** [Poh95]. **thousand** [VDD+00]. **thread** [SKSP06]. **Threat** [WTT+14, HJW+16]. **threats** [CLH+16]. **Three** [AW76, BJS80, BMPS91, BRR79, CW85, Cov92, Far83, FHL+82, Gro76, HF78, Kar74, KAD+08, KW83, Sav70, TLS+06, Wym57, vKCD+10, ABG+95, Ano62d, Ano63e, BKB76, BS91, DSW71, MS89, Nef90, Sho04, Sto91, Tu90]. **Three-Beam** [BJS80]. **three-body** [BKB76]. **Three-Dimensional** [AW76, BRR79, CW85, Far83, Gro76, KW83, Wym57, BMPS91, KAD+08, TLS+06, ABG+95, BS91, MS89, Nef90, Sto91, Tu90]. **Three-Level** [FHL+82, DSW71]. **Three-loop** [Cov92]. **Three-Stage** [Kar74]. **Threshold** [Las63, MG63b, WS75]. **Thresholding** [WR83, Bar68]. **Through-silicon** [JGD+08, ATW+08, SAT+08]. **Through-The-Case** [Keh65]. **Through-The-Pins** [PW83]. **throughput** [DSRC98, NNMJ01, PGN88]. **Thyratron** [KK59]. **thyristor** [JS72]. **thyristors** [RR69]. **Ti** [HBL62]. **Ti-Mo** [HBL62]. **tickets** [AAA+17]. **Tiger** [Has98]. **tightly** [MDMN10, PBK+09]. **tile** [HM89]. **Time** [Bar73, BLLS79, BM68, BL86a, DR82, Esa62, GHW70, Gor65, Gri90, HLS81, Her75, Jam81, Laf80, MTW83, Net60, OO81, Ree69, SSL73, SY73, Sko58, Soh76, Thr65, Yet89, AKKJ72, ASR07, Ano71, Bev69, BFRT13, BISN+12, BL86b, CGM+15b, Coo90, Cre81, DSS+92, DL02, EGH+86, FN95, Fro71, FL69, Gra71, GHW+20, HKA+13, Kan15, Kar73, KZP03, KCH+09, LPMDG14, MDR+07, NMH+07, ODL+09, OOL+12, Osb93, PSD+17, Rei69, RR69, RMM03, RHC73, SMC+14, SSB+12]. **time-dependent** [AKKJ72]. **Time-Division** [Thr65]. **Time-Domain** [Gor65]. **time-of-day** [DSS+92]. **Time-optimal** [BM68]. **Time-Resolved** [BLLS79]. **time-series** [BFRT13, OOL+12]. **Time-Shared** [GHW70, SSL73, Ano71, Rei69]. **Time-Sharing** [Bar73, Cre81, FN95, FL69, Gra71]. **timed** [HBL+99, HBL+02]. **TIMEDIAG** [Wil97]. **TIMEDIAG/GENRAND** [Wil97]. **timers** [Mat98]. **Times** [Cha75a, FS88, Her65, Str81, BGK62, SS82]. **Timing** [HSC82, TAR84, BS95, BHD+05, MTB+90]. **Tin** [KDBT60, KT84, SM62]. **TiO** [KBS+99, CKG+99]. **Tips** [Fin86, Dus71, VDD+00]. **Tires** [SKK14]. **tissue** [PSP06]. **tissue-patterning** [PSP06]. **Titanate** [Cam57, DH57, Pen69]. **Titanium** [CKG+99, TDM+87]. **Tl** [BPL+89]. **Tl-Ca-Ba-Cu-O** [BPL+89]. **TOBEY** [Bla94]. **Today** [KGCS85]. **toggle** [Wor06]. **Token** [BS85, Str83, OCB+90]. **Token-Access** [Str83]. **Token-Passing** [BS85]. **token-ring** [OCB+90]. **Tolerance** [PL83, CTS+92, NBF+16, Sch96a, SG99, Sta89b, Sta89c, TSC91]. **tolerances** [SJ89]. **tolerancing** [JS89, SJ89]. **Tolerant** [Aic84, Com83, BKRF02, Cov92, SHL+20, CR84]. **Tomographic** [PL81]. **Tone** [MN67a, HHSW01]. **Tool** [Elm84, ABL+84, ACM01, Bal91, BDS+97, GHP+93, Jee58, Osb93, PS91, SLC+97, SPS+06, TWX+10]. **toolkit** [BDH+19, KKL+14, MD12b]. **Tools** [KGCS85, IBM13c, BH11, BDHH+09, DBB+02, MLWC20, MSW+05, Moi91, Tan08]. **Top** [Tod78b, Man90, SON+91]. **TOP-1** [SON+91]. **top-down** [Man90]. **Topic** [Ano93h]. **Topical** [MT84]. **topography** [HS71, Seg68]. **Topological** [Gun69, NS92, VLKW14, Aas70, RW59].

topologies [ST89]. **Topology** [Kuh60, Dic91, MWL+14]. **Torque** [Abb66]. **Torsional** [Pet80, Sat63]. **torus** [ABC+05, Adl87]. **TOSCA** [BBG+14]. **total** [Rab69]. **Touchless** [SIKdL16]. **Toxicity** [RL70]. **Trace** [Hei94, BGW91, SLC+97, BCCK92]. **Trace-directed** [Hei94]. **trace-driven** [BGW91]. **traceability** [LZZ+16]. **Traces** [FR60, APRS16, HHR99]. **Tracing** [BDHH+09, WNBP91]. **Track** [Hoa61, KMH82, Hoa00]. **Track-Density** [Hoa61, Hoa00]. **tracking** [RSS+15, RMR94]. **Tradeoff** [BDMW81]. **traditional** [HG14, SNP06]. **Traffic** [Cha67, HF91, Kar74, BSY+15, OIM+13]. **training** [CGM+15a, CFP20]. **Trajectories** [BJ67, Lev66, Tay79, CPvR00]. **Transaction** [Woo87, OYHSB14]. **Transactional** [LGW+15, OWG+13]. **Transactions** [AGH+16]. **transceivers** [TJHK03]. **transcription** [HKD06]. **Transducer** [Abb66, BCRT74, Bra75, TT75]. **Transfer** [CH74, CS85, FB78, Gom86, Gra80, Hud63, Kau81, Lik88, PC85, Rem67, Roe66, Sch62a, SS78, Sea57, Twa85, Bou97, DH69, DG93, HCL72, IMC+10, Led71, MKJM93, PMS+08, RK72, Sun06, Var89]. **Transform** [AC86, Bla79, Dan66, Har71, Kri82, Mas97, Bra94, Kri82]. **Transformation** [BNS15, FL76, MLWC20, NNF15, SR63, CRH12, CDS+19, HMP+11, KRTN+12, MBB+20, OB09, Sha12, UDP+12, Vay12, WBT+10, San12]. **Transformations** [DJBT81, DDDKW12, Ros00, Sar97]. **Transformer** [TK64]. **Transforming** [GAB+08, SHM+12, WAB+09]. **Transforms** [AS87, Coo82, Nus76b, Nus77, Lew75, Nus76a, NQ78]. **Transient** [AGAP63, BH82, Gru79, HS61, vS57, BGL66, SG71]. **Transients** [Loy79]. **Transistor** [CW85, Cre58, Dun57b, FFH64, Ken61a, KO69b, KO70, KGCS85, LV67, MM75a, McG92, Rut57, Str59, Wal57, vS57, BGL66, CPTW98, DMR+81, FAFL91, Fuj92, GAOD71, HRG80, HS71, KM73, KFYU92, Kuo92, KOT99, LL98, SLYR72, TSH92, TCCH98, TTI98, Won02, WWA+98, ZCK71]. **transistor/liquid** [APOI92, How92]. **Transistors** [DS70, Gau77b, Gau77a, Gil79, KMO64, Mag73, Rei66, RS59b, Wol70, CDS73, CDS00, Dha68, DM01, FLB+19, GOVC71, HF90, MTH71, TWF90]. **Transition** [AW62, AOR62, BBT60, BBG60, BFT79, Dui59, Fre70, KMB+08, Ree59, RM70, Tri58, TT74, SN98]. **transition-metal** [SN98]. **Transition-metal-oxide-based** [KMB+08]. **Transitions** [Cle81, DH57, LeB62, SM62, Whi70, MP81, VDP94]. **Translating** [MS89]. **Translation** [CERS76, KLS66]. **translational** [EKR87]. **Translator** [DO86]. **transliteration** [AFCB94]. **Transmission** [Ber64, CDH64, Cro70, God74, Gru79, GC81, GM63, HO75b, Hop59, Hop61, Kob70, Mul67, RP70, Roe66, SFH65, WF83, WC75, Bra68, CN71, DKR+90, DSRC98, HRW69, Hip70, Ho73, HS71, Irv91, Lan60, Mel60b, MHK+11, PR71, RWP16, Ros00, Tho70, TTI98, Wee72]. **Transmission-Line** [Ber64, Wee72]. **Transmitter** [Sha58b]. **Transmitters** [CN74]. **Transparent** [DO74, PC64]. **transparently** [Irv01]. **Transport** [BS64, FWW88, FP83, Fre70, HK64, Kle64, MNR86, NBRB70, Pen88, Pri73, Sch62a, Tof88, WCB+86, Von70, AF99, ALH95, BZ06b, CP72, KLE71, LG88, LDSA02, RT99]. **transportation** [BSY+15, BCE+07]. **Transverse** [Mag73]. **Transversely** [Che64, CS65a]. **Trap** [Boe69]. **Trap-Controlled** [Boe69]. **Trapped** [Cro57, DYHS78, RRB+01]. **Trapped-Flux** [Cro57]. **trapping** [Shi73]. **Traps** [YDHS78, RG90]. **trauma** [FSG+73]. **Travel** [DWGC85]. **Traveling** [HHJW84, Ray69]. **traveling-salesman** [Ray69]. **Travelling** [Gun66b]. **Traversal** [BL86a, BL86b]. **Treasury** [HS14]. **treating**

[Lei61]. **Treatment** [Jon60, MD12a, OMA+96]. **Tree** [HY84, CHG04, LT95]. **Trees** [Luk74, Rio60, Rot60a, Ris73, RW59, Rot60b]. **Trefftz** [BS72]. **Trends** [GGK+13, LAG+84]. **Tri** [Tri58]. **Tri-Glycine** [Tri58]. **triangulation** [Kep75]. **triazine** [GA88]. **trigonometric** [Fil70]. **Trihydride** [Pan78]. **Trimmed** [Far87]. **Trimmed-Surface** [Far87]. **triplate** [HRW69]. **Triple** [Hal60, LV62, CJM96]. **Triple-Modular** [LV62]. **triplet** [Hun71]. **trouble** [RWB+10]. **Troubleshooting** [CFP20, MWX+17]. **True** [LBB+13, AKE+92]. **TrueNorth** [MYKK+17]. **trust** [ABH+19]. **trustable** [SR19]. **Trusted** [BCG+09]. **TTL** [DTTK95]. **TTL-compatible** [DTTK95]. **Tube** [LD74]. **Tubes** [HMR82]. **tunable** [HDK+11]. **Tungstate** [MVB62]. **Tungsten** [KEJ87, PCDW78, VWJK11, YAJ90]. **Tuning** [Log70, SHCS05, AAB+10]. **Tunnel** [AFR62, BKM80a, BMWL80, CSE66, CPZ63, DPR86, Esa62, Gef88, IBC64, Lik88, Mar60b, MT64, NM62, Rut64, Ano06c, BC00, GP06a, JWSP06, Mos61]. **Tunnel-Diode** [AFR62]. **Tunnel-Diode-Coupled** [MT64]. **Tunnel-Distance** [DPR86]. **Tunneling** [AMGC86, APS86, Ano86c, BMC86, BL86a, But88a, CW86, CP86, DHTW86, EBd+86, FF86, Fin86, FS88, Gar86, GH86, Gom86, Han86, HBR85, KJ86, KWB88, Lan86, Poh86, PR59b, SB86, SSN+62, THv70, WKB+86, vv86b, BNT86, BR00, BL86b, Dür94, HBR86, LBT99, Sto91]. **tunnelling** [ZG71]. **Tunnels** [Mar79]. **Turán** [MR72]. **turbulence** [BS91, FKL+08]. **turnaround** [ATW06]. **Tutorial** [Str83]. **tutoring** [SN15]. **TV** [CIJ+10]. **Twisted** [HL83, LJ92]. **Twisted-Pair** [HL83]. **Twitter** [MNWH20, SPB+17, VMAB18]. **Two** [Ano60h, BBH+67, BH79, Cal81, CA84, FL59, GON+06, Gar64, Gau77a, GHP+85, Hau67, HA58, KO69b, KO70, Le 62, LC80, Loy79, OHM+85, Pat89, RS67, Rut57, She59a, Sta67, TSC91, WRG99, Zwe65, Ano66g, Ano66h, Ano66i, Ano67j, Ano67k, Ano67l, Ano67m, Boh73, BS91, Fra89, Gla97, Her72, KM68, LKY80, LGBV17, Nef90, RS66, Sav69, Sta73, Van97]. **Two-Collector** [Rut57]. **two-cycle** [Van97]. **Two-Degree-of-Freedom** [Hau67]. **Two-Dimensional** [Gau77a, GHP+85, KO69b, KO70, LC80, OHM+85, Zwe65, BS91, Her72, KM68]. **Two-level** [GON+06, Pat89]. **Two-Parameter** [FL59, Sta73]. **Two-pass** [WRG99]. **two-phased** [LGBV17]. **Two-Photon** [BH79, Gar64, Loy79]. **Two-Point** [RS67, RS66]. **Two-Queue** [Cal81]. **two-seller** [Sav69]. **two-step** [Gla97]. **two-user** [LKY80]. **Two-Way** [She59a]. **Type** [CEHL78, CW91, DWGC85, FP69, GGRW91, Haj91, KO69b, Kuz70, NHH91, PL79, Sar91b, SV91, TSC91, CTS+92, CH82, FA70, GSG+90, HMM82, MN67b, MKW+12, Vur70, WS72]. **type-piece** [WS72]. **typed** [Bei92]. **Types** [Cas60]. **Typewriter** [ABB+85, BR81, May85]. **Typing** [MKW+12].

U [KMC+11]. **U-Compare** [KMC+11]. **U.S.** [BHP17]. **UHV** [CW86]. **ULSI** [AHW+99, CNS+99]. **Ultra** [ZG71, RH90]. **ultra-high-frequency** [RH90]. **Ultra-high-speed** [ZG71]. **Ultrafast** [JWL82]. **ultrahigh** [Mey90, Mey00a, PSA+08]. **ultrahigh-density** [PSA+08]. **ultrahigh-vacuum** [Mey90]. **ultrahigh-vacuum/chemical** [Mey90]. **Ultralow** [HZB+06, MAB+03, GAOD71]. **ultralow-capacitance** [GAOD71]. **Ultralow-power** [MAB+03]. **Ultralow-voltage** [HZB+06]. **Ultrasmall** [Lik88]. **Ultrasonic**

[Mor62, PL81, CMR72, Dus71, Far82]. **Ultrathin** [Buc99a, Luc99, RF78, ABC+99a, GLG+99, LBT99, MFS+11]. **Umpire** [BMD+20]. **Unbounded** [Low74]. **unbuffered** [HF91]. **uncertainty** [KKL+14, WAC+16]. **Uncovering** [CLH+16, HvKI+09]. **under-resourced** [GHH+17]. **Underdamped** [RVV88]. **underdetermined** [PPG+01]. **Understanding** [AWK20, Emm97, HCG+13, LHS+17, LL98, MNWH20, YBF+14, FSG+73, KAF+16, Kit89, PSD+17]. **Underwater** [Bei74, HKA+13]. **Undetected** [HDBR08, SH57b, SH57c]. **undirected** [Ari69]. **unfolding** [ZEH+08]. **Uniaxial** [KG63, Kum65]. **Unification** [BKU88, Bei92]. **Unified** [CAE+76, FBG12, KKL+14, YSH12, CBD+09, MSV14, Nob95b, MBA+12]. **Uniform** [CT76, Gru79, Par60, SHTP11]. **Uninterpreted** [CA84]. **Uninterruptible** [Ste01]. **Unique** [Kum92, CCE+20]. **uniqueness** [Bil72]. **Unit** [FB78, GS82b, OG87, Ser82, WRLA57, AEGP67, BGAJ94, CBB+05, EV93, GWS+04, HFH94, HM90, JO96, MHR90, SSM97, SK99, Tho70]. **United** [Irv93]. **Units** [Tom67, ADS72, HSL+05, SG94a]. **universal** [Bla84a, Bla84b]. **universes** [GRS13]. **University** [Wie58, RCH+86]. **UNIX** [KPT+02]. **Unstable** [BFT79]. **unstructured** [AAA+17]. **unsupervised** [BSRG17]. **unusual** [PL20]. **UP-US** [Kuz70]. **UPC** [Bra80]. **update** [CNSS12]. **upgrade** [MVI+07, PVAK02]. **upon** [HP01]. **upset** [GRH+08]. **upsets** [HRC+08]. **Urban** [BH11, BMS+17, TPTH20]. **URL** [VNT16]. **usable** [BBK+16]. **usage** [CHM+16]. **Use** [Bla63, DW58, DB82, FL69, Hor62, Kon69, LV62, Mas97, Oht95, SSL73, Spr61, Swa57, WN92, BO69, BDHH+09, CWC95, FKK+03, MBF+13, MOG+19, MS05, Oka69, SPP72, Sha12, CASP91]. **Used** [BBT83, DWW90, ESA02, Gor63, HHSW01, HHA93, ILH03, KLS+05, RWM+05, Vie86]. **useful** [PK88]. **usefulness** [KLHW16]. **User** [CN18, Elm84, LG78, Laf80, ASR07, CJK+13, KBJ+18, LKY80, Pon17]. **User-Computer** [LG78, Laf80]. **User-generated** [CN18, KBJ+18]. **User-Reconfigurable** [Elm84]. **user-reported** [Pon17]. **users** [AKNR10, HHC+18, Kum98]. **Using** [ÅC64, AAF+09, BBMR19, Bar80, BBHS84, BHP17, Ber64, BDH83, BCH84, CD78, DG84, FF73, GSVE83, Gha75a, God74, GMS05, HMP+11, Hud63, Jel69, Kog57, Kog58b, Kog58a, Kog59, Kra81, LB85, Mar64a, MHR+15, MPST66, NGMW57, Nus76b, PLHJ70, RS85, RWC80, Rut59, Sam59, Sam67, Sch80, SS61, SLLP64, SW86, Spr63, Tod78a, Tod78b, Ull65, Voi65, VRA+09, YCJ+17, Zwe65, vS57, AKB+17, AGZ94b, AGZ94c, AEG+02, ADG+92b, Bag94, BDMN14, BNW99, BKRF02, BSRG17, CLP+13b, CDD+10, CFP20, CNC+08, CNP+15, CHG04, DKAC67, DB01, DR93, DAUS91, DMR+81, EHLSW01, FKL+08, Fla91, Gam72, GAJ+16, GHW+20, dTGHC92, Gus03, HMOS81, HMO81, HDK+11, IS20, JWSP06, KCML13, KLMV19, KWT+11, KACS95, LB07, LQRS04, LCL+98, MTF+95, MYKK+17, MHI01, Mat03, MN97, MNWH20, MKW+12]. **using** [MBK+15, NFS+17, NRA+07, Nii95, NSOO98, NBM+19, PL20, RRMD17, RG90, RG09, Sam00, SP17, SHCV19, SXW+13, SvNH13, TMS98, TYSS19, TAE+07, Tib93, Wil97, YBF+14, Yas07, YMR14]. **utilities** [SLK+16, TCP+16]. **utility** [KAF+16]. **utilization** [ADG+05, VLB+09]. **utilizing** [Vin81]. **UV** [Lin76].

V [CFG64, Fuj92, Gun64, HBB99, KSF90]. **V256** [JZ91, SWB+91]. **Vacuum** [Ahn66, Cas60, CP86, Ham78, O'H78, AF68, Mey00a]. **Vacuum-Deposited**

[Ahn66, O'H78, AF68]. **vacuum/chemical** [Mey90, Mey00a]. **Validation** [ST75, WZ78, Wes78, CBD+09, DSW71, SBP+03, IBM13c, ZHP+18]. **Valley** [Adl64]. **Value** [Lom80, Pim76, RS67, BS71b, CP72, Don69, HS11, Mat03, RM09, RS66, RMM03, WCK+07, UDP+12]. **Value-Oriented** [Lom80]. **valued** [Di 88, GA68]. **Values** [Lom76, NBM+19, OD17]. **Valve** [SW98, SST+98, SS00, TFL+98]. **valves** [CU98, RDD+98]. **VAMFO** [PW68]. **Vapor** [AO60, BC60b, BC60a, BC60c, GBC65, GM60, IM60, KEJ87, LD74, Mar60a, Mar60b, OMAW60, Bea90, CNC+95, CNS+99, GMP90, Mey90, Mey00a, Ngu99, Tis90, YAJ90]. **Vapor-Grown** [AO60, BC60b, BC60a, BC60c, IM60, OMAW60]. **Vapor-Phase** [GBC65, Tis90]. **vapour** [SR71]. **variability** [BFG+06]. **Variable** [AO60, FLCB85, Ins77, NW64, BGK62, Gus97, MRG99, OCR+98, PW68, WRG99]. **variable-bit-rate** [MRG99, WRG99]. **variable-reluctance** [OCR+98]. **Variables** [BJMO80, Lat73]. **Variance** [Hei80]. **Variation** [AW62, BBT60, Bre60, FB78, Lan88, Lan57, Lan96, Lan00b, WN92]. **Variational** [Hoh78]. **Variations** [Sta85b, Twa77]. **Various** [Fle58, LL83]. **Vatican** [MBC+96]. **vault** [SHL07]. **VCL** [VRA+09]. **VCSELs** [KACS95]. **VDL** [Luc81]. **Vector** [ACG+86, MNR86, OG87, SV91, ACG+87, Dic91, Gsc16, RSS91, SdS89, Tol97, AC86, GRSW86, RV89]. **vector-scalar** [Gsc16]. **Vectorgrams** [Pic87]. **Vectorization** [LKFU05, JN82]. **vectorized** [WNBP91]. **vectorizing** [SK86]. **Vectors** [OG87, CW58]. **vehicle** [DXZS13]. **vehicles** [KMO+14, MMJ69]. **Velocities** [Mid66]. **Velocity** [Adl64, Gun69, PW67, Aas70]. **Venice** [Gam72, SCRV78]. **VEPC** [GCPVG85]. **Verification** [CLOR87, CM98, DB69, HL77, Lew80, Lew83, MM82, Mon82a, WAB+05, BGW+04, BS95, GMS05, GBRJ05, HAMC+04, KKS02, KMA+20, KKM02, KWH+12, KBG+09, KAB+12, KSL95, LRH+02, RT99, SBF+97, SHR+09, SRL+11, SLA+15, SAA+18, Sou96, TAE+07, TFL82, Van97, VMG99, VLP+05, Wil97, WMH+97]. **verifying** [SNA02]. **Verity** [KSL95]. **Versatile** [DHSC64, DHSC00, FGC92, IJV19]. **Version** [Aus90, CMR+90, Kru84]. **versus** [HG14, Mat03, RS94, RC17, Swa60]. **Vertical** [Ost84]. **Vertically** [OKH+02]. **Very** [KJMS67, Mer88, Kum98, Pat73]. **Very-High-Speed** [KJMS67]. **Very-Large-Size-Dictionary** [Mer88]. **Vestigial** [CDH64]. **Vestigial-Sideband** [CDH64]. **VHF** [CCM65]. **VI** [CFG64]. **via** [BMF+16, CJH+15, CGLL93, GLCW93, GJ00, KMH82, MBT19, Nus76a, PSD+17, WNBP91]. **Vias** [LHW81, ATW+08, JGD+08, SAT+08]. **Vibrating** [BP75, Hau67, Rat68]. **vibration** [AL76]. **Vice** [Don00, Pic18, San12, Age04, Age05, Age08, Bal05, Che06, Che08, DR08, Des02, Des04, Mey03, Nun09, Pea09, Pri07, PS09, Pul07, Viv14]. **Vicinity** [FK62, Ku63, RE71]. **Victim** [FLMKS06]. **Victor** [SWB+91, JZ91]. **Video** [Bar68, BYY98, Kum98, BNW99, GYK99, MRG99, SA98, SCC+15, WLKS98]. **Video-server** [Kum98, SA98]. **View** [AMG+87, Coh87, CRDI07, LR97, MBK+15, Riv87]. **Virtual** [Bar75, CFL73, Dub72, Gha75b, Gum83, Kis03, LQRS04, AAM+07, BCG+09, Hat72, JWZ+09, KKM02, SSMGD10, Tue76, VDO14, JS89]. **Virtual-Memory** [Bar75]. **virtualization** [AAF+09, AAB+05, AA18, ABB+15, GKT17, MBA+12, SAB+07]. **virtualized** [BGS13]. **Viscoelastic** [Bau72, BP88]. **visibility** [BCH+16]. **vision** [AKG+19, Kis96, ODL+09]. **Visual** [ATC+15, BSY+15, BL15, Far91, FAFL91, LSW13, BHW+17, GSC12, Kan15, KMGD19, SS15]. **Visualization**

[DeM91, OOL+12, PMW06, WNBP91, Bal91, BBPS91, BMPS91, DAUS91, DRSM15, EWBR09, KN91a, KN91b, Moi91, MNWH20, PB89, PWFB91, Sto91, TG91, YBF+14]. **visualizations** [EEM15]. **Visualizing** [SZ91, WT91, YR91]. **visually** [AKNR10]. **Viterbi** [Nob95b]. **VLIW** [MME+97]. **VLSI** [AEZ84, ATL+88, BFH+93, CT82, CB85, Dan81, DeM91, ESHM95, Elm84, FKOP90, FHL+82, GRS87, GT80, GPL+92, HW87, LKL+81, MCAW95, ML82, MM82, MTW83, RBB+02, RH90, Sar91b, SG95, Sec95, SP90, SMD80, SCM+82, Sta89b, Sta89c, Sta90, SGC+87, TFL82, Tro80, VTMB+90]. **VM** [Bar78, Cre81]. **VM/370** [Bar78, Cre81]. **VMX** [EWT+07]. **Vocabulary** [DFM+88]. **vocational** [CGM+15a]. **Vocoder** [Rot66b]. **Voice** [GCPVG85, KLS66, Cor69, Nob95b]. **voice-band** [Nob95b]. **Voice-Excited** [GCPVG85]. **voiding** [HRS+95]. **VoIP** [ZCLS10]. **Vol** [MHI98, SW98]. **volcanic** [PB89]. **vols** [Ano93c]. **volt** [BBH+95, SWC+95]. **Voltage** [Gau77a, Gef88, MPD86, ON60, Rei66, SS78, WS75, BBH+95, HZB+06, NHKI03]. **Volume** [Ano92a, Ano92h, Ano94a, Ano94b, Ano94t, Ano94u, Ano95a, Ano95l, Ano97j, Ano98a, Ano98l, Ano99a, Ano99i, Ano02a, Ano02b, Ano03a, Ano03b, Ano05a, Ano05d, Ano06a, Ano06d, Ano07a, Ano07b, Ano08a, Ano08c, KN91b, SAT+08, Ano97a, Ano00a, Ano00j, Ano01a, Ano01o]. **voluntary** [LRNS17]. **Voronoi** [MS87, SN87]. **vs** [DG93]. **vulnerabilities** [GDB16].

W [FvGGM90, Sta75, Win78]. **Wafer** [KYY+08, Sta85b, GBB+05b]. **Wafer-level** [KYY+08]. **Wafers** [PH79, Sta87, Seg68]. **walk** [LT95, SM71]. **Wall** [DKAC67, Mid66, MW67, PW67, Slo66]. **Walls** [Fre79, MMT60]. **Walsh** [Hor76]. **Wang** [Ber76a, Wie76]. **WARM** [BR82]. **Warning** [Tod78b]. **washout** [AKKJ72]. **Waste** [VGC79, Fre72]. **Water** [LD74, BBMP92, BRB92, BR09b, DGG+92, ESM16, KEKP20, SPP72]. **water-cooled** [BBMP92, BRB92, DGG+92]. **water-soluble** [SPP72]. **Watson** [TFJ+96, WH94, ESI+12, Fer12, LPM+12, Lew12, MIL+18, MMB12, TGL+12, VPV+19]. **Wave** [Bay69, BT84, CS65b, GS82a, GM63, Mir60, WS64, HM89, Mir61, Tur69]. **Waveform** [JZ91]. **Waveform-relaxation** [JZ91]. **Waveforms** [Gaz78]. **wavefront** [LHJ69]. **Wavefunctions** [MY67b]. **waveguide** [BGO03]. **Wavelength** [HHM66, PSH80, RFK+97]. **Waves** [MM64, Lan60]. **Way** [She59a]. **WCDMA** [RFB+03]. **Wear** [BS71a, BS78, Bay78, CEHL78, Pol78, Ros78]. **wearable** [WSCK17]. **Weather** [Low78, TPC+13, TCP+16, TPTH20]. **weather-driven** [TPTH20]. **Weaver** [KRD+14]. **Web** [AKNR10, BBD+98, HSS+10, KFH+06, Oha10, VTC09]. **Web-delivered** [HSS+10]. **Web-enabled** [BBD+98]. **Wedekind** [Ber76a, Wie76]. **Weight** [Hsi70, Ris73]. **Weighted** [Smu57, WLEF89]. **welding** [CMR72]. **wellness** [CPCC18]. **Western** [Sti79]. **Wet** [LV94]. **Wet-process** [LV94]. **WF** [YAJ90]. **Which** [Lew83, Ost84, Wyn64]. **while** [MWL+14, RMM03]. **White** [VG74, LS72]. **whole** [LQRS04]. **Whose** [Knu90]. **Wide** [MPD86, Gra69, KSB07, RBB+11]. **Wide-Range** [MPD86, Gra69]. **wideband** [PR71]. **Widely** [Bra72a, FW67]. **Width** [BKM80b, PL83]. **Widths** [FR60, SAL63]. **Wildfire** [NG17]. **wildland** [PKXK07]. **wildlife** [FNS+17]. **WiMAX** [CDD+10]. **window** [Bar86]. **Wire** [Don81, HL83, Lin84, MW80b, CH06, FXB+10, HHSR96]. **wire-speed** [FXB+10]. **Wireability** [KMH82]. **wired** [Mey00b]. **Wireless** [LSZ+10, CS03, JGD+08, KBC+03, Mey00b, WP11]. **Wires** [Pre66]. **Wiring** [CB85, Don80, Elm84, FHL+82, KMH82,

LHW81, LCHL95, SP90, WGC93]. **Within** [Sta84b, AAJ14, Irv01, Ito97, Ito00]. **Woodger** [Dun57a]. **Word** [Bla59, Bla88, BHWW77, FP57, KT66, May81, BR82]. **Words** [FZ88]. **Work** [Men62, Mic78, Pol78, SC81, Dun57a, KJP11, LFR05, RDL19, VLKW14]. **work-function** [KJP11]. **Work-Hardening** [Pol78]. **worker** [GHH+17]. **workers** [NRA+07]. **workflow** [KMC+11]. **Workforce** [LSS14, NRA+07, CDG+10, GCFW07]. **Working** [Bry75, Gha75a, GMR10]. **Workload** [AAS+14, BHH03, Gsc16, LDJ+10, FAJ+94, GBK+19, RLP14]. **Workload-based** [BHH03]. **workload-driven** [GBK+19]. **workloads** [BBB+20, HCG+13, SM16]. **workplace** [DB20]. **Workshop** [Ano86c, Ano89]. **workstation** [SON+91]. **workstations** [PZGL91]. **World** [Whe88, BB09, Gri04]. **worldwide** [CNG09, MBC+96, SKK14]. **worrying** [Mer04]. **Worst** [Cve87b, KGF77]. **Worst-Case** [KGF77]. **Wrap** [Lan63]. **wrinkling** [SGS+09]. **Write** [Sch85, ILH03]. **writer** [Ono93]. **Writing** [Hut74, Ost84, WPH69].

X [Arc93, BM93, COC61, CNH73, CHL+11, Col69b, GHP+93, GC93, HS71, Hua79, JS00, KKS+73, KWT+11, LL93, RSL+70, RF78, SF93, See93, Seg68, SMVK90, SRO93, SS93, Spi93, SN98, SA00, War93, WSK+93, Wil93]. **X-PEEM** [CHL+11]. **X-ray** [Arc93, GHP+93, GC93, JS00, LL93, SF93, See93, SMVK90, SRO93, SS93, SA00, WSK+93, Wil93, COC61, Hua79, War93, BM93, CNH73, Col69b, HS71, KWT+11, RF78, Seg68, Spi93, SN98]. **X-Y** [KKS+73, RSL+70]. **X.21** [WZ78]. **Xe** [BKB76]. **XIVE** [AA18]. **XL** [Sar97]. **XMCD** [YTF+11].

YBa [BH89, CDM89, MRH89, vHv+89]. **YCu** [GSG+90]. **years** [BS03, Wil93]. **Yevick** [HBW70]. **Yield** [Mei83, SMD80, Sta84b, Sta86, CHL+11, Sta76, SCM+82, Sta89a, Sta00]. **Yields** [Doo83]. **YIG** [GDR70]. **YODA** [GBS+87]. **York** [SHC+72]. **Yorktown** [DO86]. **Young** [KRC68]. **Young-Laplace** [KRC68]. **youth** [YCJ+17].

Z [PS09, BBC+12a, CAC+13, Pri07, Sur15, BMM+20, CHJ+18, JSM+18, Mau18, Mau20, MBB+20, RBL+18, VCM+20, vBBE+02, PERW02, SKS+20, WMK+07, WCK+07]. **z/Architecture** [PERW02]. **z/CECSIM** [vBBE+02]. **z/OS** [SKS+20]. **z10** [ABG+09, BAV+09, CCD+09, CAD+09, HTH+09, JWS+09, KKB+09b, KBG+09, MWS09, MC09, SWF+09, SHR+09, SKC09, SBDT+09, TBB+09, TBS09, WHK+09]. **z13** [ACD+15, ABB+15, BHH+15, CCC+15, CAK+15, CJB+15, KDG15, Kos15, MCG+15, SKP+15, SLJ+15, TBG+15, TCK+15, WMB+15, WBW+15, WLB+15]. **z14** [SKE+18, BAB+18, BWB+18, BCS+18, EMM+18, Eic18, JSR+18, KDT18, MBB+18, MDN+18, WHC+18, WBS+18, ZDB+18]. **z15** [Ano20e, BWB+20, BBB+20, KMA+20, KTD20, SRJ+20, SKS+20, SLP+20, WLS+20, WMK20]. **z196** [DEH+12, SBC+12]. **z9** [RFC+07, ADH+07, AHM+07, BCF+07, DDZ+07, HDW+07, MDR+07, OHK+07, PSW+07, TAE+07, ZST+07]. **z900** [AFM+02, BEK+02, BHK+02, vBBE+02, CCW+02, GE02, HPW+02, HBL+02, KKS02, KKM02, PVAK02, SCS+02, SNA02, SAB+02, SBC+02, VWE02]. **z990** [CBB+04, AEH+04, BGW+04, FCS+04, GWS+04, GKMP04, KBF+04, PBC+04, SGK04, SPM04, SvBC+04, WBH+04]. **zAAPs** [WCK+07]. **Zachman** [RD12]. **zBX** [VOW+12]. **zEnterprise** [BBC+12b, GCS+12, GMS+12, KWH+12, YSH12, ABB+12a, ABB+12b, HW12, KAB+12, MLMP+12]. **Zephyr** [AKE+92]. **Zero** [Lan63, MTW83,

Pat75, Pet77, BSRM09, HM90]. **zero-emission** [BSRM09]. **Zero-Modulation** [Pat75]. **Zero-Time** [MTW83]. **zHyperLink** [CHJ+18]. **Zigzag** [Fre79]. **zIIPs** [WCK+07]. **Zn** [CCD57, Tit63]. **ZnTe** [MC68]. **Zr** [HBL62]. **zSeries** [ABE+02, BBF+04, BEE+02, HF04, WYTO04].

References

Anantha:1971:PMS

[AA71] N. G. Anantha and K. G. Ashar. Planar mesa Schottky barrier diode. *IBM Journal of Research and Development*, 15(6):442–445, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Auernhammer:2018:XEI

[AA18] F. Auernhammer and R. L. Arndt. XIVE: External interrupt virtualization for the cloud infrastructure. *IBM Journal of Research and Development*, 62 (4–5):5:1–5:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8383690/`.

Agarwal:2017:APE

[AAA+17] S. Agarwal, V. Aggarwal, A. R. Akula, G. B. Dasgupta, and G. Sridhara. Automatic problem extraction and analysis from unstructured text in IT tickets. *IBM Journal of Research and Development*, 61(1): 4:41–4:52, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877279/`.

Armstrong:2005:AVC

[AAB+05] W. J. Armstrong, R. L. Arndt, D. C. Boutcher, R. G. Kovacs, D. Larson, K. A. Lucke, N. Nayar, and R. C. Swanberg. Advanced virtualization capabilities of POWER5 systems. *IBM Journal of Research and Development*, 49(4/5):523–532, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/armstrong.html`.

Altman:2010:OTJ

[AAB+10] E. Altman, M. Arnold, R. Bordawekar, R. M. Delmonico, N. Mitchell, and P. F. Sweeney. Observations on tuning a Java enterprise application for performance and scalability. *IBM Journal of Research and Development*, 54(5):2:1–2:12, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alba:2014:EAS

[AAB+14] A. Alba, G. Alatorre, C. Bolik, A. Corrao, T. Clark, S. Gopisetty, R. Haas, R. I. Kat, B. S. Langston, N. S. Mandagere, D. Noll, S. Padbidri, R. Routray, Y. Song, C. Tan, and A. Traeger. Efficient and agile storage management in software defined envi-

ronments. *IBM Journal of Research and Development*, 58(2–3):5:1–5:12, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Amrein:2016:SII

[AAB+16] A. Amrein, V. Angeletti, A. Beitler, M. Német, M. Reiser, S. Riccetti, M. Ph. Stoecklin, and A. Wespi. Security intelligence for industrial control systems. *IBM Journal of Research and Development*, 60(4):13:1–13:12, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523351/`.

Almasi:2005:DIM

[AAC+05] G. Almási, C. Archer, J. G. Castaños, J. A. Gunnels, C. C. Erway, P. Heidelberger, X. Martorell, J. E. Moreira, K. Pinnow, J. Ratterman, B. D. Steinmacher-Burow, W. Gropp, and B. Toonen. Design and implementation of message-passing services for the Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 49(2/3):393–406, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/almasi.pdf`.

Antoniadis:2006:CMP

[AAC+06] D. A. Antoniadis, I. Aberg, C. Ní Chléirigh, O. M. Nayfeh, A. Khakifirooz, and J. L. Hoyt. Continuous MOSFET performance increase with device scaling: The role of strain and channel material innovations. *IBM Journal of Research and Development*, 50(4/5):363–376, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/antoniadis.html`. See erratum [Ano06b].

Adeshiyan:2009:UVH

[AAF+09] T. Adeshiyan, C. R. Attanasio, E. M. Farr, R. E. Harper, D. Pelleg, C. Schulz, L. F. Spainhower, P. Ta-Shma, and L. A. Tomek. Using virtualization for high availability and disaster recovery. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/adeshiyan.html`.

Andrews:1968:IOP

[AAH68] D. R. Andrews, A. J. Atrubin, and K. C. Hu. The IBM 1975 optical page reader. III: Recognition logic development. *IBM Journal of Research and Development*, 12(5):364–371, September 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ahmed:2014:ASA

[AAJ14] M. Ahmed, M. Ahamad, and T. Jaiswal. Augmenting security and accountability within the eHealth exchange. *IBM Journal of Research and Development*, 58(1):8:1–8:11, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Armstrong:2007:IPP

[AAM+07] W. J. Armstrong, R. L. Arndt, T. R. Marchini, N. Nayar, and W. M. Sauer. IBM POWER6 partition mobility: Moving virtual servers seamlessly between physical systems. *IBM Journal of Research and Development*, 51(6):757–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/armstrong.html`.

Aas:1970:CTT

[Aas70] E. J. Aas. Comment on 'A topological theory of domain velocity in semiconductors'. *IBM Journal of Research and Development*, 14(6):689–690, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [Gun69].

Arnold:2014:WOO

[AAS+14] W. C. Arnold, D. J. Arroyo, W. Segmuller, M. Spreitzer, M. Steinder, and A. N. Tantawi. Workload orchestration and optimization for software defined environments. *IBM Journal of Research and Development*, 58 (2–3):11:1–11:12, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Amdahl:1964:AIS

[ABB64] Gene M. Amdahl, Gerrit A. Blaauw, and Frederick P. Brooks, Jr. Architecture of the IBM System/360. *IBM Journal of Research and Development*, 8(2):87–102, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/50th/architectures/amdahl.html`; `http://www.research.ibm.com/journal/rd/082/ibmrd0802C.pdf`.

Abbott:1966:DMA

[Abb66] T. D. Abbott. Design of a Moiré fringe torque transducer. *IBM Journal of Research and Development*, 10(5): 412–415, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392052`.

Applegate:1985:IRR

[ABB+85] Steven L. Applegate, John C. Bartlett, Alan E. Bohnhoff, Alan S. Campbell, and James J. Molloy. Implementation of the resistive ribbon technology in a printer and correcting typewriter. *IBM Journal of Re-*

search and Development, 29(5): 459–469, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ammann:1991:PPC

[ABB+91] E. M. Ammann, R. R. Berbec, G. Bozman, M. Faix, G. A. Goldrian, J. A. Pershing, Jr., J. Ruvolo-Chong, and F. Scholz. The Parallel Processing Compute Server. *IBM Journal of Research and Development*, 35(5/6):653–666, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Averill:1999:CIM

[ABB+99] R. M. Averill III, K. G. Barkley, M. A. Bowen, P. J. Camporese, A. H. Dansky, R. F. Hatch, D. E. Hoffman, M. D. Mayo, S. A. McCabe, T. G. McNamara, T. J. McPherson, G. A. Northrop, L. Sigal, H. H. Smith, D. A. Webber, and P. M. Williams. Chip integration methodology for the IBM S/390 G5 and G6 custom microprocessors. *IBM Journal of Research and Development*, 43(5/6): 681–706, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/averill.html`.

Amdahl:2000:AIS

[ABB00a] G. M. Amdahl, G. A. Blaauw, and F. P. Brooks, Jr. Architecture of the IBM System/360. *IBM Journal of Research and Development*, 44(1/2):21–36, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/amdahl.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Ashley:2000:HDS

[ABB+00b] J. Ashley, M.-P Bernal, G. W. Burr, H. Coufal, H. Guenther, J. A. Hoffnagle, C. M. Jefferson, B. Marcus, R. M. Macfarlane, R. M. Shelby, and G. T. Sincerbox. Holographic data storage technology. *IBM Journal of Research and Development*, 44(3):341–368, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/ashley.html`.

Allen:2003:IPN

[ABB+03] J. R. Allen, Jr., B. M. Bass, C. Basso, R. H. Boivie, J. L. Calvignac, G. T. Davis, L. Frelechoux, M. Heddes, A. Herkersdorf, A. Kind, J. F. Logan, M. Peyravian, M. A. Rinaldi, R. K. Sabhikhi, M. S. Siegel, and M. Waldvogel. IBM PowerNP network processor: Hardware, software, and applications. *IBM Journal of Research and Development*, 47 (2/3):177–193, ???? 2003. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/allen.pdf`.

Argumedo:2008:STR

[ABB+08] Armando J. Argumedo, David Berman, Robert G. Biskeborn, Giovanni Cherubini, Roy D. Cideciyan, Evangelos Eleftheriou, Walter Häberle, Diana J. Hellman, Robert Hutchins, Wayne Imaino, Jens Jelitto, Kevin Judd, Pierre-Olivier Jubert, Mark A. Lantz, Gary M. McClelland, Thomas Mittelholzer, Chandrasekhar (Spike) Narayan, Sedat Ölçer, and Paul J. Seger. Scaling tape-recording areal densities to 100 Gb/in^2. *IBM Journal of Research and Development*, 52 (4/5):513–527, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/argumedo.html`.

Amann:2012:IZS

[ABB+12a] S. Amann, G. Banzhaf, C. A. Bender, T. Bubb, D. F. Casper, J. R. Flanagan, R. Friedrich, R. Higgs, G. Kuch, C. Schmitt, and M. Zee. IBM zEnterprise storage I/O advancements. *IBM Journal of Research and Development*, 56(1–2):11:1–11:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Andres:2012:IZE

[ABB+12b] M. Andres, A. Bieswanger, F. Bosco, G. F. Goth, H. Hering, W. Kostenko, T. B. Mathias, T. Pohl, and H. Wen. IBM zEnterprise energy management. *IBM Journal of Research and Development*, 56(1–2):12:1–12:13, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alam:2013:EES

[ABB+13] S. Alam, C. Bekas, H. Boettiger, A. Curioni, G. Fourestey, W. Homberg, M. Knobloch, T. Laino, T. Maurer, B. Mohr, D. Pleiter, A. Schiller, T. Schulthess, and V. Weber. Early experiences with scientific applications on the IBM Blue Gene/Q supercomputer. *IBM Journal of Research and Development*, 57(1/2):14:1–14:9, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Axnix:2015:IZF

[ABB+15] C. Axnix, G. Bayer, H. Bohm, J. von Buttlar, M. S. Farrell, L. C. Heller, J. P. Kubala, S. E. Lederer, R. Mansell, A. Nunez Mencias, and S. Usenbinz. IBM z13 firmware innovations for simultaneous multithreading and I/O virtualization. *IBM Journal of Research and Development*, 59(4–5):11:1–11:11, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abrams:1985:IPA

[ABC+85] Michael J. Abrams, Annick Blusson, Veronique Carrere, Phu Thien Nguyen, and Yves Rabu. Image processing applications for geologic mapping. *IBM Journal of Research and Development*, 29(2): 177–187, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abadeer:1999:KMU

[ABC+99a] W. W. Abadeer, A. Bagramian, D. W. Conkle, C. W. Griffin, E. Langlois, B. F. Lloyd, R. P. Mallette, J. E. Massucco, J. M. McKenna, S. W. Mittl, and P. H. Noel. Key measurements of ultrathin gate dielectric reliability and in-line monitoring. *IBM Journal of Research and Development*, 43 (3):407–416, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/abadeer.html`.

Abbott:1999:ASS

[ABC+99b] P. H. Abbott, D. G. Brush, C. W. Clark III, C. J. Crone, J. R. Ehrman, G. W. Ewart, C. A. Goodrich, M. Hack, J. S. Kapernick, B. J. Minchau, W. C. Shepard, R. M. Smith, Sr., R. Tallman, S. Walkowiak, A. Watanabe, and W. R. White. Architecture and software support in IBM S/390 Parallel Enterprise Servers for IEEE floating-point arithmetic. *IBM Journal of Research and Development*, 43(5/6):723–760, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/abbott.html`. Besides important history of the development of the S/360 floating-point architecture, this paper has a good description of IBM's algorithm for exact decimal-to-binary conversion, complementing earlier ones [SW90, Cli90, Knu90, BD96].

Adiga:2005:BGT

[ABC+05] N. R. Adiga, M. A. Blumrich, D. Chen, P. Coteus, A. Gara, M. E. Giampapa, P. Heidelberger, S. Singh, B. D. Steinmacher-Burow, T. Takken, M. Tsao, and P. Vranas. Blue Gene/L torus interconnection network. *IBM Journal of Research and Development*, 49(2/3):265–276, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/adiga.pdf`.

Arnold:2012:ICC

[ABC+12] T. W. Arnold, C. Buscaglia, F. Chan, V. Condorelli, J. Dayka, W. Santiago-Fernandez, N. Hadzic, M. D. Hocker, M. Jordan, T. E. Morris, and K. Werner. IBM 4765 cryptographic coprocessor. *IBM Journal of Research and Development*, 56(1–

2):10:1–10:13, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abbott:1965:DAT

[ABCR65] G. F. Abbott, R. L. Bence, J. A. Ceonzo, and J. M. Regan. Design of an automatic telephone intercept switch. *IBM Journal of Research and Development*, 9(4):274–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Aulet:1992:IES

[ABD+92] N. R. Aulet, D. W. Boerstler, G. DeMario, F. D. Ferraiolo, C. E. Hayward, C. D. Heath, A. L. Huffman, W. R. Kelly, G. W. Peterson, and D. J. Stigliani, Jr. IBM Enterprise Systems multimode fiber optic technology. *IBM Journal of Research and Development*, 36 (4):553–576, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Albrecht:2014:SFL

[ABD+14] S. Albrecht, A. Bonti, J. Dhaliwal, F. M. Giaimo, J. von Kanel, S. Pandey, A. Phan, and Y. Wang. Smarter financial life: Rethinking personal financial planning. *IBM Journal of Research and Development*, 58 (4):10:1–10:10, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Arnold:2016:BIC

[ABD+16] B. Arnold, S. A. Baset, P. Dettori, M. Kalantar, I. I. Mohomed, S. J. Nadgowda, M. Sabath, S. R. Seelam, M. Steinder, M. Spreitzer, and A. S. Youssef. Building the IBM containers cloud service. *IBM Journal of Research and Development*, 60(2–3):9:1–9:12, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arimilli:2018:IPP

[ABD+18] L. B. Arimilli, B. Blaner, B. C. Drerup, C. F. Marino, D. E. Williams, E. N. Lais, F. A. Campisano, G. L. Guthrie, M. S. Floyd, R. B. Leavens, S. M. Willenborg, R. Kalla, and B. Abali. IBM POWER9 processor and system features for computing in the cognitive era. *IBM Journal of Research and Development*, 62(4–5):1:1–1:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8458465/`.

Adlung:2002:FIE

[ABE+02] I. Adlung, G. Banzhaf, W. Eckert, G. Kuch, S. Mueller, and C. Raisch. FCP for the IBM eServer zSeries systems: Access to distributed storage. *IBM Journal of Research and Development*, 46(4/5):487–502, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/adlung.html`; `http://www.research.`

ibm.com/journal/rd/464/adlung.pdf.

Agarwal:2010:DDP

[ABF+10] R. Agarwal, S. Bensalem, E. Farchi, K. Havelund, Y. Nir-Buchbinder, S. Stoller, S. Ur, and L. Wang. Detection of deadlock potentials in multithreaded programs. *IBM Journal of Research and Development*, 54(5):3:1–3:15, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agarwal:1995:TAP

[ABG+95] R. C. Agarwal, S. M. Balle, F. G. Gustavson, M. Joshi, and P. Palkar. A three-dimensional approach to parallel matrix multiplication. *IBM Journal of Research and Development*, 39 (5):575–582, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-5.html#five.

Axnix:2009:CDA

[ABG+09] C. Axnix, J. R. Birtles, M. Groetzner, F. Hardt, K.-J. Kuehl, V. M. Lourenco, C. Mayer, J. Probst, H. Sinram, M. Stock, and B. D. Valentine. Capacity on demand advancements on the IBM System z10. *IBM Journal of Research and Development*, 53(1): 15:1–15:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/531/axnix.pdf.

Arnold:2019:FIT

[ABH+19] M. Arnold, R. K. E. Bellamy, M. Hind, S. Houde, S. Mehta, A. Mojsilovi , R. Nair, K. N. Ramamurthy, A. Olteanu, D. Piorkowski, D. Reimer, J. Richards, J. Tsay, and K. R. Varshney. FactSheets: Increasing trust in AI services through supplier's declarations of conformity. *IBM Journal of Research and Development*, 63(4–5):6:1–6:13, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Aharony:1989:MFM

[ABK89] Amnon Aharony, Robert J. Birgeneau, and Marc A. Kastner. Magnetic frustration model and superconductivity in doped planar CuO_2 systems. *IBM Journal of Research and Development*, 33(3):287–292, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alberga:1984:PDT

[ABL+84] C. N. Alberga, A. L. Brown, G. B. Leeman, Jr., M. Mikelsons, and M. N. Wegman. A program development tool. *IBM Journal of Research and Development*, 28(1):60–73, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Auerbach:1988:SAC

[ABM88] D. J. Auerbach, C. R. Brundle, and D. C. Miller. Surface analysis and characterization of large printed-circuit-board circuitization process steps. *IBM Journal of Research and Development*, 32(5):669–681, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ayton:2001:IMD

[ABM+01] G. S. D. Ayton, S. Bardenhagen, P. McMurtry, D. Sulsky, and G. A. Voth. Interfacing molecular dynamics with continuum dynamics in computer simulation: Toward an application to biological membranes. *IBM Journal of Research and Development*, 45 (3/4):417–426, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/ayton.html; http://www.research.ibm.com/journal/rd/453/ayton.pdf`.

Anacker:1966:DPS

[ABPS66] W. Anacker, G. F. Bland, P. Pleshko, and P. E. Stuckert. On the design and performance of a small 60-nsec destructive readout magnetic film memory. *IBM Journal of Research and Development*, 10 (1):41–50, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392103`.

Anderson:1971:MED

[ABR71] H. R. Anderson, Jr., E. A. Bartkus, and J. A. Reynolds. Molecular engineering in the development of materials for thermoplastic recording. *IBM Journal of Research and Development*, 15(2):140–150, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ames:1963:APE

[AC63] I. Ames and R. L. Christensen. Anomalous photoelectric emission from nickel. *IBM Journal of Research and Development*, 7(1):34–39, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392334`.

Aaslund:1964:ESD

[ÅC64] N. R. D. Åslund and B. T. Cronhjort. Evaluation of spectrochemical data using digital techniques. *IBM Journal of Research and Development*, 8 (2):160–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802H.pdf`.

Ariat:1984:IEA

[AC84] J. Ariat and W. C. Carter. Implementation and evaluation of a (b, k)-adjacent error-correcting/detecting scheme for superconductor systems. *IBM Journal of Research and Development*, 28(2):159–169, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agarwal:1986:FTC

[AC86] Ramesh C. Agarwal and James W. Cooley. Fourier transform and convolution subroutines for the IBM 3090 Vector Facility. *IBM Journal of Research and Development*, 30 (2):145–162, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Antonacci:1992:CDM

[AC92] F. Antonacci and C. M. Calamani. Capturing the deep meaning of texts through deduction and inference. *IBM Journal of Research and Development*, 36(3):333–345, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abedini:2015:GFM

[ACC+15] M. Abedini, N. C. F. Codella, J. H. Connell, R. Garnavi, M. Merler, S. Pankanti, J. R. Smith, and T. Syeda-Mahmood. A generalized framework for medical image classification and recognition. *IBM Journal of Research and Development*, 59(2–3):1:1–1:18, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arnold:2015:NGH

[ACD+15] T. W. Arnold, M. Check, E. A. Dames, J. Dayka, S. Dragone, D. Evans, W. Santiago Fernandez, M. D. Hocker, R. Kisley, T. E. Morris, J. Petreshock, and K. Werner. The next generation of highly reliable and secure encryption for the IBM z13. *IBM Journal of Research and Development*, 59(4–5):6:1–6:13, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Allen:1980:ECS

[ACF+80] F. E. Allen, J. L. Carter, J. Fabri, J. Ferrante, W. H. Harrison, P. G. Loewner, and L. H. Trevillyan. The Experimental Compiling System. *IBM Journal of Research and Development*, 24(6):695–715, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Almasi:2016:TBH

[ACFS16] G. Almási, J. G. Castaños, H. Franke, and M. A. L. Silva. Toward building highly available and scalable OpenStack clouds. *IBM Journal of Research and Development*, 60(2–3):5:1–5:10, March/May 2016. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic).

Agarwal:1986:NSV

[ACG+86] Ramesh C. Agarwal, James W. Cooley, Fred G. Gustavson, James B. Shearer, Gordon Slishman, and Bryant Tuckerman. New scalar and vector elementary functions for the IBM System/370. *IBM Journal of Research and Development*, 30 (2):126–144, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See clarification [ACG+87].

Agarwal:1987:CNS

[ACG+87] Ramesh C. Agarwal, James W. Cooley, Fred G. Gustavson, James B. Shearer, Gordon Slishman, and Bryant Tuckerman. Clarification: "New scalar and vector elementary functions for the IBM System/370" [IBM J. Res. Develop. **30** (1986), no. 2, 126–144]. *IBM Journal of Research and Development*, 31(2):274, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [ACG+86].

Axe:1989:NSM

[ACM+89] John D. Axe, David E. Cox, Kim Mohanty, H. Moudden, Arnold Moodenbaugh, Youwen Xu, and Thomas R. Thurston. A new structural modification of superconducting $La_{2-x}M_xCuO_4$. *IBM Journal of Research and Development*, 33(3):382–388 (or 382–387??), May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Andreoni:2001:DBM

[ACM01] W. Andreoni, A. Curioni, and T. Mordasini. DFT-based molecular dynamics as a new tool for computational biology: First applications and perspective. *IBM Journal of Research and Development*, 45 (3/4):397–407, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/andreoni.html; http://www.research.ibm.com/journal/rd/453/andreoni.pdf`.

Adams:1980:PSF

[Ada80] George G. Adams. Procedures for the study of the flexible-disk to head interface. *IBM Journal of Research and Development*, 24(4):512–517, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adams:1984:OPS

[Ada84] Edward N. Adams. Optimizing preventive service of software products. *IBM Journal of Research and Development*, 28 (1):2–14, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Apte:2012:BLT

[ADF12] C. Apte, B. Dietrich, and M. Fleming. Business leadership through analytics. *IBM*

Journal of Research and Development, 56(6):7:1–7:5, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353941`.

Ackerman:1992:SIE

[ADG+92a] D. F. Ackerman, M. H. Decker, J. J. Gosselin, K. M. Lasko, M. P. Mullen, R. E. Rosa, E. V. Valera, and B. Wile. Simulation of IBM Enterprise System/9000 models 820 and 900. *IBM Journal of Research and Development*, 36(4):751–764, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Apte:1992:ECO

[ADG+92b] C. V. Apte, R. A. Dionne, J. H. Griesmer, M. Karnaugh, J. K. Kastner, M. M. Laker, and E. K. Mays. An experiment in constructing an open expert system using a knowledge substrate. *IBM Journal of Research and Development*, 36(3):409–434, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adler:1995:EIC

[ADG+95] E. Adler, J. K. DeBrosse, S. F. Geissler, S. J. Holmes, M. D. Jaffe, J. B. Johnson, C. W. Koburger III, J. B. Lasky, B. Lloyd, G. L. Miles, J. S. Nakos, W. P. Noble, Jr., S. H. Voldman, M. Armacost, and R. Ferguson. The evolution of IBM CMOS DRAM technology. *IBM Journal of Research and Development*, 39(1/2):167–188, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#fifteen`.

Aridor:2005:RAU

[ADG+05] Y. Aridor, T. Domany, O. Goldshmidt, J. E. Moreira, and E. Shmueli. Resource allocation and utilization in the Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 49(2/3):425–436, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/aridor.pdf`.

Ames:1970:REA

[ADH70] I. Ames, F. M. D'Heurle, and R. E. Horstmann. Reduction of electromigration in aluminum films by copper doping. *IBM Journal of Research and Development*, 14(4):461–463, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Allen:2000:CCD

[ADH+00a] D. H. Allen, S. H. Dhong, H. P. Hofstee, J. Leenstra, K. J. Nowka, D. L. Stasiak, and D. F. Wendel. Custom circuit design as a driver of microprocessor performance. *IBM Journal of Research and Development*, 44(6):799–822, November

2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/allen.html`.

Ames:2000:REA

[AdH00b] I. Ames, F. M. d'Heurle, and R. E. Horstmann. Reduction of electromigration in aluminum films by copper doping. *IBM Journal of Research and Development*, 44(1/2):89–91, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/ames.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Arnold:2007:CSE

[ADH+07] T. W. Arnold, A. Dames, M. D. Hocker, M. D. Marik, N. A. Pellicciotti, and K. Werner. Cryptographic system enhancements for the IBM System z9. *IBM Journal of Research and Development*, 51(1/2):87–102, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/arnold.html`.

Adler:1964:VSM

[Adl64] E. Adler. Velocity of sound in a many-valley conductor. *IBM Journal of Research and Development*, 8(4):430–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adler:1970:BSM

[Adl70] D. Adler. Band structure of magnetic semiconductors. *IBM Journal of Research and Development*, 14(3):261–268, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adler:1987:TD

[Adl87] R. L. Adler. The torus and the disk. *IBM Journal of Research and Development*, 31(2): 224–234, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ahearn:1972:DII

[ADS72] G. R. Ahearn, Y. Dishon, and R. N. Snively. Designs innovations of the IBM 3830 and 2835 storage control units. *IBM Journal of Research and Development*, 16(1):11–18, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Antonacci:1978:APQ

[ADST78a] F. Antonacci, P. Dell'Orco, V. N. Spadavecchia, and A. Turtur. AQL: a problem-solving query language for relational data bases. *IBM Journal of Research and Development*, 22(5):541–559, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Antonacci:1978:APS

[ADST78b] F. Antonacci, P. Dell'Orco, V. N. Spadavecchia, and A. Turtur. AQL: a problem-solving query language for relational data bases. *IBM Journal of Research and Development*, 22(??):541–559, 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ashley:1977:DCI

[AEE77] C. T. Ashley, K. E. Edds, and D. L. Elbert. Development and characterization of ink for an electrostatic ink jet printer. *IBM Journal of Research and Development*, 21(1):69–74, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agarwal:2002:FPN

[AEG+02] R. C. Agarwal, R. F. Enenkel, F. G. Gustavson, A. Kothari, and M. Zubair. Fast pseudorandom-number generators with modulus 2^k or 2^{k-1} using fused multiply–add. *IBM Journal of Research and Development*, 46 (1):97–116, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/461/agarwal.html; http://www.research.ibm.com/journal/rd/461/agarwal.pdf`.

Albrecht:2020:NGG

[AEG+20] C. M. Albrecht, B. Elmegreen, O. Gunawan, H. F. Hamann, L. J. Klein, S. Lu, F. Mariano, C. Siebenschuh, and J. Schmude. Next-generation geospatial-temporal information technologies for disaster management. *IBM Journal of Research and Development*, 64 (1/2):5:1–5:12, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1967:ISMb

[AEGP67] S. F. Anderson, J. G. Earle, R. E. Goldschmidt, and D. M. Powers. The IBM System/360 Model 91: Floating-point execution unit. *IBM Journal of Research and Development*, 11 (1):34–53, January 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392016`.

Axnix:2004:ZNP

[AEH+04] C. Axnix, E. Engler, S. Hegewald, T. Hesmer, M. Kuenzel, and F. M. Welter. z990 NetMessage-protocol-based processor to support element communication interface. *IBM Journal of Research and Development*, 48(3/4):435–447, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/axnix.html; http://www.research.ibm.com/journal/rd/483/axnix.pdf`.

Alvarodiaz:1984:ISV

[AEZ84] Rita R. Alvarodiaz, Walter H. Elder, and Peter P. Zenewicz. An interactive system for VLSI chip physical design. *IBM Journal of Research and Development*, 28(5):524–536, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ahn:1968:SMP

[AF68] K. Y. Ahn and J. F. Freedman. Some magnetic properties of vacuum-deposited coupled films. *IBM Journal of Research and Development*, 12(1): 100–109, January 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1999:DMT

[AF99] R. E. Anderson and E. M. Foster. Design of an MPEG-2 transport demultiplexor core. *IBM Journal of Research and Development*, 43 (4):521–532, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/anderson.html`.

Arbabi:1994:AAN

[AFCB94] M. Arbabi, S. M. Fischthal, V. C. Cheng, and E. Bart. Algorithms for Arabic name transliteration. *IBM Journal of Research and Development*, 38(2): 183–193, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#six`.

Asthana:1996:ROD

[AFF96] P. Asthana, B. I. Finkelstein, and A. A. Fennema. Rewritable optical disk drive technology. *IBM Journal of Research and Development*, 40(5): 543–558, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-5.html#three`.

Anderson:1998:IMS

[AFFS98] R. E. Anderson, E. M. Foster, D. E. Franklin, and R. S. Svec. Integrating the MPEG-2 subsystem for digital television. *IBM Journal of Research and Development*, 42(6): 795–806, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/anderson.html`.

Alves:2002:RDI

[AFM+02] L. C. Alves, M. L. Fair, P. J. Meaney, C. L. Chen, W. J. Clarke, G. C. Wellwood, N. E. Weber, I. N. Modi, B. K. Tolan, and F. Freier. RAS design for the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):503–521, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.research.ibm.com/journal/rd/464/alves.html`; `http://www.research.ibm.com/journal/rd/464/alves.pdf`.

Abali:2001:MET

[AFP+01] B. Abali, H. Franke, D. E. Poff, R. A. Saccone, Jr., C. O. Schulz, L. M. Herger, and T. B. Smith. Memory Expansion Technology (MXT): Software support and performance. *IBM Journal of Research and Development*, 45(2):287–302, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Axelrod:1962:SNH

[AFR62] M. S. Axelrod, A. S. Farber, and D. E. Rosenheim. Some new high-speed tunnel-diode logic circuits. *IBM Journal of Research and Development*, 6 (2):158–169, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392351`.

Alsop:1972:FDF

[AG72] L. E. Alsop and A. S. Goodman. Finite difference formulas for Neumann conditions on irregularly shaped boundaries. *IBM Journal of Research and Development*, 16(4):365–371, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Agerwala:2006:SRC

[AG06] T. Agerwala and M. Gupta. Systems research challenges: a scale-out perspective. *IBM Journal of Research and Development*, 50(2/3):173–180, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/agerwala.html`.

Ashar:1963:TAD

[AGAP63] K. G. Ashar, H. N. Ghosh, A. W. Aldridge, and L. J. Patterson. Transient analysis and device characterization of ACP circuits. *IBM Journal of Research and Development*, 7(3): 207–223, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392304`.

Agerwala:2004:MVP

[Age04] Tilak Agerwala. Message from the Vice President, Systems, IBM Research Division. *IBM Journal of Research and Development*, 48(2):??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/message.html`.

Agerwala:2005:MVP

[Age05] Tilak Agerwala. Message from the Vice President, Systems, IBM Research Division. *IBM Journal of Research and Development*, 49(2/3):??, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/message.pdf`.

Agerwala:2008:MVP

[Age08] Tilak Agerwala. Message from the Vice President, Systems, IBM Research Division. *IBM Journal of Research and Development*, 52(1/2):??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/message.html`.

Arnold:2016:MME

[AGH+16] M. Arnold, D. Grove, B. Herta, M. Hind, M. Hirzel, A. Iyengar, L. Mandel, V. A. Saraswat, A. Shinnar, J. Siméon, M. Takeuchi, O. Tardieu, and W. Zhang. META: Middleware for events, transactions, and analytics. *IBM Journal of Research and Development*, 60(2–3):15:1–15:10, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agizy:1974:EOS

[Agi74] M. N. Agizy. Economic order and surplus quantities model. *IBM Journal of Research and Development*, 18(1):72–5, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agarwal:2006:AGA

[AGJA06] R. C. Agarwal, K. Gupta, S. Jain, and S. Amalapurapu. An approximation to the greedy algorithm for differential compression. *IBM Journal of Research and Development*, 50(1):149–166, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/agarwal.html`.

Atkinson:1985:CDM

[AGLM85] J. M. Atkinson, R. D. Granata, H. Leidheiser, Jr., and D. G. McBride. Cathodic delamination of methyl methacrylate-based dry film polymers on copper. *IBM Journal of Research and Development*, 29(1):27–36, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Agnello:2002:PRC

[Agn02] P. D. Agnello. Process requirements for continued scaling of CMOS—the need and prospects for atomic-level manipulation. *IBM Journal of Research and Development*, 46(2/3):317–338, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/462/agnello.html; http://www.research.ibm.com/journal/rd/462/agnello.pdf.

Agrafiotis:2001:MOC

[Agr01] D. K. Agrafiotis. Multiobjective optimization of combinatorial libraries. *IBM Journal of Research and Development*, 45 (3/4):545–566, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/453/agrafiotis.html; http://www.research.ibm.com/journal/rd/453/agrafiotis.pdf.

Agarwal:1994:EFP

[AGZ94a] R. C. Agarwal, F. G. Gustavson, and M. Zubair. Exploiting functional parallelism of POWER2 to design high-performance numerical algorithms. *IBM Journal of Research and Development*, 38(5): 563–576, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd38-5.html#eight.

Agarwal:1994:HMA

[AGZ94b] R. C. Agarwal, F. G. Gustavson, and M. Zubair. A high-performance matrix-multiplication algorithm on a distributed-memory parallel computer, using overlapped communication. *IBM Journal of Research and Development*, 38(6): 673–681, November 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd38-6.html#three.

Agarwal:1994:IPL

[AGZ94c] R. C. Agarwal, F. G. Gustavson, and M. Zubair. Improving performance of linear algebra algorithms for dense matrices, using algorithmic prefetch. *IBM Journal of Research and Development*, 38(3): 265–275, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd38-3.html#five.

Ahearn:1979:NAH

[AH79] William E. Ahearn and Richard E. Horstmann. Nondestructive analysis for HeNe lasers. *IBM Journal of Research and Development*, 23(2):128–131, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arnold:1991:NIC

[AHH+91] R. F. Arnold, P. Halpern, G. R. Hogsett, B. T. Straka, C. Arasmith, and J. McElroy. A numerically intensive computing environment: IBM 3090 and the PS/2 Model 80. *IBM Journal of Research and Development*, 35(1/2):140–155, January/March 1991. CODEN IB-

MJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Azagury:2014:GBI

[AHH+14] A. C. Azagury, R. Haas, D. Hildebrand, S. W. Hunter, T. Neville, S. Oehme, and A. Shaikh. GPFS-based implementation of a hyperconverged system for software defined infrastructure. *IBM Journal of Research and Development*, 58(2–3):6:1–6:12, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arroyo:2011:IPS

[AHHN11] R. X. Arroyo, R. J. Harrington, S. P. Hartman, and T. Nguyen. IBM POWER7 systems. *IBM Journal of Research and Development*, 55(3):1:1–1:13, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Astrahan:1957:LDD

[AHJ+57] M. M. Astrahan, B. Housman, J. F. Jacobs, R. P. Mayer, and W. H. Thomas. Logical design of the digital computer for the SAGE System. *IBM Journal of Research and Development*, 1(1):76–83, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392721; http://www.research.ibm.com/journal/rd/011/ibmrd0101L.pdf`.

Acun:2018:SMD

[AHK+18] B. Acun, D. J. Hardy, L. V. Kale, K. Li, J. C. Phillips, and J. E. Stone. Scalable molecular dynamics with NAMD on the Summit system. *IBM Journal of Research and Development*, 62(6):4:1–4:9, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Axnix:2007:OSD

[AHM+07] C. Axnix, T. Hendel, M. Mueller, A. Nuñez Mencias, H. Penner, and S. Usenbinz. Open-standard development environment for IBM System z9 host firmware. *IBM Journal of Research and Development*, 51 (1/2):195–205, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/axnix.html`.

Ahn:1966:SMM

[Ahn66] K. Y. Ahn. In-situ measurements of magnetic properties in vacuum-deposited permalloy films. *IBM Journal of Research and Development*, 10(6): 477–483, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392008`.

Apte:2003:DIA

[AHN+03] C. V. Apte, S. J. Hong, R. Natarajan, E. P. D. Ped-

nault, F. A. Tipu, and S. M. Weiss. Data-intensive analytics for predictive modeling. *IBM Journal of Research and Development*, 47(1):17–23, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/apte.pdf`.

Ahuja:1979:ACN

[Ahu79] Vijay Ahuja. Algorithm to check network states for deadlock. *IBM Journal of Research and Development*, 23(1):82–86, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ahuja:1980:DDE

[Ahu80] Vijay Ahuja. Determining deadlock exposure for a class of store and forward communication networks. *IBM Journal of Research and Development*, 24 (1):49–55, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Armacost:1999:PEP

[AHW+99] M. Armacost, P. D. Hoh, R. Wise, W. Yan, J. J. Brown, J. H. Keller, G. A. Kaplita, S. D. Halle, K. P. Muller, M. D. Naeem, S. Srinivasan, H. Y. Ng, M. Gutsche, A. Gutmann, and B. Spuler. Plasma-etching processes for ULSI semiconductor circuits. *IBM Journal of Research and Development*, 43 (1/2):39–72, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/armacost.html`.

Aichelmann:1984:FDT

[Aic84] F. J. Aichelmann, Jr. Fault-tolerant design techniques for semiconductor memory applications. *IBM Journal of Research and Development*, 28(2): 177–183, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arai:1998:ABG

[AIH+98] T. Arai, H. Iiyori, Y. Hiromasu, M. Atsumi, S. Ioku, and K. Furuta. Aluminum-based gate structure for active-matrix liquid crystal displays. *IBM Journal of Research and Development*, 42(3/4):491–499, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/arai.html`.

Agnew:1982:MIM

[AK82] P. W. Agnew and A. S. Kellerman. Microprocessor implementation of mainframe processors by means of architecture partitioning. *IBM Journal of Research and Development*, 26 (4):401–412, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adi:2017:ASE

[AKB+17] Y. Adi, E. Kermany, Y. Belinkov, O. Lavi, and Y. Gold-

berg. Analysis of sentence embedding models using prediction tasks in natural language processing. *IBM Journal of Research and Development*, 61(4–5):3:1–3:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030297/`.

Asakawa:1992:ZTT

[AKE+92] Y. Asakawa, H. Komatsu, H. Etoh, Y. Hama, and K. Maruyama. Zephyr: Toward true compiler-based programming in Prolog. *IBM Journal of Research and Development*, 36(3):391–408, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Amid:2019:CDD

[AKG+19] A. Amid, K. Kwon, A. Gholami, B. Wu, K. Asanovi , and K. Keutzer. Co-design of deep neural nets and neural net accelerators for embedded vision applications. *IBM Journal of Research and Development*, 63(6):6:1–6:14, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abbas:1967:DCC

[AKK+67] S. A. Abbas, H. F. Koehler, T. C. Kwei, H. O. Leilich, and R. H. Robinson. Design considerations for the chain magnetic storage array. *IBM Journal of Research and Development*, 11 (3):302–311, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391995`.

Abraham:1972:MTR

[AKKJ72] F. F. Abraham, R. N. Kortzeborn, H. G. Kolsky, and S. K. Jordan. Model for time-dependent raindrop size distributions; application to the washout of airborne contaminants. *IBM Journal of Research and Development*, 16(2): 91–100, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Adler:2003:MH

[AKM+03] R. L. Adler, B. P. Kitchens, M. Martens, C. P. Tresser, and C. W. Wu. The mathematics of halftoning. *IBM Journal of Research and Development*, 47(1):5–15, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/adler.pdf`.

Agarwal:2010:AIW

[AKNR10] S. K. Agarwal, A. Kumar, A. A. Nanavati, and N. Rajput. Alternative information Web for visually impaired users in developing countries. *IBM Journal of Research and Development*, 54(6):6:1–6:15, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:2004:CSS

[AKRS04] H.-W. Anderson, H. Kriese, W. Roesner, and K.-D. Schubert. Configurable system simulation model build comprising packaging design data. *IBM Journal of Research and Development*, 48(3/4):367–378, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/anderson.html; http://www.research.ibm.com/journal/rd/483/anderson.pdf`.

Andrews:1976:SPI

[AL76] I. M. Andrews and J. A. Leendertz. Speckle pattern interferometry of vibration modes. *IBM Journal of Research and Development*, 20(3):285–289, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alfonseca:1989:FSN

[Alf89] M. Alfonseca. Frames, semantic networks, and object-oriented programming in APL2. *IBM Journal of Research and Development*, 33(5):502–510, September 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Avouris:1995:PET

[ALH95] Ph. Avouris, I.-W. Lyo, and Y. Hasegawa. Probing electrical transport, electron interference, and quantum size effects at surfaces with STM/STS. *IBM Journal of Research and Development*, 39(6):603–616, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#two`.

Albrecht:1977:EDR

[ALL77] D. M. Albrecht, E. G. Laenen, and Chua Lin. Experiments on the dynamic response of a flexible strip to moving loads. *IBM Journal of Research and Development*, 21(4):379–383, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Allen:1981:HLP

[All81] F. E. Allen. The history of language processor technology in IBM. *IBM Journal of Research and Development*, 25(5):535–548, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Allenspach:2000:SPS

[All00] R. Allenspach. Spin-polarized scanning electron microscopy. *IBM Journal of Research and Development*, 44(4):553–570, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/allenspach.html`.

Auslander:1981:EMO

[ALS81] M. A. Auslander, D. C. Larkin, and A. L. Scherr. The evo-

lution of the MVS operating system. *IBM Journal of Research and Development*, 25(5): 471–482, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ames:1980:OMP

[Ame80] I. Ames. Overview of materials and process aspects of Josephson integrated circuit fabrication. *IBM Journal of Research and Development*, 24(2):188–194, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1987:BAI

[AMG+87] K. L. Anderson, F. C. Mintzer, G. Goertzel, J. L. Mitchell, K. S. Pennington, and W. B. Pennebaker. Binary-image-manipulation algorithms in the image view facility. *IBM Journal of Research and Development*, 31(1):16–31, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abraham:1986:SMS

[AMGC86] David W. Abraham, H. Jonathon Mamin, Eric Ganz, and John Clarke. Surface modification with the scanning tunneling microscope. *IBM Journal of Research and Development*, 30(5): 492–499, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alt:1998:IED

[AN98] P. M. Alt and K. Noda. Increasing electronic display information content: An introduction. *IBM Journal of Research and Development*, 42 (3/4):315–320, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/alt.html`.

Anacker:1980:JCT

[Ana80] W. Anacker. Josephson computer technology: an IBM research project. *IBM Journal of Research and Development*, 24 (2):107–112, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1960:GGA

[And60] R. L. Anderson. Germanium-gallium arsenide heterojunctions [letter to the editor]. *IBM Journal of Research and Development*, 4(3):283–287, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392495`.

Andrews:1965:CDP

[And65] M. C. Andrews. On communications and data processing: a foreword. *IBM Journal of Research and Development*, 9(4): 226–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1973:APP

[And73] H. A. Anderson, Jr. Approximating pre-emptive priority dispatching in a multiprogramming model. *IBM Journal of Research and Development*, 17(6):533–539, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:2010:FOI

[And10] E. E. Anderson. Firm objectives, IT alignment, and information security. *IBM Journal of Research and Development*, 54(3):5:1–5:7, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Angelopoulos:2001:CPM

[Ang01] M. Angelopoulos. Conducting polymers in microelectronics. *IBM Journal of Research and Development*, 45(1): 57–76, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/angelopoulos.html`.

Anonymous:1957:Ab

[Ano57a] Anonymous. Abstracts. *IBM Journal of Research and Development*, 1(2):192–??, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:Ae

[Ano57b] Anonymous. Abstracts. *IBM Journal of Research and Development*, 1(3):289–??, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:Aa

[Ano57c] Anonymous. The authors. *IBM Journal of Research and Development*, 1(1):99–100, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392727`.

Anonymous:1957:Ac

[Ano57d] Anonymous. Authors. *IBM Journal of Research and Development*, 1(2):195–196, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392743`.

Anonymous:1957:Ad

[Ano57e] Anonymous. The authors. *IBM Journal of Research and Development*, 1(2):195–??, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:Af

[Ano57f] Anonymous. Authors. *IBM Journal of Research and Development*, 1(3):292, ???? 1957. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392691`.

Anonymous:1957:Ag

[Ano57g] Anonymous. The authors. *IBM Journal of Research and Development*, 1(3):292–??, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:Ah

[Ano57h] Anonymous. Authors. *IBM Journal of Research and Development*, 1(4):379–380, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392707`.

Anonymous:1957:Ai

[Ano57i] Anonymous. Authors. *IBM Journal of Research and Development*, 1(4):379–??, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:CPI

[Ano57j] Anonymous. Contents of previous issues. *IBM Journal of Research and Development*, 1 (4):380, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392708`.

Anonymous:1957:ITPa

[Ano57k] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 1(1): 96–97, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392725`.

Anonymous:1957:ITPb

[Ano57l] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 1(2): 192–193, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392741`.

Anonymous:1957:ITPc

[Ano57m] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 1(3): 289–290, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392689`.

Anonymous:1957:ITPd

[Ano57n] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 1(4): 374–, ???? 1957. CODEN

IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392705`.

Anonymous:1957:Pb

[Ano57o] Anonymous. Patents. *IBM Journal of Research and Development*, 1(2):194, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:Pc

[Ano57p] Anonymous. Patents. *IBM Journal of Research and Development*, 1(3):291, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:RIPa

[Ano57q] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 1(1): 98, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392726`.

Anonymous:1957:RIPb

[Ano57r] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 1(2): 194, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392742`.

Anonymous:1957:RIPc

[Ano57s] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 1(3): 291, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392690`.

Anonymous:1957:RIPd

[Ano57t] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 1(4): 378, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392706`.

Anonymous:1957:RPIa

[Ano57u] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 1 (1):96–??, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:RPI

[Ano57v] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 1 (4):374–??, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1957:TCa

[Ano57w] Anonymous. Table of contents. *IBM Journal of Research and Development*, 1

(1):1, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392710.

Anonymous:1957:TCb

[Ano57x] Anonymous. Table of contents. *IBM Journal of Research and Development*, 1(2): 101, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392729.

Anonymous:1957:TCc

[Ano57y] Anonymous. Table of contents. *IBM Journal of Research and Development*, 1(3): 197, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392680.

Anonymous:1957:TCd

[Ano57z] Anonymous. Table of contents. *IBM Journal of Research and Development*, 1(4): 293, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392693.

Anonymous:1958:Aa

[Ano58a] Anonymous. Authors. *IBM Journal of Research and Development*, 2(1):87, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392662.

Anonymous:1958:Ab

[Ano58b] Anonymous. Authors. *IBM Journal of Research and Development*, 2(2):174–175, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392677.

Anonymous:1958:Ac

[Ano58c] Anonymous. Authors. *IBM Journal of Research and Development*, 2(3):260–261, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392632.

Anonymous:1958:Ad

[Ano58d] Anonymous. Authors. *IBM Journal of Research and Development*, 2(4):367–368, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392651.

Anonymous:1958:BP

[Ano58e] Anonymous. Breaker page. *IBM Journal of Research and Development*, 2(4):266, ???? 1958. CODEN IBMJAE. ISSN 0018-8646

(print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392636`.

Anonymous:1958:CCS

[Ano58f] Anonymous. Conference on communication of scientific information. *IBM Journal of Research and Development*, 2 (4):267, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392637`.

Anonymous:1958:CPFa

[Ano58g] Anonymous. Contents of previous four issues. *IBM Journal of Research and Development*, 2(2):276, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392678`.

Anonymous:1958:CPFb

[Ano58h] Anonymous. Contents of previous four issues. *IBM Journal of Research and Development*, 2(3):262–263, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392633`.

Anonymous:1958:CPI

[Ano58i] Anonymous. Contents of previous issues. *IBM Journal of Research and Development*, 2 (1):88, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392663`.

Anonymous:1958:ITPa

[Ano58j] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 2(1): 84–85, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392660`.

Anonymous:1958:ITPb

[Ano58k] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 2(2): 171–172, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392675`.

Anonymous:1958:ITPc

[Ano58l] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 2(3): 255–258, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392630`.

Anonymous:1958:ITPd

[Ano58m] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 2(4): 362–365, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392649`.

Anonymous:1958:RIPa

[Ano58n] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 2(1): 86, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392661`.

Anonymous:1958:RIPb

[Ano58o] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 2(2): 173, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392676`.

Anonymous:1958:RIPc

[Ano58p] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 2(3): 259, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392631`.

Anonymous:1958:RIPd

[Ano58q] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 2(4): 366, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392650`.

Anonymous:1958:TCa

[Ano58r] Anonymous. Table of contents. *IBM Journal of Research and Development*, 2 (1):1, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392653`.

Anonymous:1958:TCb

[Ano58s] Anonymous. Table of contents. *IBM Journal of Research and Development*, 2(2): 89, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392665`.

Anonymous:1958:TCc

[Ano58t] Anonymous. Table of contents. *IBM Journal of Research and Development*, 2(3): 177, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392619.

Anonymous:1958:TCd

[Ano58u] Anonymous. Table of contents. *IBM Journal of Research and Development*, 2(4): 265, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392635.

Anonymous:1959:Aa

[Ano59a] Anonymous. Authors. *IBM Journal of Research and Development*, 3(1):103–104, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392598.

Anonymous:1959:Ab

[Ano59b] Anonymous. Authors. *IBM Journal of Research and Development*, 3(2):207–208, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392617.

Anonymous:1959:Ac

[Ano59c] Anonymous. Authors. *IBM Journal of Research and Development*, 3(3):309–310, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392570.

Anonymous:1959:Ad

[Ano59d] Anonymous. Authors. *IBM Journal of Research and Development*, 3(4):388–389, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392582.

Anonymous:1959:CPF

[Ano59e] Anonymous. Contents of previous four issues. *IBM Journal of Research and Development*, 3(4):390, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392583.

Anonymous:1959:ITPa

[Ano59f] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 3(1): 96–100, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392596.

Anonymous:1959:ITPb

[Ano59g] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 3(2): 201–204, April 1959. CODEN IBMJAE. ISSN 0018-8646

(print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392615`.

Anonymous:1959:ITPc

[Ano59h] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 3(3): 302–306, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392568`.

Anonymous:1959:ITPd

[Ano59i] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 3(4): 380–385, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392580`.

Anonymous:1959:RIPa

[Ano59j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 3(1): 101–102, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392597`.

Anonymous:1959:RIPb

[Ano59k] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 3(2): 205–206, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392616`.

Anonymous:1959:RIPc

[Ano59l] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 3(3): 307–308, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392569`.

Anonymous:1959:RIPd

[Ano59m] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 3(4): 386–387, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392581`.

Anonymous:1959:SNA

[Ano59n] Anonymous. Some new aspects of color perception. *IBM Journal of Research and Development*, 3(4):312–325, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392572`.

Anonymous:1960:Aa

[Ano60a] Anonymous. Authors. *IBM Journal of Research and Development*, 4(1):91, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392535`.

Anonymous:1960:Ab

[Ano60b] Anonymous. Authors. *IBM Journal of Research and Development*, 4(2):241–243, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392557`.

Anonymous:1960:Ac

[Ano60c] Anonymous. Authors. *IBM Journal of Research and Development*, 4(3):375–376, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392511`.

Anonymous:1960:Ad

[Ano60d] Anonymous. Authors. *IBM Journal of Research and Development*, 4(4):451–452, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392524`.

Anonymous:1960:Ae

[Ano60e] Anonymous. Authors. *IBM Journal of Research and Development*, 4(5):559–560, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392470`.

Anonymous:1960:CPFa

[Ano60f] Anonymous. Contents of previous four issue. *IBM Journal of Research and Development*, 4(1):92, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392536`.

Anonymous:1960:CPFb

[Ano60g] Anonymous. Contents of previous four issues. *IBM Journal of Research and Development*, 4(2):244, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392558`.

Anonymous:1960:CPT

[Ano60h] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 4(5):561, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392471`.

Anonymous:1960:ITPa

[Ano60i] Anonymous. IBM technical papers published in other jour-

nals. *IBM Journal of Research and Development*, 4(1): 83–88, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392533`.

Anonymous:1960:ITPb

[Ano60j] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 4(2): 232–238, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392555`.

Anonymous:1960:ITPc

[Ano60k] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 4(3): 367–373, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392509`.

Anonymous:1960:ITPd

[Ano60l] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 4(4): 439–448, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392522`.

Anonymous:1960:RIPa

[Ano60m] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 4(1): 89–90, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392534`.

Anonymous:1960:RIPb

[Ano60n] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 4(2): 239–240, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392556`.

Anonymous:1960:RIPc

[Ano60o] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 4(3): 374, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392510`.

Anonymous:1960:RIPd

[Ano60p] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 4(4): 449–450, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392523.

Anonymous:1961:Aa

[Ano61a] Anonymous. Authors. *IBM Journal of Research and Development*, 5(1):81–82, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392485.

Anonymous:1961:Ab

[Ano61b] Anonymous. Authors. *IBM Journal of Research and Development*, 5(2):172–173, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392443.

Anonymous:1961:Ac

[Ano61c] Anonymous. Authors. *IBM Journal of Research and Development*, 5(3):263–264, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392455.

Anonymous:1961:Ad

[Ano61d] Anonymous. Authors. *IBM Journal of Research and Development*, 5(4):351–352, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392400.

[Ano61e] Anonymous. Contents of previous five issues. *IBM Journal of Research and Development*, 5(1):83–84, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392486.

Anonymous:1961:CPF

[Ano61f] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 5(1):71–78, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392483.

Anonymous:1961:ITPa

[Ano61g] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 5(2):162–169, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392441.

Anonymous:1961:ITPb

[Ano61h] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 5(3):249–260, ???? 1961. CODEN IBMJAE. ISSN 0018-8646

Anonymous:1961:ITPc

(print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392453.

Anonymous:1961:ITPd

[Ano61i] Anonymous. IBM technical papers published in other journals. *IBM Journal of Research and Development*, 5(4): 338–348, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392398.

Anonymous:1961:RIPa

[Ano61j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 5(1): 79–80, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392484.

Anonymous:1961:RIPb

[Ano61k] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 5(2): 170–171, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392442.

Anonymous:1961:RIPc

[Ano61l] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 5(3): 261–262, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392454.

Anonymous:1961:RIPd

[Ano61m] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 5(4): 349–350, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392399.

Anonymous:1962:Aa

[Ano62a] Anonymous. Authors. *IBM Journal of Research and Development*, 6(2):286–288, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392370.

Anonymous:1962:Ab

[Ano62b] Anonymous. Authors. *IBM Journal of Research and Development*, 6(3):391–392, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392386.

Anonymous:1962:Ac

[Ano62c] Anonymous. Authors. *IBM Journal of Research and Development*, 6(4):490–491, ???? 1962. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392328`.

Anonymous:1962:CPT

[Ano62d] Anonymous. Contents of previous three issues. *IBM Journal of Research and Development*, 6(4):492, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392329`.

Anonymous:1962:FRS

[Ano62e] Anonymous. Fundamental research in superconductivity. *IBM Journal of Research and Development*, 6(??):3–11, 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1962:ITPa

[Ano62f] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 6(2): 272–284, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392368`.

Anonymous:1962:ITPb

[Ano62g] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 6(3): 378–388, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392384`.

Anonymous:1962:ITPc

[Ano62h] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 6(4): 475–486, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392326`.

Anonymous:1962:RIPa

[Ano62i] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 6(2): 284–285, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392369`.

Anonymous:1962:RIPb

[Ano62j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 6(3): 389–390, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392385`.

Anonymous:1962:RIPc

[Ano62k] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 6(4): 487–489, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392327`.

Anonymous:1963:Aa

[Ano63a] Anonymous. Authors. *IBM Journal of Research and Development*, 7(1):97–99, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392348`.

Anonymous:1963:Ab

[Ano63b] Anonymous. Authors. *IBM Journal of Research and Development*, 7(2):178–180, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392299`.

Anonymous:1963:Ac

[Ano63c] Anonymous. Authors. *IBM Journal of Research and Development*, 7(3):275–276, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392312`.

Anonymous:1963:Ad

[Ano63d] Anonymous. Authors. *IBM Journal of Research and Development*, 7(4):374–376, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392270`.

Anonymous:1963:CPT

[Ano63e] Anonymous. Contents of previous three issues. *IBM Journal of Research and Development*, 7(1):100, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392349`.

Anonymous:1963:ITPa

[Ano63f] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 7(1):79–93, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392346`.

Anonymous:1963:ITPb

[Ano63g] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 7(2): 163–174, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392297.

Anonymous:1963:ITPc

[Ano63h] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 7(3): 259–272, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392310.

Anonymous:1963:ITPd

[Ano63i] Anonymous. IBM technical papers published recently in other journals. *IBM Journal of Research and Development*, 7(4): 356–371, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392268.

Anonymous:1963:RIPa

[Ano63j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 7(1): 94–96, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392347.

Anonymous:1963:RIPb

[Ano63k] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 7(2): 175–177, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392298.

Anonymous:1963:RIPc

[Ano63l] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 7(3): 273–274, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392311.

Anonymous:1963:RIPd

[Ano63m] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 7(4): 372–373, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392269.

Anonymous:1964:Aa

[Ano64a] Anonymous. Authors. *IBM Journal of Research and Development*, 8(1):83–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:Ab

[Ano64b] Anonymous. Authors. *IBM Journal of Research and Development*, 8(2):210–??, April 1964. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:Ac

[Ano64c] Anonymous. Authors. *IBM Journal of Research and Development*, 8(3):361–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:Ad

[Ano64d] Anonymous. Authors. *IBM Journal of Research and Development*, 8(4):??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:Ae

[Ano64e] Anonymous. Authors. *IBM Journal of Research and Development*, 8(5):566–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RIPa

[Ano64f] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 8(1): 81–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RIPb

[Ano64g] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 8(2): 208–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RIPc

[Ano64h] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 8(3): 360–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RIPd

[Ano64i] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 8(4): 476–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RIPe

[Ano64j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 8(5): 563–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RPIa

[Ano64k] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 8 (1):70–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RPIb

[Ano64l] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 8 (2):194–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RPIc

[Ano64m] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 8(3):341–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1964:RPId

[Ano64n] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 8(5):547–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:Af

[Ano65a] Anonymous. Authors. *IBM Journal of Research and Development*, 9(1):87–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:Ag

[Ano65b] Anonymous. Authors. *IBM Journal of Research and Development*, 9(2):165–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:Ah

[Ano65c] Anonymous. Authors. *IBM Journal of Research and Development*, 9(3):221–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:Ai

[Ano65d] Anonymous. Authors. *IBM Journal of Research and Development*, 9(4):353–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:Aj

[Ano65e] Anonymous. Authors. *IBM Journal of Research and Development*, 9(5/6):438–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RIPf

[Ano65f] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 9(1): 85–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RIPg

[Ano65g] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 9(2): 163–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RIPh

[Ano65h] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 9(3): 219–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RIPi

[Ano65i] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 9(4): 351–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RIPj

[Ano65j] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 9(5/6):436–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RPIe

[Ano65k] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 9 (1):71–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RPIf

[Ano65l] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 9 (2):150–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RPIg

[Ano65m] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 9(3):209–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RPIh

[Ano65n] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 9(4):339–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1965:RPIi

[Ano65o] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 9(5/6):424–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1966:Aa

[Ano66a] Anonymous. Authors. *IBM Journal of Research and Development*, 10(1):110–112, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392112`.

Anonymous:1966:Ab

[Ano66b] Anonymous. Authors. *IBM Journal of Research and Development*, 10(2):183–184, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392068`.

Anonymous:1966:Ac

[Ano66c] Anonymous. Authors. *IBM Journal of Research and Development*, 10(3):274–275, ???? 1966. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392081.

Anonymous:1966:Ad

[Ano66d] Anonymous. Authors. *IBM Journal of Research and Development*, 10(4):366–367, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392041.

Anonymous:1966:Ae

[Ano66e] Anonymous. Authors. *IBM Journal of Research and Development*, 10(5):435–436, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392057.

Anonymous:1966:Af

[Ano66f] Anonymous. Authors. *IBM Journal of Research and Development*, 10(6):500, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392012.

Anonymous:1966:CPTa

[Ano66g] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 10(1):112, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392113.

Anonymous:1966:CPTb

[Ano66h] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 10(3):276, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392082.

Anonymous:1966:CPTc

[Ano66i] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 10(4):368, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392042.

Anonymous:1966:ECP

[Ano66j] Anonymous. Errata [A comparison of pseudo-noise and conventional modulation for multiple-access satellite communications, by H. blasbalg]. *IBM Journal of Research and Development*, 10 (1):112, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392114.

Anonymous:1966:EA

[Ano66k] Anonymous. Errata [addendum]. *IBM Journal of Research and Development*, 10 (3):276, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392083`.

Anonymous:1966:EE

[Ano66l] Anonymous. Errata [erratum]. *IBM Journal of Research and Development*, 10 (4):368, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392043`.

Anonymous:1966:RIPb

[Ano66m] Anonymous. Recent IBM patents assigned to IBM. *IBM Journal of Research and Development*, 10(2):181–182, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392067`.

Anonymous:1966:RIPa

[Ano66n] Anonymous. Recent issued patents assigned to IBM. *IBM Journal of Research and Development*, 10(1):108–109, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392111`.

Anonymous:1966:RIPc

[Ano66o] Anonymous. Recent issued patents assigned to IBM. *IBM Journal of Research and Development*, 10(3):272–273, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392080`.

Anonymous:1966:RIPd

[Ano66p] Anonymous. Recent issued patents assigned to IBM. *IBM Journal of Research and Development*, 10(4):364–365, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392040`.

Anonymous:1966:RIPe

[Ano66q] Anonymous. Recent issued patents assigned to IBM. *IBM Journal of Research and Development*, 10(5):432–434, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392056`.

Anonymous:1966:RIPf

[Ano66r] Anonymous. Recent issued patents assigned to IBM.

IBM Journal of Research and Development, 10(6):498–499, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392011`.

Anonymous:1966:TPIa

[Ano66s] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 10(1): 100–107, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392110`.

Anonymous:1966:TPIb

[Ano66t] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 10(2): 164–180, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392066`.

Anonymous:1966:TPIc

[Ano66u] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 10(4): 355–363, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392039`.

Anonymous:1966:TPId

[Ano66v] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 10(5): 422–431, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392055`.

Anonymous:1966:TPIe

[Ano66w] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 10(6): 487–497, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392010`.

Anonymous:1966:TPP

[Ano66x] Anonymous. Technical published papers by IBM authors recently in other journals. *IBM Journal of Research and Development*, 10(3): 261–271, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392079`.

Anonymous:1967:Aa

[Ano67a] Anonymous. Authors. *IBM Journal of Research and Development*, 11(1):125–127, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392026`.

Anonymous:1967:Ab

[Ano67b] Anonymous. Authors. *IBM Journal of Research and Development*, 11(2):210–212, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391982`.

Anonymous:1967:Ac

[Ano67c] Anonymous. Authors. *IBM Journal of Research and Development*, 11(3):357–358, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392000`.

Anonymous:1967:Ad

[Ano67d] Anonymous. Authors. *IBM Journal of Research and Development*, 11(4):486–488, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391954`.

Anonymous:1967:Ae

[Ano67e] Anonymous. Authors. *IBM Journal of Research and Development*, 11(5):581–582, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391970`.

Anonymous:1967:Af

[Ano67f] Anonymous. Authors. *IBM Journal of Research and Development*, 11(6):664, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391914`.

Anonymous:1967:APD

[Ano67g] Anonymous. Authors of the paprs on difference equations. *IBM Journal of Research and Development*, 11 (2):214, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391984`.

Anonymous:1967:CPIa

[Ano67h] Anonymous. Contents of previous issue. *IBM Journal of Research and Development*, 11 (3):359, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392001`.

Anonymous:1967:CPIb

[Ano67i] Anonymous. Contents of previous issue. *IBM Journal of*

Research and Development, 11 (5):583, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391971`.

Anonymous:1967:CPTa

[Ano67j] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 11(1):128–129, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392027`.

Anonymous:1967:CPTb

[Ano67k] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 11(2):248–249, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391989`.

Anonymous:1967:CPTc

[Ano67l] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 11(4):490–491, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391955`.

Anonymous:1967:CPTd

[Ano67m] Anonymous. Contents of previous two issues. *IBM Journal of Research and Development*, 11(6):666–667, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391915`.

Anonymous:1967:PRIa

[Ano67n] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(1): 122–124, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392025`.

Anonymous:1967:PRIb

[Ano67o] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(2): 208–209, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391981`.

Anonymous:1967:PRIc

[Ano67p] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(3): 355–356, ???? 1967. CODEN IBMJAE. ISSN 0018-8646

(print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391999`.

Anonymous:1967:PRId

[Ano67q] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(4): 484–485, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391953`.

Anonymous:1967:PRIe

[Ano67r] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(5): 579–580, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391969`.

Anonymous:1967:PRIf

[Ano67s] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 11(6): 662–663, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391913`.

Anonymous:1967:PCP

[Ano67t] Anonymous. Preface to controls papers. *IBM Journal of Research and Development*, 11(4):360, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391940`.

Anonymous:1967:SSD

[Ano67u] Anonymous. Special section on difference equations [foreword]. *IBM Journal of Research and Development*, 11 (2):213, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391983`.

Anonymous:1967:TPIe

[Ano67v] Anonymous. Technical papers by IBM authors published recently in other journal. *IBM Journal of Research and Development*, 11(5):570–578, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391968`.

Anonymous:1967:TPIa

[Ano67w] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 11(1):

115–121, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392024.

Anonymous:1967:TPIb

[Ano67x] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 11(2): 195–207, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391980.

Anonymous:1967:TPIc

[Ano67y] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 11(3): 341–354, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391998.

Anonymous:1967:TPId

[Ano67z] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 11(4): 477–483, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391952.

Anonymous:1967:TPIf

[Ano67-27] Anonymous. Technical papers by IBM authors published recently in other journals. *IBM Journal of Research and Development*, 11(6): 650–661, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391912.

Anonymous:1970:CHC

[Ano70a] Anonymous. Conference on holography and the computer. *IBM Journal of Research and Development*, 14(5):??, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1970:SMS

[Ano70b] Anonymous. Symposium on magnetic semiconductors. *IBM Journal of Research and Development*, 14(3):??, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1971:ARG

[Ano71] Anonymous. Automation of a residual gas analyzer in a time-shared computer. *IBM Journal of Research and Development*, 15(4):307–312, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1986:RIP

[Ano86a] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 30(2): 227–228, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1986:RPI

[Ano86b] Anonymous. Recent papers by IBM authors. *IBM Journal of Research and Development*, 30 (2):217–226, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1986:STM

[Ano86c] Anonymous. Scanning tunneling microscopy workshop. *IBM Journal of Research and Development*, 30(4):355–430, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1989:IEW

[Ano89] Anonymous, editor. *IBM Europe Workshop on High-Temperature Superconductivity*, volume 33(3) of *IBM Journal of Research and Development*. IBM Corporation, Armonk, NY, USA, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1990:RIPa

[Ano90a] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 34(1): 131–136, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401P.pdf`.

Anonymous:1990:RIPb

[Ano90b] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 34(2/3):442–448, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1990:RPI

[Ano90c] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 34(1):120–130, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401O.pdf`.

Anonymous:1992:AIP

[Ano92a] Anonymous. Author index for papers in volume 36. *IBM Journal of Research and Development*, 36(6):1043–1047, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RIPb

[Ano92b] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 36(2): 321–325, March 1992. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RIPc

[Ano92c] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 36 (3):527–529, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RIPd

[Ano92d] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 36 (6):1038–1042, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RPIb

[Ano92e] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 36(2):277–319, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RPIc

[Ano92f] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 36(3):503–525, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:RPId

[Ano92g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 36(6):1015–1037, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1992:SIP

[Ano92h] Anonymous. Subject index for papers in volume 36. *IBM Journal of Research and Development*, 36(6):1048–1052, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1993:A

[Ano93a] Anonymous. Abstracts. *IBM Journal of Research and Development*, 37(6):901–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#abst`.

Anonymous:1993:AI

[Ano93b] Anonymous. Author index. *IBM Journal of Research and Development*, 37(6): 679–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#auth`.

Anonymous:1993:CII

[Ano93c] Anonymous. Cumulative index. IBM J. Res. Dev., vols. 1–37 (1957–1993). *IBM Journal of Research and Development*, 37 (6):679–1214, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#auth`.

Anonymous:1993:RIP

[Ano93d] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 37 (4):579–580, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1993:RPI

[Ano93e] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 37(4):565–578, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1993:SC

[Ano93f] Anonymous. Subject codes. *IBM Journal of Research and Development*, 37(6):767–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#subcode`.

Anonymous:1993:SI

[Ano93g] Anonymous. Subject index. *IBM Journal of Research and Development*, 37(6): 773–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#subj`.

Anonymous:1993:TI

[Ano93h] Anonymous. Topic index. *IBM Journal of Research and Development*, 37(6):745–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#topic`.

Anonymous:1994:AIVa

[Ano94a] Anonymous. Author index for volume 37. *IBM Journal of Research and Development*, 38 (1):??, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Anonymous:1994:AIVb

[Ano94b] Anonymous. Author index for volume 38. *IBM Journal of Research and Development*, 38(6):??, June 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html`.

Anonymous:1994:PRIa

[Ano94c] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 38(1):??, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Anonymous:1994:PRIb

[Ano94d] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 38(2):??, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html`.

Anonymous:1994:PRIc

[Ano94e] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 38(3):??, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html`.

Anonymous:1994:PRId

[Ano94f] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 38(4):??, April 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html`.

Anonymous:1994:PRIf

[Ano94g] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 38(6):??, June 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html`.

Anonymous:1994:RIPb

[Ano94h] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 38(2): 239–240, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html`.

Anonymous:1994:RIPe

[Ano94i] Anonymous. Recent IBM patents. *IBM Journal of Research and Development*, 38(5): 641–648, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html`.

Anonymous:1994:RIPa

[Ano94j] Anonymous. Recent IBM publications. *IBM Journal of Research and Development*, 38 (1):??, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Anonymous:1994:RIPc

[Ano94k] Anonymous. Recent IBM publications. *IBM Journal of Research and Development*, 38 (3):??, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html`.

Anonymous:1994:RIPd

[Ano94l] Anonymous. Recent IBM publications. *IBM Journal of Research and Development*, 38(4):??, April 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html`.

Anonymous:1994:RPIc

[Ano94m] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 38(5):633–639, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html`.

Anonymous:1994:RPId

[Ano94n] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 38(6):??, June 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html`.

Anonymous:1994:RPb

[Ano94o] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 38(3):??, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html`.

Anonymous:1994:RPc

[Ano94p] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 38(4):??, April 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html`.

Anonymous:1994:RPe

[Ano94q] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 38(6):??, June 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html`.

Anonymous:1994:RPIa

[Ano94r] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 38 (1):??, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Anonymous:1994:RPIb

[Ano94s] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 38

(2):??, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html`.

Anonymous:1994:SIVa

[Ano94t] Anonymous. Subject index for volume 37. *IBM Journal of Research and Development*, 38 (1):??, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Anonymous:1994:SIVb

[Ano94u] Anonymous. Subject index for volume 38. *IBM Journal of Research and Development*, 38(6):??, June 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html`.

Anonymous:1995:AIV

[Ano95a] Anonymous. Author index for volume 39. *IBM Journal of Research and Development*, 39(6): 739–743, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html`.

Anonymous:1995:Pa

[Ano95b] Anonymous. Patents. *IBM Journal of Research and Development*, 39(3):349–368, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html`.

Anonymous:1995:Pb

[Ano95c] Anonymous. Patents. *IBM Journal of Research and Development*, 39(4):513–??, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html`.

Anonymous:1995:PRIa

[Ano95d] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 39(1/2):275–280, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html`.

Anonymous:1995:PRIb

[Ano95e] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research and Development*, 39(5):595–600, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-5.html`.

Anonymous:1995:PRIc

[Ano95f] Anonymous. Patents recently issued to IBM inventors. *IBM Journal of Research*

and Development, 39(6):729–728, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html`.

Anonymous:1995:RPIb

[Ano95g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 39(3):335–348, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html`.

Anonymous:1995:RPIc

[Ano95h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 39(4):499–??, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html`.

Anonymous:1995:RPIa

[Ano95i] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 39 (1/2):261–273, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html`.

Anonymous:1995:RPId

[Ano95j] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 39(5):583–594, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-5.html`.

Anonymous:1995:RPIe

[Ano95k] Anonymous. Recent publications by IBM authors in other journals. *IBM Journal of Research and Development*, 39(6):713–728, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html`.

Anonymous:1995:SIV

[Ano95l] Anonymous. Subject index for volume 39. *IBM Journal of Research and Development*, 39(6):745–751, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html`.

Anonymous:1996:Pa

[Ano96a] Anonymous. Patents. *IBM Journal of Research and Development*, 40(1):133–??, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:Pb

[Ano96b] Anonymous. Patents. *IBM Journal of Research and Development*, 40(2):275–??, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:Pc

[Ano96c] Anonymous. Patents. *IBM Journal of Research and Development*, 40(3):367–??, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:Pd

[Ano96d] Anonymous. Patents. *IBM Journal of Research and Development*, 40(4):507–??, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html`.

Anonymous:1996:Pe

[Ano96e] Anonymous. Patents. *IBM Journal of Research and Development*, 40(5):585–??, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:Pf

[Ano96f] Anonymous. Patents. *IBM Journal of Research and Development*, 40(6):651–??, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:RPIa

[Ano96g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 40(1):131–??, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:RPIb

[Ano96h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 40(2):263–??, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:RPIc

[Ano96i] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 40(3):353–??, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:RPId

[Ano96j] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 40(5):567–??, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1996:RPIe

[Ano96k] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 40(6):641–??, November 1996. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:1997:AIV

[Ano97a] Anonymous. Author index for Volume 41. *IBM Journal of Research and Development*, 41(6): 775–??, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/authv41.html`.

Anonymous:1997:Pa

[Ano97b] Anonymous. Patents. *IBM Journal of Research and Development*, 41(1/2):195–??, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/patents.txt`.

Anonymous:1997:Pb

[Ano97c] Anonymous. Patents. *IBM Journal of Research and Development*, 41(3):379–??, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/patents.html`.

Anonymous:1997:Pc

[Ano97d] Anonymous. Patents. *IBM Journal of Research and Development*, 41(4/5):641–??, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/patents.html`.

Anonymous:1997:Pd

[Ano97e] Anonymous. Patents. *IBM Journal of Research and Development*, 41(6):769–??, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/patents.html`.

Anonymous:1997:RPIa

[Ano97f] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 41(1/2):185–??, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/recentpub.txt`.

Anonymous:1997:RPIb

[Ano97g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 41(3):367–??, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/recentpub.txt`.

Anonymous:1997:RPIc

[Ano97h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 41(4/5):629–637, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/recentpub.txt`.

Anonymous:1997:RPId

[Ano97i] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 41(6):757–??, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/recentpub.html`.

Anonymous:1997:SIV

[Ano97j] Anonymous. Subject index for volume 41. *IBM Journal of Research and Development*, 41(6):779–??, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/subjv41.html`.

Anonymous:1998:AIV

[Ano98a] Anonymous. Author index for volume 42. *IBM Journal of Research and Development*, 42(6):861–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/authv42.html`.

Anonymous:1998:Pa

[Ano98b] Anonymous. Patents. *IBM Journal of Research and Development*, 42(1):151–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/patents.txt`.

Anonymous:1998:Pb

[Ano98c] Anonymous. Patents. *IBM Journal of Research and Development*, 42(2):305–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/patents.html`.

Anonymous:1998:Pc

[Ano98d] Anonymous. Patents. *IBM Journal of Research and Development*, 42(3/4):553–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/patents.txt`.

Anonymous:1998:Pd

[Ano98e] Anonymous. Patents. *IBM Journal of Research and Development*, 42(5):711–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/patents.txt`.

Anonymous:1998:Pe

[Ano98f] Anonymous. Patents. *IBM Journal of Research and Development*, 42(6):839–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/patents.html`.

Anonymous:1998:RPIa

[Ano98g] Anonymous. Recent publications by IBM authors. *IBM*

Journal of Research and Development, 42(1):141–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/recentpub.txt`.

Anonymous:1998:RPIb

[Ano98h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 42(2):299–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/recentpub.html`.

Anonymous:1998:RPIc

[Ano98i] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 42(3/4):543–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/recentpub.txt`.

Anonymous:1998:RPId

[Ano98j] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 42(5):695–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/recentpub.txt`.

Anonymous:1998:RPIe

[Ano98k] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 42(6):831–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/recentpub.html`.

Anonymous:1998:SIV

[Ano98l] Anonymous. Subject index for volume 42. *IBM Journal of Research and Development*, 42 (6):867–??, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/subjv42.html`.

Anonymous:1999:AIV

[Ano99a] Anonymous. Author index for volume 43. *IBM Journal of Research and Development*, 43(5/6):931–935, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/authv43.html`.

Anonymous:1999:Pa

[Ano99b] Anonymous. Patents. *IBM Journal of Research and Development*, 43(1/2):227–??, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/patents.html`.

Anonymous:1999:PP

[Ano99c] Anonymous. Patents. *IBM Journal of Research and Development*, 43(3):431–??, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/patents.txt`.

Anonymous:1999:Pb

[Ano99d] Anonymous. Patents. *IBM Journal of Research and Development*, 43(4):603–617, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/patents.html`.

Anonymous:1999:Pc

[Ano99e] Anonymous. Patents. *IBM Journal of Research and Development*, 43(5/6):927–930, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/patents.html`.

Anonymous:1999:RPIa

[Ano99f] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 43(1/2):217–??, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/recentpub.html`.

Anonymous:1999:RPIb

[Ano99g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 43(3):417–??, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/recentpub.html`.

Anonymous:1999:RPIc

[Ano99h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 43(4):595–601, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/recentpub.html`.

Anonymous:1999:SIV

[Ano99i] Anonymous. Subject index for volume 43. *IBM Journal of Research and Development*, 43(5/6):937–942, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/subjv43.html`.

Anonymous:2000:AIV

[Ano00a] Anonymous. Author index for Volume 44. *IBM Journal of Research and Development*, 44(6): 963–966, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/446/authv44.html.

Anonymous:2000:Pa

[Ano00b] Anonymous. Patents. *IBM Journal of Research and Development*, 44(3):443–452, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/443/patents.html.

Anonymous:2000:Pb

[Ano00c] Anonymous. Patents. *IBM Journal of Research and Development*, 44(4):637–660, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/444/patents.html.

Anonymous:2000:Pc

[Ano00d] Anonymous. Patents. *IBM Journal of Research and Development*, 44(5):791–796, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/445/patents.html.

Anonymous:2000:P

[Ano00e] Anonymous. Patents. *IBM Journal of Research and Development*, 44(6):953–962, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/446/patents.html.

Anonymous:2000:RPIa

[Ano00f] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 44(3):423–442, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/443/recentpub.html.

Anonymous:2000:RPIb

[Ano00g] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 44(4):625–635, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/444/recentpub.html.

Anonymous:2000:RPIc

[Ano00h] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 44(5):785–789, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/445/recentpub.html.

Anonymous:2000:RPI

[Ano00i] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 44(6):939–952, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL `http://www.research.ibm.com/journal/rd/446/recentpub.html`.

Anonymous:2000:SIV

[Ano00j] Anonymous. Subject index for Volume 44. *IBM Journal of Research and Development*, 44(6): 967–972, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/subjv44.html`.

Anonymous:2001:AIV

[Ano01a] Anonymous. Author index for Volume 45. *IBM Journal of Research and Development*, 45(6): 857–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:EEN

[Ano01b] Anonymous. Erratum and Editor's note. *IBM Journal of Research and Development*, 45(6): 870–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:PPP

[Ano01c] Anonymous. Papers on power and packaging in IBM systems. *IBM Journal of Research and Development*, 45(6): ??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:Pa

[Ano01d] Anonymous. Patents. *IBM Journal of Research and Development*, 45(1):139–184, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/patents.html`.

Anonymous:2001:Pb

[Ano01e] Anonymous. Patents. *IBM Journal of Research and Development*, 45(2):339–360, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/patents.html`.

Anonymous:2001:Pe

[Ano01f] Anonymous. Patents. *IBM Journal of Research and Development*, 45(3/4):575–600, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/patents.html`; `http://www.research.ibm.com/journal/rd/453/patents.pdf`.

Anonymous:2001:Pc

[Ano01g] Anonymous. Patents. *IBM Journal of Research and Development*, 45(5):731–760, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/patents.html`; `http://www.research.ibm.com/journal/rd/455/patents.pdf`.

Anonymous:2001:Pd

[Ano01h] Anonymous. Patents. *IBM Journal of Research and Development*, 45(6):849–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:RPIa

[Ano01i] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 45(1):129–138, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/recentpub.html`.

Anonymous:2001:RPIb

[Ano01j] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 45(2):333–338, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/recentpub.html`.

Anonymous:2001:RPIe

[Ano01k] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 45(3/4):567–573, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/recentpub.html`; `http://www.research.ibm.com/journal/rd/453/recentpub.pdf`.

Anonymous:2001:RPIc

[Ano01l] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 45(5):721–730, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/recentpub.html`; `http://www.research.ibm.com/journal/rd/455/recentpub.pdf`.

Anonymous:2001:RPId

[Ano01m] Anonymous. Recent publications by IBM authors. *IBM Journal of Research and Development*, 45(6):843–849 (??), ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:RP

[Ano01n] Anonymous. Regular papers. *IBM Journal of Research and Development*, 45(6):??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2001:SIV

[Ano01o] Anonymous. Subject index for Volume 45. *IBM Journal of Research and Development*, 45(6):863–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2002:AIV

[Ano02a] Anonymous. Author index for volume 46. *IBM Journal of Research and Development*, 46 (6):805–810, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/authv46.pdf`.

Anonymous:2002:SIV

[Ano02b] Anonymous. Subject index for volume 46. *IBM Journal of Research and Development*, 46 (6):811–816, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/subjv46.pdf`.

Anonymous:2003:AIV

[Ano03a] Anonymous. Author index for volume 47. *IBM Journal of Research and Development*, 47 (5/6):719–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/authv47.pdf`.

Anonymous:2003:SIV

[Ano03b] Anonymous. Subject index for volume 47. *IBM Journal of Research and Development*, 47 (5/6):725–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/subjv47.pdf`.

Anonymous:2005:AIV

[Ano05a] Anonymous. Author index for volume 49. *IBM Journal of Research and Development*, 49(6): 989–998, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/authv49.html`.

Anonymous:2005:EN

[Ano05b] Anonymous. Editor's note. *IBM Journal of Research and Development*, 49(1):??, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/note.pdf`.

Anonymous:2005:ECS

[Ano05c] Anonymous. Errata: *Characterization of Simultaneous Multithreading (SMT) Efficiency in POWER5. IBM Journal of Research and Development*, 49(6): 1003, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/errata.html`. See [MMM+05].

Anonymous:2005:SIV

[Ano05d] Anonymous. Subject index for volume 49. *IBM Journal of Research and Development*, 49 (6):999–1003, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/496/subjv49.html.

Anonymous:2006:AIV

[Ano06a] Anonymous. Author index for volume 50. *IBM Journal of Research and Development*, 50(6): 653–657, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/506/authv50.html.

Anonymous:2006:ESC

[Ano06b] Anonymous. Errata: *Silicon CMOS Devices Beyond Scaling* and *Continuous MOSFET Performance Increase with Device Scaling. IBM Journal of Research and Development*, 50 (6):665, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/506/errata.html. See [HND+06] and [AAC+06].

Anonymous:2006:EDM

[Ano06c] Anonymous. Erratum: *Development of the magnetic tunnel junction MRAM at IBM. IBM Journal of Research and Development*, 50 (2/3):333, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/502/erratum.html. See [GP06a].

Anonymous:2006:SIV

[Ano06d] Anonymous. Subject index for volume 50. *IBM Journal of Research and Development*, 50(6): 659–663, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/506/subjv50.html.

Anonymous:2007:AIV

[Ano07a] Anonymous. Author index for volume 51. *IBM Journal of Research and Development*, 51(6): 787–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2007:SIV

[Ano07b] Anonymous. Subject index for volume 51. *IBM Journal of Research and Development*, 51(6): 795–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2008:AIV

[Ano08a] Anonymous. Author index for volume 52. *IBM Journal of Research and Development*, 52 (6):649–655, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/526/authv52.pdf.

Anonymous:2008:E

[Ano08b] Anonymous. Erratum. *IBM Journal of Research and Development*, 52(6):663, ???? 2008.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/526/erratum.html. See [NMH+07].

Anonymous:2008:SIV

[Ano08c] Anonymous. Subject index for volume 52. *IBM Journal of Research and Development*, 52 (6):657–661, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/526/subjv52.pdf.

Anonymous:2011:FC

[Ano11] Anonymous. Front cover. *IBM Journal of Research and Development*, 55(3):c1, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2012:Cc

[Ano12a] Anonymous. Cover 1. *IBM Journal of Research and Development*, 56(6):C1, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353937.

Anonymous:2012:Ca

[Ano12b] Anonymous. Cover 2. *IBM Journal of Research and Development*, 56(5):C2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261573.

Anonymous:2012:Cd

[Ano12c] Anonymous. Cover 2. *IBM Journal of Research and Development*, 56(6):C2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353939.

Anonymous:2012:Cb

[Ano12d] Anonymous. Cover 3. *IBM Journal of Research and Development*, 56(5):C3, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261574.

Anonymous:2012:Ce

[Ano12e] Anonymous. Cover 3. *IBM Journal of Research and Development*, 56(6):C3, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353940.

Anonymous:2012:FCa

[Ano12f] Anonymous. Front cover. *IBM Journal of Research and Development*, 56(1–2):C1, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2012:FCb

[Ano12g] Anonymous. Front cover. *IBM Journal of Research and Development*, 56(3):C1, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2012:FCc

[Ano12h] Anonymous. Front cover. *IBM Journal of Research and Development*, 56(5):C1, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6257445`.

Anonymous:2012:TCa

[Ano12i] Anonymous. Table of contents. *IBM Journal of Research and Development*, 56(1–2):1–2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2012:TCb

[Ano12j] Anonymous. Table of contents. *IBM Journal of Research and Development*, 56(3–4):1–2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2012:TCc

[Ano12k] Anonymous. Table of contents. *IBM Journal of Research and Development*, 56(5):1–2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261572`.

Anonymous:2012:TC

[Ano12l] Anonymous. Table of contents. *IBM Journal of Research and Development*, 56(6):1–2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6356006`.

Anonymous:2013:C

[Ano13a] Anonymous. Cover 1. *IBM Journal of Research and Development*, 57(6):??, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2013:FC

[Ano13b] Anonymous. [front-cover]. *IBM Journal of Research and Development*, 57(5):??, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2013:TCa

[Ano13c] Anonymous. Table of contents. *IBM Journal of Research and Development*, 57(5):??, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2013:TCb

[Ano13d] Anonymous. Table of contents. *IBM Journal of Re-*

search and Development, 57(6): ??, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:BICa

[Ano14a] Anonymous. [back inside cover]. *IBM Journal of Research and Development*, 58(4): C3, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Anonymous:2014:BICb

[Ano14b] Anonymous. [back inside cover]. *IBM Journal of Research and Development*, 58 (5/6):C3, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:Ca

[Ano14c] Anonymous. Cover 1. *IBM Journal of Research and Development*, 58(2–3):??, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:Cb

[Ano14d] Anonymous. Cover 2. *IBM Journal of Research and Development*, 58(2–3):??, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:Cc

[Ano14e] Anonymous. Cover 3. *IBM Journal of Research and Development*, 58(2–3):??, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:FCa

[Ano14f] Anonymous. [front cover]. *IBM Journal of Research and Development*, 58(1):??, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:FCb

[Ano14g] Anonymous. [front cover]. *IBM Journal of Research and Development*, 58(4):C1, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Anonymous:2014:FCc

[Ano14h] Anonymous. [front cover]. *IBM Journal of Research and Development*, 58(5/6):C1, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:FICa

[Ano14i] Anonymous. [front inside cover]. *IBM Journal of Research and Development*, 58(4): C2, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Anonymous:2014:FICb

[Ano14j] Anonymous. [front inside cover]. *IBM Journal of Research and Development*, 58 (5/6):C2, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:TCa

[Ano14k] Anonymous. Table of contents. *IBM Journal of Re-*

search and Development, 58 (1):??, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:TCb

[Ano14l] Anonymous. Table of contents. *IBM Journal of Research and Development*, 58(2–3):??, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2014:TCc

[Ano14m] Anonymous. Table of contents. *IBM Journal of Research and Development*, 58(4):1–2, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Anonymous:2014:TCd

[Ano14n] Anonymous. Table of contents. *IBM Journal of Research and Development*, 58 (5/6):1, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:BIC

[Ano15a] Anonymous. [back inside cover]. *IBM Journal of Research and Development*, 59 (1):c3, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:Ca

[Ano15b] Anonymous. Cover 1. *IBM Journal of Research and Development*, 59(6):??, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:Cb

[Ano15c] Anonymous. Cover 2. *IBM Journal of Research and Development*, 59(6):??, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:Cc

[Ano15d] Anonymous. Cover 3. *IBM Journal of Research and Development*, 59(6):??, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:FCa

[Ano15e] Anonymous. [front cover]. *IBM Journal of Research and Development*, 59(1):c1, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:FCb

[Ano15f] Anonymous. [front cover]. *IBM Journal of Research and Development*, 59(2–3):C1, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:FCc

[Ano15g] Anonymous. [front cover]. *IBM Journal of Research and Development*, 59(4–5):c1, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:FIC

[Ano15h] Anonymous. [front inside cover]. *IBM Journal of Research and Development*, 59 (1):c2, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:TCa

[Ano15i] Anonymous. Table of contents. *IBM Journal of Research and Development*, 59(1): 1–2, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:TCb

[Ano15j] Anonymous. Table of contents. *IBM Journal of Research and Development*, 59(2–3):1–2, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:TCc

[Ano15k] Anonymous. Table of contents. *IBM Journal of Research and Development*, 59(4–5):1–2, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2015:TC

[Ano15l] Anonymous. Table of contents. *IBM Journal of Research and Development*, 59 (6):1–2, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:Ca

[Ano16a] Anonymous. Cover 1. *IBM Journal of Research and Development*, 60(1):??, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:Cb

[Ano16b] Anonymous. Cover 1. *IBM Journal of Research and Development*, 60(4):??, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:Cc

[Ano16c] Anonymous. Cover 1. *IBM Journal of Research and Development*, 60(5–6):??, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:FC

[Ano16d] Anonymous. [front cover]. *IBM Journal of Research and Development*, 60(2–3):??, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:TCa

[Ano16e] Anonymous. Table of contents. *IBM Journal of Research and Development*, 60(1): 1–2, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:TCb

[Ano16f] Anonymous. Table of contents. *IBM Journal of Research and Development*, 60(2–3):1–2, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:TCc

[Ano16g] Anonymous. Table of contents. *IBM Journal of Research and Development*, 60(4):1–2, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2016:TCd

[Ano16h] Anonymous. Table of contents. *IBM Journal of Research and Development*, 60(5–6):1–2, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:FCa

[Ano17a] Anonymous. Front cover. *IBM Journal of Research and Development*, 61(1):??, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:FCb

[Ano17b] Anonymous. Front cover. *IBM Journal of Research and Development*, 61(2–3):??, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:FCc

[Ano17c] Anonymous. Front cover. *IBM Journal of Research and Development*, 61(4–5):??, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:TCa

[Ano17d] Anonymous. Table of contents. *IBM Journal of Research and Development*, 61(1):1–2, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:TCb

[Ano17e] Anonymous. Table of contents. *IBM Journal of Research and Development*, 61(2–3):1–2, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2017:TCc

[Ano17f] Anonymous. Table of contents. *IBM Journal of Research and Development*, 61(4–5):1–2, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:FCa

[Ano18a] Anonymous. Front cover. *IBM Journal of Research and Development*, 62(1):??, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:FCb

[Ano18b] Anonymous. Front cover. *IBM Journal of Research and Development*, 62(2–3):??, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:FCc

[Ano18c] Anonymous. Front cover. *IBM Journal of Research and Development*, 62(4–5):??, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:FCd

[Ano18d] Anonymous. Front cover. *IBM Journal of Research and Development*, 62(6):C1, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:TCa

[Ano18e] Anonymous. Table of contents. *IBM Journal of Research and Development*, 62(1):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:TCb

[Ano18f] Anonymous. Table of contents. *IBM Journal of Research and Development*, 62(2–3):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:TCc

[Ano18g] Anonymous. Table of contents. *IBM Journal of Research and Development*, 62(4–5):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2018:TCd

[Ano18h] Anonymous. Table of contents. *IBM Journal of Research and Development*, 62(6):1–2, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:Ca

[Ano19a] Anonymous. Cover. *IBM Journal of Research and Development*, 63(6):C2, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:C

[Ano19b] Anonymous. Cover. *IBM Journal of Research and Development*, 63(6):C4, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:FCa

[Ano19c] Anonymous. Front cover. *IBM Journal of Research and Development*, 63(1):C1, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:FCb

[Ano19d] Anonymous. Front cover. *IBM Journal of Research and Development*, 63(2–3):C1, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:FCc

[Ano19e] Anonymous. Front cover. *IBM Journal of Research and Development*, 63(4–5):C1, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:FCd

[Ano19f] Anonymous. Front cover. *IBM Journal of Research and Development*, 63(6):C1, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:PAC

[Ano19g] Anonymous. Preface: Advances in computational creativity technology. *IBM Journal of Research and Development*, 63(1):1–2, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:PAE

[Ano19h] Anonymous. Preface: AI ethics. *IBM Journal of Research and Development*, 63(4–5):1, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:PBT

[Ano19i] Anonymous. Preface: Blockchain: From technology to solutions. *IBM Journal of Research and Development*, 63(2–3):1–2, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:PHA

[Ano19j] Anonymous. Preface: Hardware for AI. *IBM Journal of Research and Development*, 63 (6):1–2, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:TCa

[Ano19k] Anonymous. Table of contents. *IBM Journal of Research and Development*, 63(1): 1–2, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:TCb

[Ano19l] Anonymous. Table of contents. *IBM Journal of Research and Development*, 63(2–3):1–2, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:TCc

[Ano19m] Anonymous. Table of contents. *IBM Journal of Research and Development*, 63(4–5):1–2, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2019:TCd

[Ano19n] Anonymous. Table of contents. *IBM Journal of Research and Development*, 63(6): 1–2, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:FCa

[Ano20a] Anonymous. Front cover. *IBM Journal of Research and Development*, 64(1/2):C1, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:FCb

[Ano20b] Anonymous. Front cover. *IBM Journal of Research and Development*, 64(3/4):C1, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:FC

[Ano20c] Anonymous. Front cover. *IBM Journal of Research and Development*, 64(5/6):C1, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:PDR

[Ano20d] Anonymous. Preface: Disaster response and management. *IBM Journal of Research and Development*, 64(1/2):1–3, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:PIZ

[Ano20e] Anonymous. Preface: IBM z15 design and technology. *IBM Journal of Research and Development*, 64(5/6):1–4, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:PSS

[Ano20f] Anonymous. Preface: Summit and Sierra supercomputers. *IBM Journal of Research and Development*, 64(3/4):1–4, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:TCa

[Ano20g] Anonymous. Table of contents. *IBM Journal of Research and Development*, 64(1/2):1–2, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:TCb

[Ano20h] Anonymous. Table of contents. *IBM Journal of Research and Development*, 64(3/4):1–2, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anonymous:2020:TC

[Ano20i] Anonymous. Table of contents. *IBM Journal of Research and Development*, 64(5/6):1–2, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1960:VGV

[AO60] R. L. Anderson and M. J. O'Rourke. A vapor-grown variable capacitance diode. *IBM Journal of Research and Development*, 4(3):264–268, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392491`.

Alfonseca:1997:SRF

[AO97] M. Alfonseca and A. Ortega. A study of the representation of fractal curves by L systems and their equivalences. *IBM Journal of Research and Development*, 41(6):727–736, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/alfonseca.html`.

Alfonseca:2001:DFD

[AO01] M. Alfonseca and A. Ortega. Determination of fractal dimensions from equivalent L systems. *IBM Journal of Research and Development*, 45(6):797–805, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/456/alfonseca.html; http://www.research.ibm.com/journal/rd/456/alfonseca.pdf`.

Andres:1962:MES

[AOR62] K. Andres, J. L. Olsen, and H. Rohrer. Mechanical effects at the superconducting transition. *IBM Journal of Research and Development*, 6(1):84–88, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392420`.

Abraham:1969:SMM

[AP69] C. T. Abraham and R. D. Prasad. Stochastic model for manufacturing cost estimating. *IBM Journal of Research and Development*, 13(4):343–350, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anastassiou:1982:DHI

[AP82] D. Anastassiou and K. S. Pennington. Digital halftoning of images. *IBM Journal of Research and Development*, 26(6):687–697, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alt:1992:GAT

[APOI92] P. M. Alt, C. G. Powell, B. L. Owens, Jr., and H. Ifill. A grayscale addressing technique for thin-film-transistor/liquid crystal displays. *IBM Journal of Research and Development*, 36(1):11–22, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Aharoni:2016:IMA

[APRS16] E. Aharoni, R. Peleg, S. Regev, and T. Salman. Identifying malicious activities from system execution traces. *IBM Journal of Research and Development*, 60(4):5:1–5:7, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523355/`.

Aguilar:1986:STM

[APS86] M. Aguilar, P. J. Pascual, and A. Santisteban. Scanning tunneling microscope automation. *IBM Journal of Research and Development*, 30(5):525–532, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Astesiano:1987:DSC

[AR87] Egidio Astesiano and Gianna Reggio. Direct semantics of concurrent languages in the SMoLCS approach. *IBM Journal of Research and Development*, 31(5):512–534, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Andricacos:1998:FDE

[AR98] P. C. Andricacos and N. Robertson. Future directions in electroplated materials for thin-film recording heads. *IBM Journal of Research and Development*, 42(5):671–680, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/robertson.html`.

Arbab:1986:CCA

[Arb86] Bijan Arbab. Compiling circular attribute grammars into Prolog. *IBM Journal of Research and Development*, 30(3):294–309, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Archie:1993:PIS

[Arc93] Chas Archie. Performance of the IBM synchrotron X-ray source for lithography. *IBM Journal of Research and Development*, 37(3):373–384, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alexander:2000:PIP

[ARG00] W. E. Alexander, D. S. Reeves, and C. S. Gloster, Jr. Parallel image processing with the block data parallel architecture. *IBM Journal of Research and Development*, 44(5):681–702, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/alexander.pdf`.

Arinal:1969:MBU

[Ari69] J.-C. Arinal. Maximal biflow in an undirected network. *IBM Journal of Research and Development*, 13(4):373–379, July

1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Armstrong:1965:FHT

[Arm65] J. A. Armstrong. Fresnel holograms: Their imaging properties and aberrations. *IBM Journal of Research and Development*, 9(3):171–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/093/ibmrd0903B.pdf`.

Alvarado:2001:SEE

[ARM+01] S. F. Alvarado, L. Rossi, P. Müller, P. F. Seidler, and W. Riess. STM-excited electroluminescence and spectroscopy on organic materials for display applications. *IBM Journal of Research and Development*, 45 (1):89–100, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/alvarado.html`.

Audhkhasi:2017:RPD

[ARS+17] K. Audhkhasi, A. Rosenberg, G. Saon, A. Sethy, B. Ramabhadran, S. Chen, and M. Picheny. Recent progress in deep end-to-end models for spoken language processing. *IBM Journal of Research and Development*, 61(4–5):2:1–2:10, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030300/`.

Anello:1964:NDM

[ARV64] A. J. Anello, A. C. Ruocchio, and W. D. VanGieson, Jr. A new digital method of bit synchronization derived from an analog theory. *IBM Journal of Research and Development*, 8(3):318–328, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:1974:ISI

[AS74] H. A. Anderson, Jr. and R. G. Sargent. Investigation into scheduling for an interactive computing system. *IBM Journal of Research and Development*, 18(2):125–137, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ahearn:1978:ERG

[AS78] W. E. Ahearn and O. Sahni. Effect of reactive gas dopants on the MgO surface in AC plasma display panels. *IBM Journal of Research and Development*, 22(6):622–625, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Auslander:1987:FTR

[AS87] L. Auslander and M. Shenefelt. Fourier transforms that respect crystallographic symmetries. *IBM Journal of Research and Development*, 31(2):

213–223, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Altman:2006:P

[AS06] E. Altman and S. Sathayes. Preface. *IBM Journal of Research and Development*, 50(2/3):169–171, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/preface.html`.

Agrawal:2019:WDC

[ASL+19] S. Agrawal, A. Sankaran, A. Laha, S. A. Chemmengath, D. Shrivastava, and K. Sankaranarayanan. What is deemed computationally creative? *IBM Journal of Research and Development*, 63(1):3:1–3:12, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Anderson:2007:IAR

[ASR07] G. F. Anderson, D. A. Selby, and M. Ramsey. Insider attack and real-time data mining of user behavior. *IBM Journal of Research and Development*, 51 (3/4):465–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/anderson.html`.

Astrahan:1958:RLM

[Ast58] M. M. Astrahan. The role of large memories in scientific communications. *IBM Journal of Research and Development*, 2(4):310–313, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392643`.

Anderson:1967:ISMa

[AST67a] D. W. Anderson, F. J. Sparacio, and R. M. Tomasulo. The IBM System/360 Model 91: Machine philosophy and instruction handling. *IBM Journal of Research and Development*, 11(1):8–24, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392015`.

Astrom:1967:CCP

[Ast67b] K. J. Astrom. Computer control of a paper machine — an application of linear stochastic control theory. *IBM Journal of Research and Development*, 11 (4):389–405, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391944`.

Argyle:1976:BLM

[ASV76] B. E. Argyle, J. C. Slonczewski, and O. Voegeli. Bubble lattice motions due to modulated bias fields. *IBM Journal of Research and Development*, 20 (2):109–122, March 1976. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Alfonseca:1978:MAI

[AT78] Manuel Alfonseca and Maria L. Tavera. A machine-independent APL interpreter. *IBM Journal of Research and Development*, 22(4):413–421, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Acoff:2000:CCL

[AT00] V. L. Acoff and R. G. Thompson. Characterization of constitutional liquid film migration in nickel-base alloy 718. *IBM Journal of Research and Development*, 44(5):668–680, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/acoff.pdf`.

Andreopoulos:2015:VSN

[ATC+15] A. Andreopoulos, B. Taba, A. S. Cassidy, R. Alvarez-Icaza, M. D. Flickner, W. P. Risk, A. Amir, P. A. Merolla, J. V. Arthur, D. J. Berg, J. A. Kusnitz, P. Datta, S. K. Esser, R. Appuswamy, D. R. Barch, and D. S. Modha. Visual saliency on networks of neurosynaptic cores. *IBM Journal of Research and Development*, 59(2–3):9:1–9:16, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Arps:1988:MVC

[ATL+88] Ronald B. Arps, Thomas K. Truong, David J. Lu, Richard C. Pasco, and Theodore David Friedman. A multi-purpose VLSI chip for adaptive data compression of bilevel images. *IBM Journal of Research and Development*, 32(6):775–795 (or 775–794??), November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Attardo:1992:PES

[Att92] M. J. Attardo. Preface: ES/9000 semiconductor and packaging technologies. *IBM Journal of Research and Development*, 36(5):819–820, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Special issue "ES/9000 semiconductor and packaging technologies".

Ausschnitt:1997:ADP

[ATW97] C. P. Ausschnitt, A. C. Thomas, and T. J. Wiltshire. Advanced DUV photolithography in a pilot line environment. *IBM Journal of Research and Development*, 41 (1/2):21–37, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/ausschnitt.html`.

Abraham:2006:RTC

[ATW06] D. W. Abraham, P. L. Trouilloud, and D. C. Worledge.

Rapid-turnaround characterization methods for MRAM development. *IBM Journal of Research and Development*, 50 (1):55–67, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/abraham.html`.

Andry:2008:FCR

[ATW+08] Paul S. Andry, Cornelia K. Tsang, Bucknell C. Webb, Edmund J. Sprogis, Steven L. Wright, Bing Dang, and Dennis G. Manzer. Fabrication and characterization of robust through-silicon vias for silicon-carrier applications. *IBM Journal of Research and Development*, 52(6):571–581, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/andry.html`.

Andricacos:1998:DCE

[AUD+98] C. Andricacos, C. Uzoh, J. O. Dukovic, J. Horkans, and H. Deligianni. Damascene copper electroplating for chip interconnections. *IBM Journal of Research and Development*, 42 (5):567–574, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/andricacos.html`.

Auslander:1990:MPL

[Aus90] M. A. Auslander. Managing programs and libraries in AIX version 3 for RISC System/6000 processors. *IBM Journal of Research and Development*, 34(1): 98–104, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401L.pdf`.

Appavoo:2009:KEC

[AUW+09] J. Appavoo, V. Uhlig, A. Waterland, B. Rosenburg, D. Da Silva, and J. E. Moreira. Kittyhawk: Enabling cooperation and competition in a global, shared computational system. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/appavoo.html`.

Arnold:2004:IPN

[AV04] T. W. Arnold and L. P. Van Doorn. The IBM PCIXCC: a new cryptographic coprocessor for the IBM eServer. *IBM Journal of Research and Development*, 48(3/4):475–487, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/arnold.html`; `http://www.research.ibm.com/journal/rd/483/arnold.pdf`.

Alers:1962:VEM

[AW62] G. A. Alers and D. L. Waldorf. Variation of the elastic moduli at the superconducting transition. *IBM Journal of Research and Development*, 6(1):89–93, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392421`.

Appel:1976:DTD

[AW76] Arthur Appel and Peter M. Will. Determining the three-dimensional convex hull of a polyhedron. *IBM Journal of Research and Development*, 20 (6):590–601, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Abdou:1982:ALI

[AW82] I. E. Abdou and K. Y. Wong. Analysis of linear interpolation schemes for bi-level image applications. *IBM Journal of Research and Development*, 26(6): 667–680, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Allenspach:1998:OMP

[AW98] R. Allenspach and W. Weber. Oscillatory magnetic properties. *IBM Journal of Research and Development*, 42 (1):7–24, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/allenspach.html`.

Allen:1997:PNL

[AWHK97] R. D. Allen, G. M. Wallraff, D. C. Hofer, and R. R. Kunz. Photoresists for 193-nm lithography. *IBM Journal of Research and Development*, 41 (1/2):95–104, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/allen.html`.

Allen:2020:CCU

[AWK20] T. Allen, E. Wells, and K. Klima. Culture and cognition: Understanding public perceptions of risk and (in)action. *IBM Journal of Research and Development*, 64(1/2):11:1–11:17, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Amemiya:2014:AER

[AYA14] Y. Amemiya, H. Yang, and K. Anikeev. An approach to enterprise revenue forecasting as a decision support system. *IBM Journal of Research and Development*, 58(4):9:1–9:7, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Azbel:1988:BEM

[Azb88] Mark Ya. Azbel. Bloch electron in a magnetic field: Mixed dimensionality and the magnetic-

field-induced generalized quantum Hall effect. *IBM Journal of Research and Development*, 32 (1):52–57, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brock:1962:DOD

[BA62] G. E. Brock and C. F. Aliotta. Direct observation of dislocation loops in arsenic-doped germanium [letter to the editor]. *IBM Journal of Research and Development*, 6(3): 372–374, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392382`.

Berry:1969:SSC

[BA69] B. S. Berry and I. Ames. Studies of the SLT chip terminal metallurgy. *IBM Journal of Research and Development*, 13 (3):286–296, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blakeslee:1970:MSC

[BA70] A. E. Blakeslee and C. F. Aliotta. Man-made superlattice crystals. *IBM Journal of Research and Development*, 14(6): 686–688, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berridge:2007:IPM

[BAB+07] R. Berridge, R. M. Averill III, A. E. Barish, M. A. Bowen, P. J. Camporese, J. DiLullo, P. E. Dudley, J. Keinert, D. W. Lewis, R. D. Morel, T. Rosser, N. S. Schwartz, P. Shephard, H. H. Smith, D. Thomas, P. J. Restle, J. R. Ripley, S. L. Runyon, and P. M. Williams. IBM POWER6 microprocessor physical design and design methodology. *IBM Journal of Research and Development*, 51(6): 685–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/berridge.html`.

Blaner:2013:IPP

[BAB+13] B. Blaner, B. Abali, B. M. Bass, S. Chari, R. Kalla, S. Kunkel, K. Lauricella, R. Leavens, J. J. Reilly, and P. A. Sandon. IBM POWER7+ processor on-chip accelerators for cryptography and active memory expansion. *IBM Journal of Research and Development*, 57(6): 3:1–3:16, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Becht:2018:IZA

[BAB+18] M. Becht, S. G. Aden, T. Bubb, C. Colonna, R. Higgs, L. Hopkins, A. Li, M. Saleheen, J. F. Silverio, R. Wong, and M. Zee. IBM z14: Advancing the I/O storage and networking channel adapter. *IBM Journal of Research and Development*, 62(2–3):14:1–14:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646

(print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8281488/`.

Baglin:1994:TFB

[Bag94] J. E. E. Baglin. Thin film bonding using ion beam techniques — a review. *IBM Journal of Research and Development*, 38 (4):413–422, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#six`.

Bonner:1982:APB

[BAH82] Roy F. Bonner, John A. Asselta, and Frank W. Haining. Advanced printed-circuit board design for high-performance computer applications. *IBM Journal of Research and Development*, 26(3):297–305, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bala:1991:FIV

[Bal91] G. P. Bala. FEMvis: an interactive visualization tool for mechanical analysis. *IBM Journal of Research and Development*, 35(1/2):4–11, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Balog:2005:MVP

[Bal05] Douglas Balog. Message from the Vice President, BladeCenter Development, IBM Systems and Technology Group. *IBM Journal of Research and Development*, 49(6):??, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/message.html`.

Bardeen:1962:RPS

[Bar62] J. Bardeen. Review of the present status of the theory of superconductivity. *IBM Journal of Research and Development*, 6(1):3–11, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392403`.

Bartz:1968:IOP

[Bar68] M. R. Bartz. The IBM 1975 optical page reader. II: Video thresholding system. *IBM Journal of Research and Development*, 12(5):354–363, September 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barnett:1969:CFS

[Bar69] A. M. Barnett. Current filaments in semiconductors. *IBM Journal of Research and Development*, 13(5):522–528, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bard:1973:CPP

[Bar73] Y. Bard. Characterization of program paging in a time-sharing environment. *IBM Journal of Research and Development*, 17(5):387–393, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bard:1975:APS

[Bar75] Y. Bard. Application of the Page Survival Index (PSI) to virtual-memory system performance. *IBM Journal of Research and Development*, 19 (3):212–220, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bard:1978:AMV

[Bar78] Y. Bard. An analytic model of the VM/370 system. *IBM Journal of Research and Development*, 22(5):498–508, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bard:1980:ESP

[Bar80] Yonathan Bard. Estimation of state probabilities using the maximum entropy principle. *IBM Journal of Research and Development*, 24(5):563–569, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barnes:1982:ASP

[Bar82] E. R. Barnes. An algorithm for separating patterns by ellipsoids. *IBM Journal of Research and Development*, 26(6): 759–764, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barry:1983:FDL

[Bar83] Patricia Latus Barry. Failure diagnosis on the LT1280. *IBM Journal of Research and Development*, 27(1):41–49, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barbosa:1986:MSW

[Bar86] Lineu C. Barbosa. A maximum-energy-concentration spectral window. *IBM Journal of Research and Development*, 30 (3):321–325, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Batson:2000:ARA

[Bat00] P. E. Batson. Atomic resolution analytical microscopy. *IBM Journal of Research and Development*, 44(4):477–487, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/batson.html`.

Baumeister:1963:NCF

[Bau63] H. K. Baumeister. Nominal clearance of the foil bearing. *IBM Journal of Research and Development*, 7(2): 153–154, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392293`.

Baumann:1972:VBC

[Bau72] G. W. Baumann. Viscoelastic behavior of computer tape subjected to periodic motion. *IBM Journal of Research and Development*, 16(3):214–221, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baumann:1984:FFE

[Bau84] Gerald W. Baumann. Flash fusing in electrophotographic machines. *IBM Journal of Research and Development*, 28 (3):292–299, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bieswanger:2009:PTM

[BAV+09] A. Bieswanger, M. Andres, J. J. Van Heuklon, T. B. Mathias, H. Osterndorf, S. A. Piper, and M. R. Vanderwiel. Power and thermal monitoring for the IBM System z10. *IBM Journal of Research and Development*, 53(1):14:9, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/bieswanger.pdf`.

Baxendale:1958:MMI

[Bax58] P. B. Baxendale. Machine-made index for technical Literature — An experiment. *IBM Journal of Research and Development*, 2(4):354–361, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392648`.

Baynham:1969:WPN

[Bay69] A. C. Baynham. Wave propagation in negative differential conductivity media. n-Ge. *IBM Journal of Research and Development*, 13(5):568–572, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bayer:1978:MWR

[Bay78] R. G. Bayer. Mechanism of wear by ribbon and paper. *IBM Journal of Research and Development*, 22(6):668–674, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beckerman:1960:IEE

[BB60] M. Beckerman and K. H. Behrndt. The influence of edge effects on domain structure and coercive force of circular nickel-iron films [letter to the editor]. *IBM Journal of Research and Development*, 4 (2):198–201, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392551`.

Blodgett:1982:TCM

[BB82] Albert J. Blodgett, Jr. and Donald R. Barbour. Thermal conduction module: a high-performance multilayer ceramic package. *IBM Journal of Research and Development*, 26(1): 30–36, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Breiter:2009:LCC

[BB09] G. Breiter and M. Behrendt. Life cycle and characteristics of services in the world of cloud computing. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/breiter.html`.

Brey:2005:BCM

[BBB+05] T. Brey, B. E. Bigelow, J. E. Bolan, H. Cheselka, Z. Dayar, J. M. Franke, D. E. Johnson, R. N. Kantesaria, E. J. Klodnicki, S. Kochar, S. M. Lardinois, C. A. Morrell, M. S. Rollins, R. R. Wolford, and D. R. Woodham. BladeCenter chassis management. *IBM Journal of Research and Development*, 49(6): 941–961, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/brey.html`.

Borntrager:2020:SYC

[BBB+20] C. Bornträger, J. D. Bradbury, R. Bündgen, F. Busaba, L. C. Heller, and V. Mihajlovski. Secure your cloud workloads with IBM Secure Execution for Linux on IBM z15 and LinuxONE III. *IBM Journal of Research and Development*, 64(5/6):2:1–2:11, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bartkus:1964:ATB

[BBC+64] E. A. Bartkus, J. M. Brownlow, W. A. Crapo, R. F. Elfant, K. R. Grebe, and O. A. Gutwin. An approach towards batch fabricated ferrite memory planes. *IBM Journal of Research and Development*, 8 (2):170–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802I.pdf`.

Bradshaw:2008:ASS

[BBC+08] Paul L. Bradshaw, Karen W. Brannon, Thomas Clark, Kirby Dahman, Sangeeta Doraiswamy, Linda Duyanovich, Bruce L. Hillsberg, Wayne Hineman, Michael Kaczmarski, Bernhard J. (BJ) Klingenberg, Xiaonan Ma, and Robert Rees. Archive storage system design for long-term storage of massive amounts of data. *IBM Journal of Research and Development*, 52(4/5):379–388, ???? 2008. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/bradshaw.html`.

Bertino:2009:APS

[BBC+09] E. Bertino, C. Brodie, S. B. Calo, L. F. Cranor, C. Karat, J. Karat, N. Li, D. Lin, J. Lobo, Q. Ni, P. R. Rao, and X. Wang. Analysis of privacy and security policies. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/bertino.html`.

Beichter:2012:ISZ

[BBC+12a] F. Beichter, T. D. Butler, S. B. Compton, D. F. Riedy, M. H. Sabins, and H. M. Yudenfriend. IBM System z I/O discovery and autoconfiguration. *IBM Journal of Research and Development*, 56(1–2):15:1–15:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Busaba:2012:IZM

[BBC+12b] F. Busaba, M. A. Blake, B. Curran, M. Fee, C. Jacobi, P.-K. Mak, B. R. Prasky, and C. R. Walters. IBM zEnterprise 196 microprocessor and cache subsystem. *IBM Journal of Research and Development*, 56(1–2):1:1–1:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Becerril:1980:GCF

[BBCV80] J. L. Becerril, J. Bondia, R. Casajuana, and F. Valer. Grammar characterization of flowgraphs. *IBM Journal of Research and Development*, 24(6):756–763, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bernhard:1963:ADA

[BBD63] S. A. Bernhard, D. F. Bradley, and W. L. Duda. Automatic determination of amino acid sequences. *IBM Journal of Research and Development*, 7(3):246–251, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392307`.

Bisdikian:1998:MDC

[BBD+98] C. Bisdikian, S. Brady, Y. N. Doganata, D. A. Foulger, F. Marconcini, M. Mourad, H. L. Operowsky, G. Pacifici, and A. N. Tantawi. MultiMedia digital conferencing: a Web-enabled multimedia teleconferencing system. *IBM Journal of Research and Development*, 42(2):281–298, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/bisdikian.html`.

Bednar:2002:ISP

[BBD+02] T. R. Bednar, P. H. Buffet, R. J. Darden, S. W. Gould,

and P. S. Zuchowski. Issues and strategies for the physical design of system-on-a-chip ASICs. *IBM Journal of Research and Development*, 46(6): 661–674, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/bednar.pdf`.

Bhattacharjee:2017:IDL

[BBD+17] B. Bhattacharjee, S. Boag, C. Doshi, P. Dube, B. Herta, V. Ishakian, K. R. Jayaram, R. Khalaf, A. Krishna, Y. B. Li, V. Muthusamy, R. Puri, Y. Ren, F. Rosenberg, S. R. Seelam, Y. Wang, J. M. Zhang, and L. Zhang. IBM Deep Learning Service. *IBM Journal of Research and Development*, 61(4–5):10:1–10:11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030274/`.

Balmin:2013:PEA

[BBE+13] A. Balmin, K. Beyer, V. Ercegovac, J. McPherson, F. Ozcan, H. Pirahesh, E. Shekita, Y. Sismanis, S. Tata, and Y. Tian. A platform for eXtreme Analytics. *IBM Journal of Research and Development*, 57(3/4):4:1–4:11, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bercea:2020:OSS

[BBE+20] G. T. Bercea, A. Bataev, A. E. Eichenberger, C. Bertolli, and J. K. O'Brien. An open-source solution to performance portability for Summit and Sierra supercomputers. *IBM Journal of Research and Development*, 64(3/4):12:1–12:23, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Banzhaf:2004:SIP

[BBF+04] G. Banzhaf, F. W. Brice, G. R. Frazier, J. P. Kubala, T. B. Mathias, and V. Sameske. SCSI initial program loading for zSeries. *IBM Journal of Research and Development*, 48 (3/4):507–518, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/banzhaf.html; http://www.research.ibm.com/journal/rd/483/banzhaf.pdf`.

Buchwalter:2005:EMS

[BBF+05] S. L. Buchwalter, P. J. Brofman, C. Feger, M. A. Gaynes, K.-W. Lee, L. J. Matienzo, and D. L. Questad. Effects of mechanical stress and moisture on packaging interfaces. *IBM Journal of Research and Development*, 49(4/5):663–675, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/buchwalter.html`.

Behrndt:1960:IAM

[BBG60] M. E. Behrndt, R. H. Blumberg, and G. R. Giedd. On the influence of aggregation on the magnetic phase transition of evaporated superconducting thin films. *IBM Journal of Research and Development*, 4 (2):184–188, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392548`.

Breiter:2014:SDE

[BBG+14] G. Breiter, M. Behrendt, M. Gupta, S. D. Moser, R. Schulze, I. Sippli, and T. Spatzier. Software defined environments based on TOSCA in IBM cloud implementations. *IBM Journal of Research and Development*, 58(2–3):9:1–9:10, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baentsch:2014:ISE

[BBGE+14] M. Baentsch, P. Buhler, L. Garces-Erice, T. Gschwind, F. Horing, M. Kuyper, A. Schade, P. Scotton, and P. Urbanetz. IBM Secure Enterprise Desktop. *IBM Journal of Research and Development*, 58(1):10:1–10:11, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brodnax:1994:IPM

[BBGP94] T. B. Brodnax, R. V. Billings, S. C. Glenn, and P. T. Patel. Implementation of the PowerPC 601 microprocessor. *IBM Journal of Research and Development*, 38(5):621–632, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#twelve`.

Brennemann:1967:TIT

[BBH+67] A. E. Brennemann, A. V. Brown, M. Hatzakis, A. J. Speth, and R. F. M. Thornley. Two interconnection techniques for large-scale circuit integration. *IBM Journal of Research and Development*, 11(5): 520–526, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391960`.

Bashe:1981:AIE

[BBH+81] C. J. Bashe, W. Buchholz, G. V. Hawkins, J. J. Ingram, and N. Rochester. The architecture of IBM's early computers. *IBM Journal of Research and Development*, 25(5): 363–375, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bergendahl:1982:OPP

[BBH82] A. S. Bergendahl, S. F. Bergeron, and D. L. Harmon. Op-

timization of plasma processing for silicon-gate FET manufacturing applications. *IBM Journal of Research and Development*, 26(5):580–589, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bernstein:1995:RVP

[BBH+95] K. Bernstein, J. E. Bertsch, L. G. Heller, E. J. Nowak, and F. R. White. Reduced voltage power/performance optimization of the 3.6- volt PowerPC 601 microprocessor. *IBM Journal of Research and Development*, 39(1/2):33–42, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#four`.

Barzilai:1984:UHS

[BBHS84] Zeev Barzilai, Daniel K. Beece, Leendert M. Huisman, and Gabriel M. Silberman. Using a hardware simulation engine for custom MOS structured designs. *IBM Journal of Research and Development*, 28(5): 564–571, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boudreau:1994:PCR

[BBI94] P. E. Boudreau, W. C. Bergman, and D. R. Irvin. Performance of a cyclic redundancy check and its interaction with a data scrambler. *IBM Journal of Research and Development*, 38(6):651–658, November 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html#one`.

Bohm:2008:FGP

[BBK+08] E. Bohm, A. Bhatele, L. V. Kalé, M. E. Tuckerman, S. Kumar, J. A. Gunnels, and G. J. Martyna. Fine-grained parallelization of the Car–Parrinello ab initio molecular dynamics method on the IBM Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 52(1/2):159–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/bohm.html`.

Barlev:2016:SYU

[BBK+16] S. Barlev, Z. Basil, S. Kohanim, R. Peleg, S. Regev, and A. Shulman-Peleg. Secure yet usable: Protecting servers and Linux containers. *IBM Journal of Research and Development*, 60(4):12:1–12:10, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523363/`.

Bradshaw:1986:CMP

[BBKW86] R. Bradshaw, B. Bhushan, C. Kalthoff, and M. Warne.

Chemical and mechanical performance of flexible magnetic tape containing chromium dioxide. *IBM Journal of Research and Development*, 30(2):203–216, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boone:1992:AED

[BBMP92] L. E. Boone, M. R. Brinthaupt, J. A. Malack, and J. Pavlik. Aspects of the electrical design and analyses of the printed circuit boards of the IBM Enterprise System/9000 water-cooled processors. *IBM Journal of Research and Development*, 36(5): 943–955, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Balakrishnan:2019:UMA

[BBMR19] A. Balakrishnan, D. Bouneffouf, N. Mattei, and F. Rossi. Using multi-armed bandits to learn ethical priorities for online AI systems. *IBM Journal of Research and Development*, 63 (4–5):1:1–1:13, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beausoleil:1972:MBM

[BBP72] W. F. Beausoleil, D. T. Brown, and B. E. Phelps. Magnetic bubble memory organization. *IBM Journal of Research and Development*, 16(6): 587–591, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barberi:1991:DML

[BBPS91] F. Barberi, R. Bernstein, M. T. Pareschi, and R. Santacroce. Displaying morphological and lithological maps: a numerically intensive computing and visualization application. *IBM Journal of Research and Development*, 35(1/2):78–87, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bauschlicher:1978:MSC

[BBS78] Charles W. Bauschlicher, Jr., Paul S. Bagus, and Henry F. Schaefer III. Model study in chemisorption: Molecular orbital cluster theory for atomic hydrogen on Be(0001). *IBM Journal of Research and Development*, 22(3):213–234 (or 470–484??), May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brooks:2003:NME

[BBS+03] D. Brooks, P. Bose, V. Srinivasan, M. K. Gschwind, P. G. Emma, and M. G. Rosenfield. New methodology for early-stage, microarchitecture-level power-performance analysis of microprocessors. *IBM Journal of Research and Development*, 47(5/6):653–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/brooks.pdf`.

Bassok:1997:DCS

[BBSW97] Y. Bassok, A. Bixby, R. Srinivasan, and H. Z. Wiesel. Design of component-supply contract with commitment-revision flexibility. *IBM Journal of Research and Development*, 41(6): 693–703, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/bassok.html`.

Becker:1960:DCV

[BBT60] C. Becker, C. M. Bruen, and R. B. Turner. Determining component variation for gradual transition between dissimilar impedances [letter to the editor]. *IBM Journal of Research and Development*, 4(4): 430–438, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392521`.

Bogy:1979:EDC

[BBT79] D. B. Bogy, N. Bugdayci, and F. E. Talke. Experimental determination of creep functions for thin orthotropic polymer films. *IBM Journal of Research and Development*, 23(4):450–458, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bugdayci:1983:AMR

[BBT83] Nur Bugdayci, David B. Bogy, and Frank E. Talke. Axisymmetric motion of radially polarized piezoelectric cylinders used in ink jet printing. *IBM Journal of Research and Development*, 27(2):171–180, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bouchard:1985:ECH

[BBT85] Gilles Bouchard, David B. Bogy, and Frank E. Talke. Experimental comparison of the head/disk interface dynamics in 5.25- and 8-inch disk drives. *IBM Journal of Research and Development*, 29(3):316–323, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baker:1960:IVG

[BC60a] W. E. Baker and D. M. J. Compton. Incorporation of as into vapor-grown ge. *IBM Journal of Research and Development*, 4(3):275–279, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392493`.

Baker:1960:IAV

[BC60b] W. E. Baker and D. M. J. Compton. Incorporation of Au into vapor-grown Ge [letter to the editor]. *IBM Journal of Research and Development*, 4 (3):296–298, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392497`.

Baker:1960:RSI

[BC60c] W. E. Baker and D. M. J. Compton. Radiotracer studies of the incorporation of iodine into vapor-grown ge. *IBM Journal of Research and Development*, 4(3):269–274, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392492`.

Barrekette:1965:PBG

[BC65] E. S. Barrekette and R. L. Christensen. On plane blazed gratings. *IBM Journal of Research and Development*, 9(2): 108–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bell:2000:FLM

[BC00] P. McCauley Bell and L. Crumpton. A fuzzy linguistic model for the prediction of carpal tunnel syndrome risks in an occupational environment. *IBM Journal of Research and Development*, 44(5): 759–769, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/mccauley.pdf`.

Bocu:2018:HEB

[BC18] R. Bocu and C. Costache. A homomorphic encryption-based system for securely managing personal health metrics data. *IBM Journal of Research and Development*, 62(1): 1:1–1:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269765/`.

Brock:2001:EBC

[BCC+01] B. C. Brock, G. D. Carpenter, E. Chiprout, M. E. Dean, P. L. De Backer, E. N. Elnozahy, H. Franke, M. E. Giampapa, D. Glasco, J. L. Peterson, R. Rajamony, R. Ravindran, F. L. Rawson, R. L. Rockhold, and J. Rubio. Experience with building a commodity Intel-based ccNUMA system. *IBM Journal of Research and Development*, 45(2): 207–228, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/brock.html`.

Boyle:2005:OQQ

[BCC+05] P. A. Boyle, D. Chen, N. H. Christ, M. A. Clark, S. D. Cohen, C. Cristian, Z. Dong, A. Gara, B. Joó, C. Jung, C. Kim, L. A. Levkova, X. Liao, R. D. Mawhinney, S. Ohta, K. Petrov, T. Wettig, and A. Yamaguchi. Overview of

the QCDSP and QCDOC computers. *IBM Journal of Research and Development*, 49 (2/3):351–365, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/boyle.pdf`.

Baier:2012:SFP

[BCC+12] M. Baier, J. E. Carballo, A. J. Chang, Y. Lu, A. Mojsilovic, M. J. Richard, M. Singh, M. S. Squillante, and K. R. Varshney. Sales-force performance analytics and optimization. *IBM Journal of Research and Development*, 56(6): 8:1–8:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353942`.

Beaty:2016:MSA

[BCC+16] K. A. Beaty, J. M. Chow, R. L. F. Cunha, K. K. Das, M. F. Hulber, A. Kundu, V. Michelini, and E. R. Palmer. Managing sensitive applications in the public cloud. *IBM Journal of Research and Development*, 60(2–3):4:1–4:13, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Balagurusamy:2019:CA

[BCC+19] V. S. K. Balagurusamy, C. Cabral, S. Coomaraswamy, E. Delamarche, D. N. Dillenberger, G. Dittmann, D. Friedman, O. Gökçe, N. Hinds, J. Jelitto, A. Kind, A. D. Kumar, F. Libsch, J. W. Ligman, S. Munetoh, C. Narayanaswami, A. Narendra, A. Paidimarri, M. A. P. Delgado, J. Rayfield, C. Subramanian, and R. Vaculin. Crypto anchors. *IBM Journal of Research and Development*, 63(2–3):4:1–4:12, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bunce:1992:DTM

[BCCK92] P. Bunce, W. Chin, L. Clark, and B. Krumm. Directory and Trace memory chip with active discharge cell. *IBM Journal of Research and Development*, 36(5):859–865, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bohnhoff:1985:SCR

[BCD+85] Alan E. Bohnhoff, Donald Croley, Stan Dyer, Tim Green, Randy Maddox, and Lynn M. Struttmann. System controls for a resistive ribbon printer. *IBM Journal of Research and Development*, 29(5):494–508 (or 494–507??), September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bakis:2017:PNL

[BCD+17] R. Bakis, D. P. Connors, P. Dube, P. Kapanipathi, A. Kumar, D. Malioutov, and

C. Venkatramani. Performance of natural language classifiers in a question-answering system. *IBM Journal of Research and Development*, 61(4–5):14:1–14:10, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030301/`.

Busby:2020:ICC

[BCD+20] J. A. Busby, E. N. Cohen, E. A. Dames, J. Doherty, S. Dragone, D. Evans, M. J. Fisher, N. Hadzic, C. Hagleitner, A. J. Higby, M. D. Hocker, L. S. Jagich, M. J. Jordan, R. Kisley, K. D. Lamb, M. D. Marik, J. Mayfield, T. E. Morris, T. D. Needham, W. Santiago-Fernandez, V. Urban, T. Visegrady, and K. Werner. The IBM 4769 cryptographic coprocessor. *IBM Journal of Research and Development*, 64(5/6):3:1–3:11, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barahona:2007:IAT

[BCE+07] F. Barahona, P. Chowdhary, M. Ettl, P. Huang, T. Kimbrel, L. Ladanyi, Y. M. Lee, B. Schieber, K. Sourirajan, M. I. Sviridenko, and G. M. Swirszcz. Inventory allocation and transportation scheduling for logistics of network-centric military operations. *IBM Journal of Research and Development*, 51 (3/4):391–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/barahona.html`.

Berger:2007:HSS

[BCF+07] D. M. Berger, J. Y. Chen, F. D. Ferraiolo, J. A. Magee, and G. A. Van Huben. High-speed source-synchronous interface for the IBM System z9 processor. *IBM Journal of Research and Development*, 51(1/2):53–64, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/berger.html`.

Berger:2009:SCI

[BCG+09] S. Berger, R. Cáceres, K. Goldman, D. Pendarakis, R. Perez, J. R. Rao, E. Rom, R. Sailer, W. Schildhauer, D. Srinivasan, S. Tal, and E. Valdez. Security for the cloud infrastructure: Trusted virtual data center implementation. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/berger.html`.

Buturla:1981:FAS

[BCGS81] E. M. Buturla, P. E. Cottrell, B. M. Grossman, and K. A. Salsburg. Finite-element analysis of semiconductor devices:

the FIELDAY program. *IBM Journal of Research and Development*, 25(4):218–231, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buturla:2000:FEA

[BCGS00] E. M. Buturla, P. E. Cottrell, B. M. Grossman, and K. A. Salsburg. Finite-element analysis of semiconductor devices: The FIELDAY program. *IBM Journal of Research and Development*, 44(1/2):142–156, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/buturla.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Bossen:1984:FAE

[BCH84] D. C. Bossen, C. L. Chen, and M. Y. Hsiao. Fault alignment exclusion for memory using address permutation. *IBM Journal of Research and Development*, 28(2):170–176, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berger:2016:CLN

[BCH+16] S. Berger, Y. Chen, X. Hu, D. Pendarakis, J. R. Rao, R. Sailer, D. L. Schales, and M. Ph. Stoecklin. Closing the loop: Network and in-host monitoring tandem for comprehensive cloud security visibility. *IBM Journal of Research and Development*, 60(4):10:1–10:12, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523362/`.

Bishop:1996:PAB

[BCJ+96] J. W. Bishop, M. J. Campion, T. L. Jeremiah, S. J. Mercier, E. J. Mohring, K. P. Pfarr, B. G. Rudolph, G. S. Still, and T. S. White. PowerPC AS A10 64 bit RISC microprocessor. *IBM Journal of Research and Development*, 40 (4):495–505, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#10`.

Blackshear:2005:EBP

[BCK+05] E. D. Blackshear, M. Cases, E. Klink, S. R. Engle, R. S. Malfatt, D. N. de Araujo, S. Oggioni, L. D. Lacroix, J. A. Wakil, N. H. Pham, G. G. Hougham, and D. J. Russell. The evolution of build-up package technology and its design challenges. *IBM Journal of Research and Development*, 49 (4/5):641–661, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/blackshear.html`.

Boyle:2013:CDI

[BCK13] P. A. Boyle, N. H. Christ, and C. Kim. Co-design of the IBM Blue Gene/Q Level 1 prefetch engine with QCD. *IBM Journal of Research and Development*, 57(1/2):13:1–13:10, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bryant:1991:OSS

[BCR91] R. M. Bryant, H.-Y. Chang, and B. S. Rosenburg. Operating system support for parallel programming on RP3. *IBM Journal of Research and Development*, 35(5/6):617–634, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bajorek:1974:HMT

[BCRT74] C. H. Bajorek, C. Coker, L. T. Romankiw, and D. A. Thompson. Hand-held magnetoresistive transducer. *IBM Journal of Research and Development*, 18(6):541–546, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bupp:1982:HBF

[BCRW82] J. R. Bupp, L. N. Chellis, R. E. Ruane, and J. P. Wiley. High-density board fabrication techniques. *IBM Journal of Research and Development*, 26(3):306–317, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bradbury:2018:IZC

[BCS+18] J. D. Bradbury, A. Chatterjee, A. Saporito, N. P. Sardino, J. S. Siu, A. T. Sofia, E. Tzortzatos, and K. W. Wei. IBM z14 and the cognitive era. *IBM Journal of Research and Development*, 62(2–3):5:1–5:9, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8268108/`.

Batlogg:1989:HSB

[BCSE89] Bertram Batlogg, Robert J. Cava, Lynn F. Schneemeyer, and Gerald P. Espinosa. High-T_c superconductivity in bismuthates — how many roads lead to high T_c? *IBM Journal of Research and Development*, 33(3):208–214, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Benson:1989:DSB

[BCT89] Richard C. Benson, Chisin Chiang, and Frank E. Talke. The dynamics of slider bearings during contacts between slider and disk. *IBM Journal of Research and Development*, 33(1):2–14, January 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bernhard:1962:NNR

[BD62] S. A. Bernhard and W. L. Duda. A note on the nature of RNA codes [letter to the

editor]. *IBM Journal of Research and Development*, 6(3): 365–367, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392380`.

Bate:1974:RSR

[BD74] G. Bate and L. P. Dunn. The remanent state of recorded tapes. *IBM Journal of Research and Development*, 18(6): 563–569, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burger:1996:PFP

[BD96] Robert G. Burger and R. Kent Dybvig. Printing floating-point numbers quickly and accurately. *ACM SIGPLAN Notices*, 31(5):108–116, May 1996. CODEN SINODQ. ISSN 0362-1340 (print), 1523-2867 (print), 1558-1160 (electronic). URL `http://www.acm.org:80/pubs/citations/proceedings/pldi/231379/p108-burger/`. This paper offers a significantly faster algorithm than that of [SW90], together with a correctness proof and an implementation in Scheme. See also [Cli90, ABC+99b, **?**, **?**].

Byrne:1976:LPS

[BDH76] Frank Byrne, Gordon V. Doolittle, and Robert W. Hockenberger. Launch processing system. *IBM Journal of Research and Development*, 20(1): 75–83, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blaauw:1983:ORE

[BDH83] G. A. Blaauw, A. J. W. Duijvestijn, and R. A. M. Hartmann. Optimization of relational expressions using a logical analogon. *IBM Journal of Research and Development*, 27(5):497–519, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bellamy:2019:AFE

[BDH+19] R. K. E. Bellamy, K. Dey, M. Hind, S. C. Hoffman, S. Houde, K. Kannan, P. Lohia, J. Martino, S. Mehta, A. Mojsilovi , S. Nagar, K. N. Ramamurthy, J. Richards, D. Saha, P. Sattigeri, M. Singh, K. R. Varshney, and Y. Zhang. AI Fairness 360: An extensible toolkit for detecting and mitigating algorithmic bias. *IBM Journal of Research and Development*, 63(4–5):4:1–4:15, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Biberstein:2009:CBE

[BDHH+09] M. Biberstein, S. Dori-Hacohen, Y. Harel, A. Heilper, B. Mendelson, U. Shvadron, E. Treister, J. Turek, and M. S. Chang. Cell Broadband Engine processor performance optimization: Tracing tools implemen-

tation and use. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/biberstein.html`.

Brusic:1978:AAG

[BdM+78] V. Brusic, F. M. d'Heurle, R. D. MacInnes, E. I. Alessandrini, J. J. Dempsey, J. Angilello, and M. Sampogna. Al-Cu alloy for gas panels. *IBM Journal of Research and Development*, 22(6): 647–657, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bao:2014:PMU

[BDMN14] J. Bao, A. Deshpande, S. McFaddin, and C. Narayanaswami. Partner-marketing using geo-social media data for smarter commerce. *IBM Journal of Research and Development*, 58(5/6):6:1–6:12, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berndlmaier:1981:DRC

[BDMW81] Erich Berndlmaier, Jack Arthur Dorler, Joseph M. Mosley, and Stephen D. Weitzel. Delay regulation — a circuit solution to the power/performance tradeoff. *IBM Journal of Research and Development*, 25(2/3):135–141, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barth:2002:EDD

[BDN+02] J. E. Barth, Jr., J. H. Dreibelbis, E. A. Nelson, D. L. Anand, G. Pomichter, P. Jakobsen, M. R. Nelms, J. Leach, and G. M. Belansek. Embedded DRAM design and architecture for the IBM 0.11μm ASIC offering. *IBM Journal of Research and Development*, 46(6): 675–689, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/barth.pdf`.

Budd:1997:DAN

[BDS+97] R. A. Budd, D. B. Dove, J. L. Staples, R. M. Martino, R. A. Ferguson, and J. T. Weed. Development and application of a new tool for lithographic mask evaluation, the stepper equivalent Aerial Image Measurement System, AIMS. *IBM Journal of Research and Development*, 41(1/2):119–129, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/budd.html`.

Baldwin:1983:CCO

[BDWZ83] Edwin C. Baldwin, Steven M. DeFoster, Mark A. West, and Richard A. Ziegler. Computer-controlled optical testing of high-density printed-circuit boards. *IBM Journal of Research and Development*, 27(1):

50–58, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Biskeborn:2003:HDD

[BE03] R. G. Biskeborn and J. H. Eaton. Hard-disk-drive technology flat heads for linear tape recording. *IBM Journal of Research and Development*, 47(4): 385–400, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/biskeborn.pdf`.

Beatty:1974:RAA

[Bea74] J. C. Beatty. Register assignment algorithm for generation of highly optimized object code. *IBM Journal of Research and Development*, 18(1):20–39, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beach:1990:DLT

[Bea90] D. B. Beach. Design of low-temperature thermal chemical vapor deposition processes. *IBM Journal of Research and Development*, 34(6):795–805, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bebb:1962:PMM

[Beb62] H. B. Bebb. A polarimetric method of measuring magneto-optic coefficients. *IBM Journal of Research and Development*, 6(4):456–461, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392320`.

Baskey:2002:ZFO

[BEE+02] M. E. Baskey, M. Eder, D. A. Elko, B. H. Ratcliff, and D. W. Schmidt. zSeries features for optimized sockets-based messaging: HiperSockets and OSA-Express. *IBM Journal of Research and Development*, 46(4/5):475–485, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/baskey.html`; `http://www.research.ibm.com/journal/rd/464/baskey.pdf`.

Birgeneau:1989:QEI

[BEH+89] Robert T. Birgeneau, Yasuo Endoh, Y. Hidaka, Kazuhisa Kakurai, Marc A. Kastner, T. Murakami, Gen Shirane, Thomas R. Thurston, and Kazuyoshi Yamada. Quasi-elastic and inelastic neutron-scattering studies of superconducting $La_{2-x}Sr_x/CuO_4$. *IBM Journal of Research and Development*, 33(3):270–276 (or 270–275??), May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beisner:1974:NCN

[Bei74] H. M. Beisner. Numerical cal-

culation of normal modes for underwater sound propagation. *IBM Journal of Research and Development*, 18(1):53–58, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beierle:1992:LPT

[Bei92] C. Beierle. Logic programming with typed unification and its realization on an abstract machine. *IBM Journal of Research and Development*, 36(3):375–390, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buckley:2014:SMC

[BEJ+14] S. Buckley, M. Ettl, P. Jain, R. Luss, M. Petrik, R. K. Ravi, and C. Venkatramani. Social media and customer behavior analytics for personalized customer engagements. *IBM Journal of Research and Development*, 58(5/6):7:1–7:12, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baitinger:2002:SCS

[BEK+02] F. Baitinger, H. Elfering, G. Kreissig, D. Metz, J. Saalmueller, and F. Scholz. System control structure of the IBM eServer z900. *IBM Journal of Research and Development*, 46 (4/5):523–535, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/baitinger.html; http://www.research.ibm.com/journal/rd/464/baitinger.pdf`.

Borkenhagen:2000:MPP

[BEKK00] J. M. Borkenhagen, R. J. Eickemeyer, R. N. Kalla, and S. R. Kunkel. A multithreaded PowerPC processor for commercial servers. *IBM Journal of Research and Development*, 44(6): 885–898, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/borkenhagen.html`.

Barish:1992:IPI

[BEM+92] A. E. Barish, J. P. Eckhardt, M. D. Mayo, W. A. Svarczkopf, and S. P. Gaur. Improved performance of IBM Enterprise System/9000 bipolar logic chips. *IBM Journal of Research and Development*, 36(5): 829–834, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bennett:1959:ERO

[Ben59] C. A. Bennett. Experiments on the relation of the operator to the control loop of an airborne digital computer. *IBM Journal of Research and Development*, 3(3):275–281, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392565`.

Bennett:1973:LRC

[Ben73] C. H. Bennett. Logical reversibility of computation. *IBM Journal of Research and Development*, 17(6):525–532, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bennett:1988:NHR

[Ben88] Charles H. Bennett. Notes on the history of reversible computation. *IBM Journal of Research and Development*, 32(1): 16–23, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Basic concepts in quantum and stochastic transport.

Bennett:2000:NHR

[Ben00] Charles H. Bennett. Notes on the history of reversible computation. *IBM Journal of Research and Development*, 44 (1/2):270–277, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/bennett.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Bertin:1964:TLR

[Ber64] C. L. Bertin. Transmission-line response using frequency techniques. *IBM Journal of Research and Development*, 8 (1):52–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801G.pdf`.

Bernstein:1976:CSS

[Ber76a] Philip A. Bernstein. Comment on: "Segment synthesis in logical data base design" (IBM J. Res. Develop. **19** (1975), 71–77) by C. P. Wang and H. H. Wedekind. with a reply by the authors. *IBM Journal of Research and Development*, 20(4): 412, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [WW75] and comment [Wie76].

Bernstein:1976:DIP

[Ber76b] Ralph Bernstein. Digital image processing of Earth observation sensor data. *IBM Journal of Research and Development*, 20 (1):40–57, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beraud:1985:SPC

[Ber85] Jean Paul Beraud. Signal processor chip implementation. *IBM Journal of Research and Development*, 29(2):140–146, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bevington:1969:RRN

[Bev69] P. R. Bevington. Real-time reduction of nuclear physics data. *IBM Journal of Research and Development*, 13(1): 119–125, January 1969. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barrekette:1963:DFS

[BF63] E. S. Barrekette and H. Freitag. Diffraction by a finite sinusoidal phase grating. *IBM Journal of Research and Development*, 7 (4):345–349, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392264`.

Byerley:1969:SER

[BF69] J. J. Byerley and T. Z. Fahidy. Simulation and experimental research. *IBM Journal of Research and Development*, 13 (1):61–4, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bennett:1977:PCA

[BF77] B. T. Bennett and P. A. Franaszek. Permutation clustering: an approach to on-line storage reorganization. *IBM Journal of Research and Development*, 21(6):528–533, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buechner:1999:EMH

[BFG+99] T. Buechner, R. Fritz, P. Guenther, M. Helms, K. D. Lamb, M. Loew, T. Schlipf, and M. H. Walz. Event monitoring in highly complex hardware systems. *IBM Journal of Research and Development*, 43(5/6): 889–898, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/buechner.html`.

Bernstein:2006:HPC

[BFG+06] K. Bernstein, D. J. Frank, A. E. Gattiker, W. Haensch, B. L. Ji, S. R. Nassif, E. J. Nowak, D. J. Pearson, and N. J. Rohrer. High-performance CMOS variability in the 65-nm regime and beyond. *IBM Journal of Research and Development*, 50 (4/5):433–449, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/bernstein.html`.

Brusic:1993:CPT

[BFH+93] V. Brusic, G. S. Frankel, C.-K. Hu, M. M. Plechaty, and G. C. Schwartz. Corrosion and protection of thin-line conductors in VLSI structures. *IBM Journal of Research and Development*, 37(2):173–189, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blainey:2010:PCS

[BFH10] B. Blainey, H. Franke, and M. Hind. Preface: Commercial software for multicore systems. *IBM Journal of Research and Development*, 54(5): 0:1–0:3, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bilous:1966:DMC

[BFL66] O. Bilous, I. Feinberg, and J. L. Langdon. Design of monolithic circuit chips. *IBM Journal of Research and Development*, 10 (5):370–376, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392045`.

Biem:2013:RTA

[BFRT13] A. Biem, H. Feng, A. V. Riabov, and D. S. Turaga. Real-time analysis and management of big time-series data. *IBM Journal of Research and Development*, 57(3/4):8:1–8:12, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bogy:1979:NES

[BFT79] D. B. Bogy, J. E. Fromm, and F. E. Talke. Numerical and experimental study of the bistable-unstable transition in pressurized flexible disk files. *IBM Journal of Research and Development*, 23(4):437–449, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barreh:1994:PIC

[BGAJ94] J. I. Barreh, R. T. Golla, L. B. Arimilli, and P. J. Jordan. POWER2 instruction cache unit. *IBM Journal of Research and Development*, 38(5): 537–544, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#five`.

Bhanot:2005:OTL

[BGH+05] G. Bhanot, A. Gara, P. Heidelberger, E. Lawless, J. C. Sexton, and R. Walkup. Optimizing task layout on the Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 49(2/3):489–500, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/bhanot.pdf`.

Butler:2017:ESS

[BGJ+17] E. Butler, T. D. Griffin, D. Jadav, H. P. Petersen, and A. A. Barabas. Enterprise storage software lifecycle management system. *IBM Journal of Research and Development*, 61(1): 10:110–10:120, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877286/`.

Boudreau:1962:DQP

[BGK62] P. E. Boudreau, J. S. Griffin, Jr., and M. Kac. A discrete queueing problem with variable service times. *IBM Journal of Research and Development*, 6 (4):407–418, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392315`.

Bhattacharyya:1980:CDT

[BGK+80] Arup Bhattacharyya, Donald P. Gaffney, Richard A. Kenyon, Pierre B. Mollier, James E. Selleck, and Frank W. Wiedman. 1/N circuit and device technology. *IBM Journal of Research and Development*, 24 (3):378–389, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bohlen:1982:EPP

[BGK+82] H. Bohlen, J. Greschner, J. Keyser, W. Kulcke, and P. Nehmiz. Electron-beam proximity printing — a new high-speed lithography method for submicron structures. *IBM Journal of Research and Development*, 26(5):568–579, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brayton:1966:NAT

[BGL66] R. K. Brayton, F. G. Gustavson, and W. Liniger. A numerical analysis of the transient behavior of a transistor circuit. *IBM Journal of Research and Development*, 10(4): 292–299, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392031`.

Brown:1992:ASA

[BGL+92] K. H. Brown, D. A. Grose, R. C. Lange, T. H. Ning, and P. A. Totta. Advancing the state of the art in high-performance logic and array technology. *IBM Journal of Research and Development*, 36(5):821–828, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Better:2007:AAI

[BGL07] M. Better, F. Glover, and M. Laguna. Advances in analytics: Integrating dynamic data mining with simulation optimization. *IBM Journal of Research and Development*, 51 (3/4):477–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/better.html`.

Black:2009:ATG

[BGLM09] J. Black, R. Gottschalk, T. Lococo, and D. Moore. Architectures and technologies for the globally integrated enterprise. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/black.html`.

Boland:1967:ISM

[BGM+67] L. J. Boland, G. D. Granito, A. U. Marcotte, B. U. Messina, and J. W. Smith. The IBM System/ 360 model 91: Storage system. *IBM Journal of Research and Development*, 11 (1):54–68, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392017`.

Bakoglu:1990:IRS

[BGM90] H. B. Bakoglu, G. F. Grohoski, and R. K. Montoye. The IBM RISC System/6000 processor: Hardware overview. *IBM Journal of Research and Development*, 34(1):12–22, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401D.pdf`.

Berger:2016:SIC

[BGM+16] S. Berger, S. Garion, Y. Moatti, D. Naor, D. Pendarakis, A. Shulman-Peleg, J. R. Rao, E. Valdez, and Y. Weinsberg. Security intelligence for cloud management infrastructures. *IBM Journal of Research and Development*, 60(4):11:1–11:13, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523359/`.

Bona:2003:SHR

[BGO03] G.-L. Bona, R. Germann, and B. J. Offrein. SiON high-refractive-index waveguide and planar lightwave circuits. *IBM Journal of Research and Development*, 47(2/3):239–249, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/bona.pdf`.

Bendz:1982:CPS

[BGR82] D. J. Bendz, R. W. Gedney, and J. Rasile. Cost/performance single-chip module. *IBM Journal of Research and Development*, 26(3):278–285, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Braslau:1964:CMO

[BGS64] N. Braslau, J. B. Gunn, and J. L. Staples. Continuous microwave oscillations of current in GaAs. *IBM Journal of Research and Development*, 8(5): 545–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bartholomy:2013:NMT

[BGS13] E. Bartholomy, G. Greenlee, and M. Sylvia. The need to move toward virtualized and more resilient disaster-recovery architectures. *IBM Journal of Research and Development*, 57(5):1:1–1:10, September–October 2013. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bogy:1974:SSC

[BGT74] D. B. Bogy, H. J. Greenberg, and F. E. Talke. Steady solution for circumferentially moving loads on cylindrical shells. *IBM Journal of Research and Development*, 18(5): 395–400, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bozman:1991:TSC

[BGW91] G. P. Bozman, H. H. Ghannad, and E. D. Weinberger. A trace-driven study of CMS file references. *IBM Journal of Research and Development*, 35(5/6):815–828, September/ November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bair:2004:FVZ

[BGW+04] D. G. Bair, S. M. German, W. D. Wollyung, E. J. Kaminski, Jr., J. Schafer, M. P. Mullen, W. J. Lewis, R. Wisniewski, J. Walter, S. Mittermaier, V. Vokhshoori, R. J. Adkins, M. Halas, T. Ruane, and U. Hahn. Functional verification of the z990 superscalar, multibook microprocessor complex. *IBM Journal of Research and Development*, 48 (3/4):347–365, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/bair.html`; `http://www.research.ibm.com/journal/rd/483/bair.pdf`.

Burland:1979:OTL

[BH79] D. M. Burland and D. Haarer. One-and two-photon laser photochemistry in organic solids. *IBM Journal of Research and Development*, 23(5):534–546, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bossen:1980:SSM

[BH80] Douglas C. Bossen and M. Y. Hsiao. A system solution to the memory soft error problem. *IBM Journal of Research and Development*, 24(3):390–397, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bossen:1982:MTP

[BH82] Douglas C. Bossen and M. Y. Hsiao. Model for transient and permanent error-detection and fault-isolation coverage. *IBM Journal of Research and Development*, 26(1):67–77, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blazey:1989:LMA

[BH89] Keith William Blazey and Frederic H. Holtzberg. Low-field microwave absorption in single-crystal superconducting $YBa_2Cu_5O_{7-\delta}$. *IBM Journal of Research and Development*,

33(3):324–327, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bechade:1995:DDL

[BH95] R. A. Bechade and R. M. Houle. Digital delay line clock shapers and multipliers. *IBM Journal of Research and Development*, 39 (1/2):93–103, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#ten`.

Besserud:2011:UDU

[BH11] K. Besserud and T. Hussey. Urban design, urban simulation, and the need for computational tools. *IBM Journal of Research and Development*, 55(1–2):2:1–2:17, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bright:2005:BGC

[BHD+05] A. A. Bright, R. A. Haring, M. B. Dombrowa, M. Ohmacht, D. Hoenicke, S. Singh, J. A. Marcella, R. F. Lembach, S. M. Douskey, M. R. Ellavsky, C. G. Zoellin, and A. Gara. Blue Gene/L compute chip: Synthesis, timing, and physical design. *IBM Journal of Research and Development*, 49 (2/3):277–287, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/bright.pdf`.

Bradley:2003:WBP

[BHH03] D. J. Bradley, R. E. Harper, and S. W. Hunter. Workload-based power management for parallel computer systems. *IBM Journal of Research and Development*, 47(5/6):703–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/bradley.pdf`.

Becker:2015:EPI

[BHH+15] W. D. Becker, H. Harrer, A. Huber, W. L. Brodsky, R. Krabbenhoft, M. A. Cracraft, D. Kaller, G. Edlund, and T. Strach. Electronic packaging of the IBM z13 processor drawer. *IBM Journal of Research and Development*, 59(4–5):13:1–13:12, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Benhamouda:2019:SPD

[BHH19] F. Benhamouda, S. Halevi, and T. Halevi. Supporting private data on Hyperledger Fabric with secure multiparty computation. *IBM Journal of Research and Development*, 63(2–3):3:1–3:8, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brunner:1959:GFL

[BHHO59] R. K. Brunner, J. M. Harker, K. E. Haughton, and A. G. Os-

terlund. A gas film lubrication study. III: Experimental investigation of pivoted slider bearings. *IBM Journal of Research and Development*, 3(3): 260–274, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392564`.

Bieswanger:2002:HCF

[BHK+02] A. Bieswanger, F. Hardt, A. Kreissig, H. Osterndorf, G. Stark, and H. Weber. Hardware configuration framework for the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):537–550, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/bieswanger.html`; `http://www.research.ibm.com/journal/rd/464/bieswanger.pdf`.

Brassard:2004:TGQ

[BHM04] G. Brassard, P. Horodecki, and T. Mor. TelePOVM — a generalized quantum teleportation scheme. *IBM Journal of Research and Development*, 48 (1):87–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/brassard.pdf`.

Beichter:1983:SLS

[BHP83] F. Beichter, O. Herzog, and H. Petzsch. SLAN-4: a language for the specification and design of large software systems. *IBM Journal of Research and Development*, 27(6): 558–576, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baughman:2017:ULM

[BHP17] A. K. Baughman, S. Hammer, and D. Provan. Using language models for improving speech recognition for U.S. Open Tennis Championships. *IBM Journal of Research and Development*, 61(4–5):15:1–15:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030314/`.

Beach:1977:MSI

[BHR77] B. L. Beach, C. W. Hildenbrandt, and W. H. Reed. Materials selection for an ink jet printer. *IBM Journal of Research and Development*, 21(1): 75–80, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beaty:1972:ICS

[BHRS72] D. A. Beaty, T. A. Hoskins, T. H. Richards, and H. W. Simpson. IBM copier scanning system. *IBM Journal of Research and Development*, 16

(3):231–238, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Borucki:1985:FSF

[BHV85] Leonard Borucki, Howard H. Hansen, and Khodadad Varahramyan. FEDSS — a 2D semiconductor fabrication process simulator. *IBM Journal of Research and Development*, 29(3):263–276, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bhattacharjee:2017:DLD

[BHW+17] B. Bhattacharjee, M. L. Hill, H. Wu, P. S. Chandakkar, J. R. Smith, and M. N. Wegman. Distributed learning of deep feature embeddings for visual recognition tasks. *IBM Journal of Research and Development*, 61(4–5):4:1–4:8, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030315/`.

Buehner:1977:AIJ

[BHWW77] W. L. Buehner, J. D. Hill, T. H. Williams, and J. W. Woods. Application of ink jet technology to a word processing output printer. *IBM Journal of Research and Development*, 21(1):2–9, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buelow:1963:CPM

[BHWZ63] F. K. Buelow, F. B. Hartman, E. L. Willette, and J. J. Zasio. A circuit packaging model for high-speed computer technology. *IBM Journal of Research and Development*, 7(3):182–189, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392301`.

Benner:2005:EOI

[BIK+05] A. F. Benner, M. Ignatowski, J. A. Kash, D. M. Kuchta, and M. B. Ritter. Exploitation of optical interconnects in future server architectures. *IBM Journal of Research and Development*, 49(4/5):755–775, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/benner.html`.

Billingsley:1970:EHS

[Bil70] D. S. Billingsley. On the equations of Holland in the solution of problems in multicomponent distillation. *IBM Journal of Research and Development*, 14(1):33–40, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Billingsley:1972:EUS

[Bil72] D. S. Billingsley. Existence and uniqueness of the solution to Holland's equations for a class

of multicolumn distillation systems. *IBM Journal of Research and Development*, 16(??):482–488, 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Birman:1974:PCM

[Bir74] A. Birman. On proving correctness of microprograms. *IBM Journal of Research and Development*, 18(3):250–266, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Birney:2001:HMM

[Bir01] E. Birney. Hidden Markov models in biological sequence analysis. *IBM Journal of Research and Development*, 45(3/4):449–454, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/birney.html`; `http://www.research.ibm.com/journal/rd/453/birney.pdf`.

Buckeridge:2012:IRT

[BISN+12] D. L. Buckeridge, M. Izadi, A. Shaban-Nejad, L. Mondor, C. Jauvin, L. Dube, Y. Jang, and R. Tamblyn. An infrastructure for real-time population health assessment and monitoring. *IBM Journal of Research and Development*, 56(5): 2:1–2:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261575`.

Brown:1967:RCO

[BJ67] K. R. Brown and G. W. Johnson. Rapid computation of optimal trajectories. *IBM Journal of Research and Development*, 11(4):373–382, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391942`.

Burbeck:2006:ARC

[BJ06a] S. Burbeck and K. E. Jordan. An assessment of the role of computing in systems biology. *IBM Journal of Research and Development*, 50(6): 529–543, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/burbeck.html`.

Burbeck:2006:P

[BJ06b] S. Burbeck and K. E. Jordans. Preface. *IBM Journal of Research and Development*, 50(6): 527–528, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/preface.html`.

Belluomini:2006:LSD

[BJM+06] W. Belluomini, D. Jamsek, A. K. Martin, C. McDowell, R. K. Montoye, H. C. Ngo, and

J. Sawada. Limited switch dynamic logic circuits for high-speed low-power circuit design. *IBM Journal of Research and Development*, 50(2/3):277–286, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/belluomini.html`.

Broom:1980:EPV

[BJMO80] R. F. Broom, R. Jaggi, Th. O. Mohr, and A. Oosenbrug. Effect of process variables on electrical properties of Pb-alloy Josephson junctions. *IBM Journal of Research and Development*, 24 (2):206–211, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beeteson:1980:DSC

[BJS80] J. S. Beeteson, Kris T. Jarzebowski, and Brian R. Sowter. Digital system for convergence of three-beam high-resolution color data displays. *IBM Journal of Research and Development*, 24(5):598–611, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Botkin:1972:RLA

[BJW72] D. B. Botkin, J. F. Janak, and J. R. Wallis. Rationale, limitations, and assumptions of a northeastern forest growth simulator. *IBM Journal of Research and Development*, 16(2): 101–116, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boudreau:1961:ABQ

[BK61] P. E. Boudreau and M. Kac. Analysis of a basic queuing problem arising in computer systems. *IBM Journal of Research and Development*, 5(2): 132–140, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392438`.

Bahl:1974:IDC

[BK74] L. R. Bahl and H. Kobayashi. Image data compression by predictive coding. II. encoding algorithms. *IBM Journal of Research and Development*, 18(2): 172–179, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bennett:1975:LSP

[BK75] B. T. Bennett and V. J. Kruskal. LRU stack processing. *IBM Journal of Research and Development*, 19(4):353–357, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bajorek:1976:AMM

[BK76] C. H. Bajorek and R. J. Kobliska. Amorphous materials for micrometer and submicrometer bubble domain technology. *IBM Journal of Research and Development*, 20(3):271–281, May 1976. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barker:1976:LDT

[BKB76] J. A. Barker, M. L. Klein, and M. V. Bobetic. Lattice dynamics with three-body forces: solid Xe and Kr. *IBM Journal of Research and Development*, 20 (3):222–227, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Badr:2016:TLS

[BKF+16] G. Badr, L. J. Klein, M. Freitag, C. M. Albrecht, F. J. Marianno, S. Lu, X. Shao, N. Hinds, G. Hoogenboom, and H. F. Hamann. Toward large-scale crop production forecasts for global food security. *IBM Journal of Research and Development*, 60(5–6):5:1–5:11, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580661/`.

Birnbaum:1969:IGS

[BKM+69] J. Birnbaum, T. Kwap, M. Mikelsons, P. Summers, J. F. Schofield, and F. Carrubba. An interactive graphics system for nuclear data acquisition. *IBM Journal of Research and Development*, 13(1):52–60, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baker:1980:STB

[BKM80a] John M. Baker, C. J. Kircher, and J. W. Matthews. Structure of tunnel barrier oxide for Pb-alloy Josephson junctions. *IBM Journal of Research and Development*, 24(2): 223–234, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Broom:1980:MCJ

[BKM80b] R. F. Broom, W. Kotyczka, and A. Moser. Modeling of characteristics for Josephson junctions having nonuniform width or Josephson current density. *IBM Journal of Research and Development*, 24(2):178–187, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bardhan:2010:IPP

[BKN10] I. R. Bardhan, R. J. Kauffman, and S. Naranpanawe. IT project portfolio optimization: a risk management approach to software development governance. *IBM Journal of Research and Development*, 54 (2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/bardhan.html`.

Burgess:1982:SFT

[BKP82] R. M. Burgess, K. B. Koens, and E. M. Pignetti, Jr. Semiconductor final test logistics

and product dispositioning systems. *IBM Journal of Research and Development*, 26(5): 605–612, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bossen:2002:FTD

[BKRF02] D. C. Bossen, A. Kitamorn, K. F. Reick, and M. S. Floyd. Fault-tolerant design of the IBM pSeries 690 system using POWER4 processor technology. *IBM Journal of Research and Development*, 46(1):77–86, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/461/bossen.html`; `http://www.research.ibm.com/journal/rd/461/bossen.pdf`.

Burr:2008:OCD

[BKS+08] Geoffrey W. Burr, Bülent N. Kurdi, J. Campbell Scott, Chung H. Lam, Kailash Gopalakrishnan, and Rohit S. Shenoy. Overview of candidate device technologies for storage-class memory. *IBM Journal of Research and Development*, 52 (4/5):449–464, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/burr.html`.

Bouma:1988:FGF

[BKU88] Gosse Bouma, Esther Koenig, and Hans Uszkoreit. Flexible graph-unification formalism and its application to natural-language processing. *IBM Journal of Research and Development*, 32(2):170–184, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barlow:1962:DGL

[BL62] E. J. Barlow and W. E. Langlois. Diffusion of gas from a liquid into an expanding bubble. *IBM Journal of Research and Development*, 6(3): 329–337, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392374`.

Brown:1969:CBH

[BL69] B. R. Brown and A. W. Lohmann. Computer-generated binary holograms. *IBM Journal of Research and Development*, 13(2):160–168, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buettiker:1986:TTT

[BL86a] Markus Buettiker and Rolf Landauer. Traversal time for tunneling. *IBM Journal of Research and Development*, 30(5): 45l–454, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buttiker:1986:TTT

[BL86b] M. Buttiker and R. Landauer. Traversal time for tunneling. *IBM Journal of Research and Development*, 30(5):451–454, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burroughs:1998:DCT

[BL98] S. H. Burroughs and T. R. Lattrell. Data compression technology in ASIC cores. *IBM Journal of Research and Development*, 42(6):725–731, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/burroughs.html`.

Borrel:2015:VID

[BL15] P. Borrel and B. Laha. Visual integration: A dynamic approach to the interactive combination of disparate data. *IBM Journal of Research and Development*, 59(2–3):13:1–13:12, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blaauw:1959:ICW

[Bla59] G. A. Blaauw. Indexing and control-word techniques. *IBM Journal of Research and Development*, 3(3):288–301, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392567`.

Bland:1963:DCU

[Bla63] G. F. Bland. Directional coupling and its use for memory noise reduction. *IBM Journal of Research and Development*, 7(3):252–256, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392308`.

Blasbalg:1965:CPN

[Bla65] H. Blasbalg. A comparison of pseudo-noise and conventional modulation for multiple-access satellite communications. *IBM Journal of Research and Development*, 9(4):241–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blahut:1979:TTE

[Bla79] R. E. Blahut. Transform techniques for error control codes. *IBM Journal of Research and Development*, 23(3):299–315, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blahut:1984:URD

[Bla84a] Richard E. Blahut. A universal Reed–Solomon decoder. *IBM Journal of Research and Development*, 28(2):150–158, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blahut:1984:URS

[Bla84b] Richard E. Blahut. A universal Reed–Solomon decoder. *IBM Journal of Research and Development*, 28(??):150–158, 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Black:1988:ECD

[Bla88] Ezra Black. Experiment in computational discrimination of English word senses. *IBM Journal of Research and Development*, 32(2):185–194 (or 185–193??), March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blainey:1994:IST

[Bla94] R. J. Blainey. Instruction scheduling in the TOBEY compiler. *IBM Journal of Research and Development*, 38(5): 577–593, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#nine`.

Burns:1963:DEG

[BLB+63] G. Burns, R. A. Laff, S. E. Blum, F. H. Dill, and M. I. Nathan. Directionality effects of GaAs light-emitting diodes: Part I [letter to the editor]. *IBM Journal of Research and Development*, 7(1): 62–63, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392338`.

Biebuyck:1997:LBL

[BLDM97] H. A. Biebuyck, N. B. Larsen, E. Delamarche, and B. Michel. Lithography beyond light: Microcontact printing with monolayer resists. *IBM Journal of Research and Development*, 41 (1/2):159–170, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/biebuyck.html`.

Bethune:1979:TIS

[BLLS79] D. S. Bethune, J. R. Lankard, M. M. T. Loy, and P. P. Sorokin. Time-resolved infrared spectral photography: a new technique. *IBM Journal of Research and Development*, 23(5): 556–575, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bahr:1992:ADP

[BLM+92] J. E. Bahr, S. B. Levenstein, L. A. McMahon, T. J. Mullins, and A. H. Wottreng. Architecture, design, and performance of Application System/ 400 (AS/400) multiprocessors. *IBM Journal of Research and Development*, 36(6):1001–1014, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bindra:1984:MEMa

[BLR84] Perminder Bindra, David N. Light, and David L. Rath. Mechanisms of electroless metal plating: I: Mixed potential theory and the interdependence of partial reactions. *IBM Journal of Research and Development*, 28(6):668–678, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blumentritt:1979:APT

[Blu79a] Bruce F. Blumentritt. Annealing of poly(ethylene terephthalate) film-based magnetic recording media for improved dimensional stability. *IBM Journal of Research and Development*, 23(1): 56–65, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blumentritt:1979:LFI

[Blu79b] Bruce F. Blumentritt. Laminated films with isotropic in-plane properties. *IBM Journal of Research and Development*, 23(1):66–74, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berger:1963:NME

[BM63] J. M. Berger and Benoît Mandelbrot. A new model for error clustering in telephone circuits. *IBM Journal of Research and Development*, 7(3): 224–236, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392305`.

Brown:1968:TCM

[BM68] C. J. Brown and J. T. Ma. Time-optimal control of a moving-coil linear actuator. *IBM Journal of Research and Development*, 12(5):372–379, September 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barone:1984:CCC

[BM84] A. M. Barone and J. K. Morrell. Custom Chip/Card Design System. *IBM Journal of Research and Development*, 28(5): 590–595, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blauner:1993:XMR

[BM93] P. G. Blauner and J. Mauer. X-ray mask repair. *IBM Journal of Research and Development*, 37(3):421–434, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burton:1996:SCC

[BM96] D. A. Burton and B. McNutt. Storage control cache resource management: Increasing diversity, increasing effectiveness. *IBM Journal of Research and Development*, 40 (3):331–340, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

almaden.ibm.com/journal/rd40-3.html#four.

Baro:1986:ABT

[BMC86] A. M. Baro, R. Miranda, and J. L. Carrascosa. Application to biology and technology of the scanning tunneling microscope operated in air at ambient pressure. *IBM Journal of Research and Development*, 30 (4):380–386, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beckingsale:2020:UAF

[BMD+20] D. A. Beckingsale, M. J. McFadden, J. P. S. Dahm, R. Pankajakshan, and R. D. Hornung. Umpire: Application-focused management and coordination of complex hierarchical memory. *IBM Journal of Research and Development*, 64(3/4):00:1–00:10, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bergeron:2016:RRR

[BMF+16] J. G. Bergeron, E. M. Mann, M. W. Farnham, S. Kennedy, K. Everstine, O.-O. Prasarnphanich, K. Smith, W. B. Karesh, D. A. Travis, and A. Kircher. Rapid-response risk evaluation of Ebola spread via the food system. *IBM Journal of Research and Development*, 60(5–6):3:1–3:12, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/document/7580679/.

Buti:2005:OIR

[BMK+05] T. N. Buti, R. G. McDonald, Z. Khwaja, A. Ambekar, H. Q. Le, W. E. Burky, and B. Williams. Organization and implementation of the register-renaming mapper for out-of-order IBM POWER4 processors. *IBM Journal of Research and Development*, 49(1): 167–188, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/491/buti.pdf.

Bieswanger:2020:IZS

[BMM+20] A. Bieswanger, A. Maier, C. Mayer, H. Shah, and J. Candee. IBM Z in a secured hybrid cloud. *IBM Journal of Research and Development*, 64(5/6):1:1–1:10, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bernaschi:1991:TVM

[BMPS91] M. Bernaschi, E. Marinari, S. Patarnello, and S. Succi. Three-dimensional visualization of many-body system dynamics. *IBM Journal of Research and Development*, 35 (1/2):254–269, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boyle:1980:OCG

[BMS80] D. Boyle, P. Mundy, and T. M. Spence. Optimization and code generation in a compiler for several machines. *IBM Journal of Research and Development*, 24(6):677–683, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bolten:2017:PCD

[BMS+17] N. Bolten, S. Mukherjee, V. Sipeeva, A. Tanweer, and A. Caspi. A pedestrian-centered data approach for equitable access to urban infrastructure environments. *IBM Journal of Research and Development*, 61(6):10:1–10:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bula:1990:GDD

[BMT+90] O. Bula, J. Moser, J. Trinko, M. Weissman, and F. Woytowich. Gross delay defect evaluation for a CMOS logic design system product. *IBM Journal of Research and Development*, 34(2/3):325–338, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bargon:1983:ESE

[BMW83] Joachim Bargon, Shamsher Mohmand, and Robert J. Waltman. Electrochemical synthesis of electrically conducting polymers from aromatic compounds. *IBM Journal of Research and Development*, 27 (4):330–341, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Broom:1980:FPN

[BMWL80] R. F. Broom, Th. O. Mohr, W. Walter, and R. B. Laibowitz. Fabrication and properties of niobium Josephson tunnel junctions. *IBM Journal of Research and Development*, 24 (2):212–222, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burns:1963:RTS

[BN63] G. Burns and M. I. Nathan. Room-temperature stimulated emission [letter to the editor]. *IBM Journal of Research and Development*, 7(1): 72–73, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392343`.

Bhamidipaty:2009:IIQ

[BNN+09] A. Bhamidipaty, N. C. Narendra, S. Nagar, V. K. Varshneya, M. Vasa, and C. Deshwal. Indra: An integrated quantitative system for compliance management for IT service delivery. *IBM Journal of Research and Development*, 53(6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.`

ibm.com/journal/abstracts/rd/536/bhamidipaty.html.

Basson:2015:PTE

[BNS15] S. Basson, S. V. Nitta, and B. Sengupta. Preface: Technologies for educational transformation. *IBM Journal of Research and Development*, 59(6): 0:1–0.4, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bhide:2009:CFS

[BNSG09] M. Bhide, S. Negi, L. V. Subramaniam, and H. Gupta. Customer-focused service management for contact centers. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/536/bhide.html.

Berghaus:1986:STM

[BNT86] Th. Berghaus, H. Neddermeyer, and St. Tosch. A scanning tunneling microscope for the investigation of the growth of metal films on semiconductor surfaces. *IBM Journal of Research and Development*, 30(5): 520–524, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boroczky:1999:SMU

[BNW99] L. Böröczky, A. Y. Ngai, and E. F. Westermann. Statistical multiplexing using MPEG-2 video encoders. *IBM Journal of Research and Development*, 43(4):511–520, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/434/boroczky.html.

Bell:1969:UCA

[BO69] R. T. Bell and H. Overas. The use of computers at CERN. *IBM Journal of Research and Development*, 13(1):104–113, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boer:1969:TCF

[Boe69] K. W. Boer. Trap-controlled field instabilities in photoconducting CdS caused by field-quenching. *IBM Journal of Research and Development*, 13(5): 573–579, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bogy:1979:BLJ

[Bog79] David B. Bogy. Break-up of a liquid jet: Second perturbation solution for one-dimensional Cosserat theory. *IBM Journal of Research and Development*, 23(1):87–92, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bohlin:1970:MLM

[Boh70] T. Bohlin. On the maximum likelihood method of identification. *IBM Journal of Research*

and Development, 14(1):41–51, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bohlin:1973:CTM

[Boh73] T. Bohlin. Comparison of two methods of modeling stationary EEG signals. *IBM Journal of Research and Development*, 17 (3):194–205, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bonner:1962:APR

[Bon62] R. E. Bonner. A "logical pattern" recognition program. *IBM Journal of Research and Development*, 6(3): 353–360, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392`.

Bonner:1964:SCT

[Bon64] R. E. Bonner. On some clustering techniques. *IBM Journal of Research and Development*, 8(1):22–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801D.pdf`.

Bossen:1970:BEC

[Bos70a] D. C. Bossen. B-adjacent error correction. *IBM Journal of Research and Development*, 14 (4):402–408, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bossen:1970:EC

[Bos70b] D. C. Bossen. *b*-adjacent error correction. *IBM Journal of Research and Development*, 14(??):402–408, 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bergamaschi:1995:HSI

[BOS+95] R. A. Bergamaschi, R. A. O'Connor, L. Stok, M. Z. Moricz, S. Prakash, A. Kuehlmann, and D. S. Rao. High-level synthesis in an industrial environment. *IBM Journal of Research and Development*, 39(1/2):131–148, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#thirteen`.

Bose:1997:PPP

[Bos97] Pradip Bose. Preface: Papers on performance analysis and its impact on design. *IBM Journal of Research and Development*, 41(3):203–204, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/preface.html`.

Bournas:1997:OTS

[Bou97] R. M. Bournas. Optimization of TCP segment size for file transfer. *IBM Journal of Research and Development*, 41(3):

357–366, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/bournas.html`.

Boyd:1960:MAS

[Boy60] E. L. Boyd. Magnetic anisotropy in single-crystal thin films. *IBM Journal of Research and Development*, 4(2): 116–129, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392541`.

Belady:1974:OMP

[BP74] L. A. Belady and F. P. Palermo. On-line measurement of paging behavior by the multivalued MIN algorithm. *IBM Journal of Research and Development*, 18(1):2–19, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berry:1975:VRI

[BP75] B. S. Berry and W. C. Pritchet. Vibrating reed internal friction apparatus for films and foils. *IBM Journal of Research and Development*, 19(4):334–343, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berry:1984:BCM

[BP84] Brian S. Berry and Walter C. Pritchet. Bending — cantilever method for the study of moisture swelling in polymers. *IBM Journal of Research and Development*, 28(6):662–667, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berry:1988:EVB

[BP88] B. S. Berry and W. C. Pritchet. Elastic and viscoelastic behavior of a magnetic recording tape. *IBM Journal of Research and Development*, 32(5): 682–694, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bollinger:1992:KO

[BP92] T. Bollinger and U. Pletat. Knowledge in operation. *IBM Journal of Research and Development*, 36(6):965–989, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Basu:2016:SAE

[BPG+16] C. Basu, M. Padmanaban, S. Guillon, L. Cauchon, M. De Montigny, and I. Kamwa. Situational awareness for the electrical power grid. *IBM Journal of Research and Development*, 60(1):10:1–10:11, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Beyers:1989:TSO

[BPL+89] Robert B. Beyers, Stuart S. P. Parkin, Victor Y. Lee, Adel L. Nazzal, Richard J. Savoy, G. L.

Gorman, T. C. Huang, and S. J. La Placa. Tl-Ca-Ba-Cu-O superconducting oxides. *IBM Journal of Research and Development*, 33(3):228–237, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Belady:1981:IHM

[BPS81] L. A. Belady, R. P. Parmelee, and C. A. Scalzi. The IBM history of memory management technology. *IBM Journal of Research and Development*, 25(5): 491–503, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bednar:1996:TAL

[BPS+96] T. R. Bednar, R. A. Piro, D. W. Stout, L. Wissel, and P. S. Zuchowski. Technology-migratable ASIC library design. *IBM Journal of Research and Development*, 40 (4):377–386, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#two`.

Beattie:1981:ITI

[BR81] H. S. Beattie and R. A. Rahenkamp. IBM typewriter innovation. *IBM Journal of Research and Development*, 25(5): 729–739, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brickman:1982:WAR

[BR82] N. F. Brickman and W. S. Rosenbaum. Word Autocorrelation Redundancy Match (WARM) technology. *IBM Journal of Research and Development*, 26(6):681–686, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Binnig:2000:STM

[BR00] G. Binnig and H. Rohrer. Scanning tunneling microscopy. *IBM Journal of Research and Development*, 44(1/2):279–293, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/binnig.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Birman:2009:P

[BR09a] Alex Birman and John J. Ritsko. Preface. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/preface.html`.

Bunn:2009:EEB

[BR09b] S. M. Bunn and L. Reynolds. The energy-efficiency benefits of pump-scheduling optimization for potable water supplies. *IBM Journal of Re-*

search and Development, 53 (3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/bunn.html`.

Bivens:2017:PCC

[BR17] Alan Bivens and Hari Ramasamy. Preface: Cognitive and contextual analytics for IT services. *IBM Journal of Research and Development*, 61(1): 0:1–0:4, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brayton:1964:SCL

[Bra64] R. K. Brayton. Stability criteria for large networks. *IBM Journal of Research and Development*, 8(4):466–470, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brayton:1968:SSC

[Bra68] R. K. Brayton. Small-signal stability criterion for electrical networks containing lossless transmission lines. *IBM Journal of Research and Development*, 12(6):431–440, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bray:1969:PAI

[Bra69] R. Bray. A perspective on acoustoelectric instabilities. *IBM Journal of Research and Development*, 13(5):487–493, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Branin:1972:WCM

[Bra72a] F. H. Branin, Jr. Widely convergent method for finding multiple solutions of simultaneous nonlinear equations. *IBM Journal of Research and Development*, 16(5):504–522, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Braslau:1972:OEC

[Bra72b] N. Braslau. Overlap emissivity of CO_2 and H_2/O in the 15- mu m spectral region. *IBM Journal of Research and Development*, 16(2):180–183, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Braun:1975:MHM

[Bra75] R. J. Braun. Modular Hall masterslice transducer. *IBM Journal of Research and Development*, 19(4):344–352, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Braunecker:1980:POU

[Bra80] B. U. Braunecker. Pattern optimization for UPC supermarket scanner. *IBM Journal of Research and Development*, 24 (1):89–94, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bindra:1984:MEMb

[BRA84] Perminder Bindra, Judith M. Roldan, and Gary V. Arbach. Mechanisms of electroless metal plating: II: Decomposition of formaldehyde. *IBM Journal of Research and Development*, 28(6):679–689, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brayton:1987:FLF

[Bra87] R. K. Brayton. Factoring logic functions. *IBM Journal of Research and Development*, 31(2): 187–198, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bradford:1994:FST

[Bra94] B. L. Bradford. The Fast Staggered Transform, composite symmetries, and compact symmetric algorithms. *IBM Journal of Research and Development*, 38(2):117–129, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#two`.

Bradshaw:2003:P

[Bra03] Richard Bradshaw. Preface. *IBM Journal of Research and Development*, 47(4): 371–372, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/preface.pdf`.

Bradicich:2005:P

[Bra05] T. M. Bradicich. Preface. *IBM Journal of Research and Development*, 49(6): 807–??, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/preface.html`.

Brofman:1992:ECT

[BRB92] P. J. Brofman, S. K. Ray, and K. F. Beckham. Electrical connections to the thermal conduction modules of the IBM Enterprise System/9000 water-cooled processors. *IBM Journal of Research and Development*, 36(5): 921–933, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bates:2001:RTN

[BRB+01] A. K. Bates, M. Rothschild, T. M. Bloomstein, T. H. Fedynyshyn, R. R. Kunz, V. Liberman, and M. Switkes. Review of technology for 157-nm lithography. *IBM Journal of Research and Development*, 45(5):605–614, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/bates.html; http://www.research.ibm.com/journal/rd/455/bates.pdf`.

Black:2007:PSA

[BRB+07] C. T. Black, R. Ruiz, G. Breyta, J. Y. Cheng, M. E. Colburn,

K. W. Guarini, H.-C. Kim, and Y. Zhang. Polymer self assembly in semiconductor microelectronics. *IBM Journal of Research and Development*, 51(5): 605–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/black.html`.

Brennemann:1960:VCC

[Bre60] A. E. Brennemann. The variation of cryotron current amplification factor with temperature [letter to the editor]. *IBM Journal of Research and Development*, 4(2):197, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392550`.

Brent:1972:DBM

[Bre72] R. P. Brent. On the Davidenko-Branin method for solving simultaneous nonlinear equations. *IBM Journal of Research and Development*, 16(4):434–436, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Brown:1962:SAS

[Bro62] L. S. Brown. Spin absorption spectra. *IBM Journal of Research and Development*, 6 (3):338–347, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392375`.

Brown:1966:NMH

[Bro66] Rodney D. Brown. New methods for de haas-shubnikov measurements. *IBM Journal of Research and Development*, 10 (6):462–471, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392006`.

Brown:1972:RPA

[Bro72] B. R. Brown. Readout performance analysis of a cryogenic magneto-optical data storage system. *IBM Journal of Research and Development*, 16(1): 19–26, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brooms:1978:DFS

[Bro78] K. D. Brooms. Design of the fusing system for an electrophotographic laser printer. *IBM Journal of Research and Development*, 22(1):26–71, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brown:1980:OJP

[Bro80] Alan V. Brown. An overview of Josephson packaging. *IBM Journal of Research and Development*, 24(2):167–171, March 1980. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Brown:1985:DAS

[Bro85] James A. Brown. A development of APL2 syntax. *IBM Journal of Research and Development*, 29(1):37–48, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Broers:1988:RLE

[Bro88] A. N. Broers. Resolution limits for electron-beam lithography. *IBM Journal of Research and Development*, 32(4):502–513, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brown:1994:ABP

[Bro94] H. R. Brown. Adhesion between polymers. *IBM Journal of Research and Development*, 38(4):379–389, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#four`.

Brennan:1979:TIC

[BRR79] Pierce A. Brennan, Norman Raver, and Albert E. Ruehli. Three-dimensional inductance computations with partial element equivalent circuits. *IBM Journal of Research and Development*, 23(6):661–668, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bruce:1976:DIJ

[Bru76] C. A. Bruce. Dependence of ink jet dynamics on fluid characteristics. *IBM Journal of Research and Development*, 20 (3):258–270, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brundle:1978:CPL

[Bru78] Christopher R. Brundle. Core-level photoemission and LEED studies of adsorption at Fe surfaces: Comparison between CO and O_2. *IBM Journal of Research and Development*, 22 (3):235–249, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brunner:1997:ILA

[Bru97] T. A. Brunner. Impact of lens aberrations on optical lithography. *IBM Journal of Research and Development*, 41 (1/2):57–67, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/brunner.html`.

Bryant:1975:PWS

[Bry75] Peter Bryant. Predicting working set sizes. *IBM Journal of Research and Development*, 19 (3):221–229, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brown:1964:GTP

[BS64] D. M. Brown and S. J. Silverman. Growth and transport

properties of Bi–Sb single crystal alloys. *IBM Journal of Research and Development*, 8(3): 253–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bartelink:1969:ASF

[BS69] D. J. Bartelink and D. L. Scharfetter. Avalanche shock fronts in P-N junctions. *IBM Journal of Research and Development*, 13(5):596–600, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Brown:1970:ECI

[BS70] D. T. Brown and F. F. Sellers, Jr. Error correction for IBM 800-bit-per-inch magnetic tape. *IBM Journal of Research and Development*, 14(4):384–389, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bayer:1971:WEC

[BS71a] R. G. Bayer and J. L. Sirico. Wear of electrical contacts due to small-amplitude motion. *IBM Journal of Research and Development*, 15(2):103–107, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bosarge:1971:SNR

[BS71b] W. E. Bosarge, Jr. and C. L. Smith. Some numerical results for iterative continuation in nonlinear boundary-value problems. *IBM Journal of Research and Development*, 15(4):323–327, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bosarge:1972:NPM

[BS72] W. E. Bosarge, Jr. and C. L. Smith. Numerical properties of a multivariate Ritz–Trefftz method. *IBM Journal of Research and Development*, 16 (4):393–400, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Berry:1977:SDS

[BS77] Brian S. Berry and John R. Susko. Solubility and diffusion of sulfur in polymeric materials. *IBM Journal of Research and Development*, 21(2): 176–189, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bayer:1978:IJP

[BS78] R. G. Bayer and J. L. Sirico. Influence of jet printing inks on wear. *IBM Journal of Research and Development*, 22(1):90–93, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bard:1981:ICC

[BS81] Yonathan Bard and Charles H. Sauer. IBM contributions to computer performance modeling. *IBM Journal of Research and Development*, 25(5):562–570, September 1981. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Barrera:1984:EPC

[BS84a] C. Barrera and A. V. Strietzel. Electrophotographic printer control as embodied in the IBM 3800 printing subsystem models 3 and 8. *IBM Journal of Research and Development*, 28(3):263–275, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Borch:1984:PMC

[BS84b] J. Borch and R. G. Svendsen. Paper material considerations for system printers. *IBM Journal of Research and Development*, 28(3):285–291, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bates:1985:JAT

[BS85] R. J. S. Bates and L. A. Sauer. Jitter accommodation in token-passing ring LANs. *IBM Journal of Research and Development*, 29(6):580–587, November 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Briscolini:1991:ACS

[BS91] M. Briscolini and P. Santangelo. Animation of computer simulations of two-dimensional turbulence and three-dimensional flows. *IBM Journal of Research and Development*, 35(1/2):119–139, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bose:1995:ATV

[BS95] P. Bose and S. Surya. Architectural timing verification of CMOS RISC processors. *IBM Journal of Research and Development*, 39(1/2):113–129, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#twelve`.

Bradshaw:2003:FYI

[BS03] R. Bradshaw and C. Schroeder. Fifty years of IBM innovation with information storage on magnetic tape. *IBM Journal of Research and Development*, 47 (4):373–383, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/bradshaw.pdf`.

Bacon:2006:BFL

[BS06] D. F. Bacon and X. Shen. Braids and fibers: Language constructs with architectural support for adaptive responses to memory latencies. *IBM Journal of Research and Development*, 50(2/3):209–221, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/bacon.html`.

Banavar:2009:P

[BSD09] G. Banavar, D. Saha, and C. Dorais. Preface. *IBM Journal of Research and Development*, 53(6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/preface.html`.

Besaw:2020:CSM

[BSD+20] N. Besaw, L. Scheidenbach, J. Dunham, S. Kaur, A. Ohmacht, F. Pizzano, and Y. Park. Cluster system management. *IBM Journal of Research and Development*, 64(3/4):7:1–7:9, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baker:2001:AMF

[BSHM01] N. A. Baker, D. Sept, M. J. Holst, and J. A. McCammon. The adaptive multilevel finite element solution of the Poisson–Boltzmann equation on massively parallel computers. *IBM Journal of Research and Development*, 45(3/4):427–438, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/baker.html`; `http://www.research.ibm.com/journal/rd/453/baker.pdf`.

Bertran:2013:ALP

[BSJ+13] R. Bertran, Y. Sugawara, H. M. Jacobson, A. Buyuktosunoglu, and P. Bose. Application-level power and performance characterization and optimization on IBM Blue Gene/Q systems. *IBM Journal of Research and Development*, 57(1/2):4:1–4:17, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bender:2008:SER

[BSK+08] C. Bender, P. N. Sanda, P. Kudva, R. Mata, V. Pokala, R. Haraden, and M. Schallhorn. Soft-error resilience of the IBM POWER6 processor input/output subsystem. *IBM Journal of Research and Development*, 52(3):285–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/bender.html`.

Bozorgtabar:2017:SLS

[BSRG17] B. Bozorgtabar, S. Sedai, P. K. Roy, and R. Garnavi. Skin lesion segmentation using deep convolution networks guided by local unsupervised learning. *IBM Journal of Research and Development*, 61(4–5):6:1–6:8, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030296/`.

Brunschwiler:2009:TZE

[BSRM09] T. Brunschwiler, B. Smith, E. Ruetsche, and B. Michel. Toward zero-emission data cen-

ters through direct reuse of thermal energy. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/brunschwiler.html`.

Babuka:1982:DIT

[BSS82] R. Babuka, G. J. Saxenmeyer, Jr., and L. K. Schultz. Development of interconnection technology for large-scale integrated circuits. *IBM Journal of Research and Development*, 26 (3):318–327, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bechtle:1976:DCS

[BSSZ76] B. Bechtle, C. Schunemann, G. Skudelny, and V. Zimmermann. Delayed closed-loop scheme for stepping motor control. *IBM Journal of Research and Development*, 20(3):235–243, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bak:2015:VAM

[BSY+15] P. Bak, H. J. Ship, A. Yaeli, Y. Nardi, E. Packer, G. Saadoun, J. Bnayahu, and L. Peterfreund. Visual analytics for movement behavior in traffic and transportation. *IBM Journal of Research and Development*, 59 (2–3):10:1–10:12, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Boone:1967:ECM

[BT67] J. W. Boone and H. S. Todd. Exposure control in a multi-stage photographic system. *IBM Journal of Research and Development*, 11(6): 643–647, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391910`.

Bogy:1978:SAS

[BT78] D. B. Bogy and F. E. Talke. Steady axisymmetric solutions for pressurized rotating flexible disk packs. *IBM Journal of Research and Development*, 22 (2):179–184, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bogy:1984:ETS

[BT84] D. B. Bogy and F. E. Talke. Experimental and theoretical study of wave propagation phenomena in drop-on-demand ink jet devices. *IBM Journal of Research and Development*, 28 (3):314–321, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blaugher:1962:SSI

[BTH62] R. D. Blaugher, A. Taylor, and J. K. Hulm. The superconductivity of some intermetallic compounds. *IBM Journal of Research and Development*,

6(1):116–118, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392424`.

Bassett:1990:BDP

[BTP+90] R. W. Bassett, M. E. Turner, J. H. Panner, P. S. Gillis, S. F. Oakland, and D. W. Stout. Boundary-scan design principles for efficient LSSD ASIC testing. *IBM Journal of Research and Development*, 34(2/3):339–354, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bate:1962:EEP

[BTW62] G. Bate, H. S. Templeton, and J. W. Wenner. An experiment on the effect of particle orientation on peak shift in magnetic tapes. *IBM Journal of Research and Development*, 6 (3):348–352, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392376`.

Booth:1992:SAQ

[BTWY92] R. M. Booth, Jr., K. A. Tallman, T. J. Wiltshire, and P. L. Yee. A statistical approach to quality control of non-normal lithographical overlay distributions. *IBM Journal of Research and Development*, 36(5): 835–844, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buchholz:1962:PCS

[Buc62] Werner Buchholz, editor. *Planning a computer system: Project Stretch*. McGraw-Hill, New York, NY, USA, 1962. xvii + 322 pp. LCCN 1876. URL `http://ed-thelen.org/comp-hist/IBM-7030-Planning-McJones.pdf`. This important book is the primary description of the influential IBM 7030 Stretch computer, written by its architects.

Buchanan:1999:PPU

[Buc99a] D. A. Buchanan. Preface: Papers on ultrathin dielectric films. *IBM Journal of Research and Development*, 43 (3):243–244, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/preface.html`.

Buchanan:1999:SGD

[Buc99b] D. A. Buchanan. Scaling the gate dielectric: Materials, integration, and reliability. *IBM Journal of Research and Development*, 43(3):245–264, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/buchanan.html`.

Budurka:1967:SCO

[Bud67] W. J. Budurka. Sensitivity constrained optimal control syn-

thesis. *IBM Journal of Research and Development*, 11(4): 427–435, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391946`.

Burge:1972:CPC

[Bur72] W. H. Burge. Combinatory programming and combinatorial analysis. *IBM Journal of Research and Development*, 16 (5):450–461, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burge:1975:SPF

[Bur75] W. H. Burge. Stream processing functions. *IBM Journal of Research and Development*, 19 (1):12–25, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bush:1971:CFE

[Bus71] D. R. Bush. The common-core filter as an electromagnetic interference-suppression device. *IBM Journal of Research and Development*, 15 (3):242–244, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buttiker:1988:CST

[But88a] M. Buttiker. Coherent and sequential tunneling in series barriers. *IBM Journal of Research and Development*, 32(1):63–75, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Buttiker:1988:SEC

[But88b] M. Buttiker. Symmetry of electrical conduction. *IBM Journal of Research and Development*, 32(3):317–334, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Blakeslee:1978:GPG

[BV78] A. Eugene Blakeslee and Stanley M. Vernon. Growth of polycrystalline GaAs for solar cell applications. *IBM Journal of Research and Development*, 22 (4):346–352, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bishop:1972:DCS

[BW72] R. E. Bishop and C. C. Wilson. Dynamic control of spring-driven mechanisms. *IBM Journal of Research and Development*, 16(3):222–230, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bagus:1981:EST

[BW81a] Paul S. Bagus and Arthur R. Williams. Electronic structure theory. *IBM Journal of Research and Development*, 25(5):793–810 (or 793–809??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bongiovanni:1981:NRC

[BW81b] G. Bongiovanni and C. K. Wong. A number representation convertor for magnetic bubble string comparators. *IBM Journal of Research and Development*, 25(1):83–87, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Burger:1983:MCM

[BW83] William G. Burger and Charles W. Weigel. Multi-layer ceramics manufacturing. *IBM Journal of Research and Development*, 27 (1):11–19, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bergholz:2016:TAB

[BW16] P. W. Bergholz and M. Wiedmann. Toward agent-based models for pre-harvest food safety. *IBM Journal of Research and Development*, 60(5–6):8:1–8:13, September/ November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580678/`.

Brauchle:1982:NCM

[BWB+82] Chr. Bräuchle, Urs P. Wild, D. M. Burland, G. C. Bjorklund, and D. C. Alvarez. A new class of materials for holography in the infrared. *IBM Journal of Research and Development*, 26(2):217–227, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Berry:2018:IZD

[BWB+18] C. Berry, J. Warnock, J. Badar, D. G. Bair, E. Behnen, B. Bell, A. Buyuktosunoglu, C. Cavitt, P. Chuang, O. Geva, D. Hamid, J. Isakson, P. M. Lobo, F. Malgioglio, G. Mayer, J. L. Neves, T. Strach, J. Surprise, C. Vezyrtzis, T. Webel, and D. Wolpert. IBM z14 design methodology enhancements in the 14-nm technology node. *IBM Journal of Research and Development*, 62(2–3):9:1–9:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8276267/`.

Berry:2020:IZP

[BWB+20] C. J. Berry, D. Wolpert, B. Bell, A. Jatkowski, J. Surprise, G. Strevig, J. Isakson, O. Geva, B. Deskin, M. Cichanowski, G. Biran, D. Hamid, C. Cavitt, G. Fredeman, D. Chidambarrao, B. Bruen, M. Wood, S. Carey, D. Turner, and L. Sigal. IBM z15: Physical design improvements to significantly increase content in the same technology. *IBM Journal of Research and Development*, 64(5/6):8:1–8:12, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baxter:2020:QMD

[BWK20] A. E. Baxter, H. E. Wilborn Lagerman, and P. Keskinocak. Quantitative modeling in disaster management: a literature review. *IBM Journal of Research and Development*, 64 (1/2):3:1–3:13, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Baset:2014:TAO

[BWT+14] S. A. Baset, L. Wang, B. C. Tak, C. Pham, and C. Tang. Toward achieving operational excellence in a cloud. *IBM Journal of Research and Development*, 58(2–3):4:1–4:11, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Bolle:1998:VQR

[BYY98] R. M. Bolle, B.-L. Yeo, and M. M. Yeung. Video query: Research directions. *IBM Journal of Research and Development*, 42(2):233–252, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/bolle.html`.

Baugh:2006:DLQ

[BZ06a] L. Baugh and C. Zilles. Decomposing the load–store queue by function for power reduction and scalability. *IBM Journal of Research and Development*, 50(2/3):287–297, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/baugh.html`.

Bernevig:2006:TDS

[BZ06b] B. A. Bernevig and S. Zhang. Toward dissipationless spin transport in semiconductors. *IBM Journal of Research and Development*, 50(1):141–148, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/bernevig.html`.

Casanova:1984:MUS

[CA84] Marco A. Casanova and Jose E. Amaral de Sa. Mapping uninterpreted schemes into entity-relationship diagrams: Two applications to conceptual schema design. *IBM Journal of Research and Development*, 28(1): 82–94, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curioni:2001:CSO

[CA01] A. Curioni and W. Andreoni. Computer simulations for organic light-emitting diodes. *IBM Journal of Research and Development*, 45(1): 101–114, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/curioni.html`.

Chesebro:1995:OGL

[CAC+95] D. G. Chesebro, J. W. Adkisson, L. R. Clark, S. N. Eslinger, M. A. Faucher, S. J. Holmes, R. P. Mallette, E. J. Nowak, E. W. Sengle, S. H. Voldman, and T. W. Weeks. Overview of gate linewidth control in the manufacture of CMOS logic chips. *IBM Journal of Research and Development*, 39(1/2):189–200, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#sixteen`.

Crippen:2005:BPP

[CAC+05] M. J. Crippen, R. K. Alo, D. Champion, R. M. Clemo, C. M. Grosser, N. J. Gruendler, M. S. Mansuria, J. A. Matteson, M. S. Miller, and B. A. Trumbo. BladeCenter packaging, power, and cooling. *IBM Journal of Research and Development*, 49(6):887–904, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/crippen.html`.

Chencinski:2013:FSI

[CAC+13] E. W. Chencinski, M. J. Anderson, L. Cleveland, J. Coon, D. Craddock, R. E. Galbraith, T. A. Gregg, T. B. Mathias, D. F. Moertl, K. J. Oakes, M. Sabins, G. E. Sittmann, P. Sutton, P. Szwed, G. A. Tressler, E. Tzortzatos, and A. D. Walls. Flash storage integration in the IBM System z EC12 I/O drawer. *IBM Journal of Research and Development*, 57(6):11:1–11:14, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clarke:2009:ISZ

[CAD+09] W. J. Clarke, L. C. Alves, T. J. Dell, H. Elfering, J. P. Kubala, C. Lin, M. J. Mueller, and K. Werner. IBM System z10 design for RAS. *IBM Journal of Research and Development*, 53(1):11:1–11:13, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/clarke.pdf`.

Chamberlin:1976:SUA

[CAE+76] Donald D. Chamberlin, Morton M. Astrahan, Kapali P. Eswaran, Patricia Priest Griffiths, Raymond A. Lorie, James W. Mehl, Phyllis Reisner, and Bradford Warren Wade. SEQUEL 2: a unified approach to data definition, manipulation, and control. *IBM Journal of Research and Development*, 20(6):560–575 (or 560–565??), November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clarke:2015:ARA

[CAK+15] W. J. Clarke, L. C. Alves, K. W. Kark, R. K. Overton, and M. J. Snihur. Advancing reliability, availability, and serviceability with the IBM z13. *IBM Journal of Research and Development*, 59(4–5):9:1–9:11, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Calva:1970:PPC

[Cal70] J. R. Calva. PCOS: a process control extension to Operating System/360. *IBM Journal of Research and Development*, 14(6):620–632, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Calo:1981:DAT

[Cal81] S. B. Calo. Delay analysis of a two-queue, nonuniform message channel. *IBM Journal of Research and Development*, 25(6): 915–929, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cameron:1957:DOB

[Cam57] D. P. Cameron. Domain orientation in barium titanate single crystals. *IBM Journal of Research and Development*, 1 (1):2–7, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392711`.

Campbell:2000:F

[Cam00] George Campbell, Jr. Foreword. *IBM Journal of Research and Development*, 44 (5):i–ii, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/foreword.html`.

Canosa:1973:NDE

[Can73] José Canosa. On a nonlinear diffusion equation describing population growth. *IBM Journal of Research and Development*, 17(4):307–313, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carroll:1960:HSC

[Car60] W. N. Carroll. High-speed counter requiring no carry propagation [letter to the editor]. *IBM Journal of Research and Development*, 4(4): 423–425, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392519`.

Carmichael:1977:CPH

[Car77] J. M. Carmichael. Controlling print height in an ink jet printer. *IBM Journal of Research and Development*, 21(1): 52–55, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carter:1981:STS

[Car81] S. P. Carter. Software technology. section 2 in 25th Anniversary issue. *IBM Journal of Research and Development*, 25(5): 469–470, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carney:2010:IME

[Car10] J. G. Carney. Industry models for enterprise data management in financial markets. *IBM Journal of Research and Development*, 54(2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/carney.html`.

Caswell:1960:ARG

[Cas60] H. L. Caswell. Analysis of the residual gases in several types of high-vacuum evaporators. *IBM Journal of Research and Development*, 4(2): 130–142, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392542`.

Casey:1970:MNH

[Cas70] R. G. Casey. Moment normalization of handprinted characters. *IBM Journal of Research and Development*, 14(5): 548–557, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Castro:1971:PAH

[Cas71] G. Castro. Photoconduction in aromatic hydrocarbons. *IBM Journal of Research and Development*, 15(1):27–33, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cohen:1991:MNPb

[CAS+91] M. S. Cohen, A. Afzali, E. E. Simonyi, M. Desai, and K. S. Pennington. Making negatives and plates for printing by electroerosion. II. Larger-scale fabrication and testing. *IBM Journal of Research and Development*, 35(4):489–511, July 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cohen:1991:MNPc

[CASP91] M. S. Cohen, A. Afzali, E. E. Simonyi, and K. S. Pennington. Making negatives and plates for printing by electroerosion. III. Use of the direct negative and direct plate. *IBM Journal of Research and Development*, 35 (4):512–534, July 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Colgan:1998:DSA

[CAW+98] E. G. Colgan, P. M. Alt, R. L. Wisnieff, P. M. Fryer, E. A. Galligan, W. S. Graham, P. F. Greier, R. R. Horton, H. Ifill, L. C. Jenkins, R. A. John, R. I. Kaufman, Y. Kuo, A. P. Lanzetta, K. F. Latzko, F. R.

Libsch, S.-C. A. Lien, S. E. Millman, R. W. Nywening, R. J. Polastre, C. G. Powell, R. A. Rand, J. J. Ritsko, M. B. Rothwell, J. L. Staples, K. W. Warren, J. S. Wilson, and S. L. Wright. A 10.5-in.-diagonal SXGA active-matrix display. *IBM Journal of Research and Development*, 42 (3/4):427–444, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/wisnieff.html`.

Cottrell:1985:VWC

[CB85] Peter E. Cottrell and Edward M. Buturla. VLSI wiring capacitance. *IBM Journal of Research and Development*, 29 (3):277–288, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chencinski:2004:SCL

[CBB+04] E. W. Chencinski, M. J. Becht, T. E. Bubb, C. G. Burwick, J. Haess, M. M. Helms, J. M. Hoke, T. Schlipf, J. M. Turner, H. Ulland, M. H. Walz, C. H. Whitehead, and G. Zilles. The structure of chips and links comprising the IBM eServer z990 I/O subsystem. *IBM Journal of Research and Development*, 48(3/4):449–459, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/chencinski.html`; `http://www.research.ibm.com/journal/rd/483/chencinski.pdf`.

Chatterjee:2005:DEH

[CBB+05] S. Chatterjee, L. R. Bachega, P. Bergner, K. A. Dockser, J. A. Gunnels, M. Gupta, F. G. Gustavson, C. A. Lapkowski, G. K. Liu, M. Mendell, R. Nair, C. D. Wait, T. J. C. Ward, and P. Wu. Design and exploitation of a high-performance SIMD floating-point unit for Blue Gene/L. *IBM Journal of Research and Development*, 49 (2/3):377–391, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/chatterjee.pdf`.

Clauberg:1990:PPP

[CBBS90] R. Clauberg, H. Beha, A. Blacha, and H. K. Seitz. Picosecond photoemission probing of integrated circuits: Capabilities, limitations, and applications. *IBM Journal of Research and Development*, 34(2/3):173–188, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coteus:2005:PBG

[CBC+05] P. Coteus, H. R. Bickford, T. M. Cipolla, P. G. Crumley, A. Gara, S. A. Hall, G. V. Kopcsay, A. P. Lanzetta, L. S. Mok, R. Rand, R. Swetz, T. Takken, P. La Rocca, C. Marroquin, P. R. Germann,

and M. J. Jeanson. Packaging the Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 49 (2/3):213–248, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/coteus.pdf`.

Chun:2018:IPP

[CBC+18] S. Chun, W. D. Becker, J. Casey, S. Ostrander, D. Dreps, J. A. Hejase, R. M. Nett, B. Beaman, and J. R. Eagle. IBM POWER9 package technology and design. *IBM Journal of Research and Development*, 62(4–5):12:1–12:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8392682/`.

Chance:1979:CHL

[CBCM79] Dudley A. Chance, Vlosta Brusic, V. S. Crawford, and Robert D. Macinnes. Cathodes for He-Ne lasers. *IBM Journal of Research and Development*, 23(2):119–127, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Crawford:2009:SAS

[CBD+09] C. H. Crawford, D. J. Burdick, J. N. Dale, E. F. Ford, R. A. Mikosh, A. Nobles, and V. To. Software architecture and system validation of an open, unified model for accelerated multicore computing. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/crawford.html`.

Cooper:2005:RDH

[CBH+05] E. I. Cooper, C. Bonhôte, J. Heidmann, Y. Hsu, P. Kern, J. Lam, M. Ramasubramanian, N. Robertson, L. T. Romankiw, and H. Xu. Recent developments in high-moment electroplated materials for recording heads. *IBM Journal of Research and Development*, 49(1): 103–126, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/cooper.pdf`.

Castelli:1998:PSR

[CBK+98] V. Castelli, L. D. Bergman, I. Kontoyiannis, C.-S. Li, J. T. Robinson, and J. J. Turek. Progressive search and retrieval in large image archives. *IBM Journal of Research and Development*, 42(2):253–268, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/castelli.html`.

Calandra:2008:MPI

[CBV08] H. Calandra, F. Bothorel, and

P. Vezolle. A massively parallel implementation of the common azimuth pre-stack depth migration. *IBM Journal of Research and Development*, 52(1/2):83–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/calandra.html`.

Collins:1976:EAC

[CC76a] T. W. Collins and R. W. Cole. Effects of abrupt changes in film thickness on magnetic bubble forces. *IBM Journal of Research and Development*, 20(2):132–137, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cooper:1976:DOS

[CC76b] Arthur E. Cooper and Wen T. Chow. Development of onboard space computer systems. *IBM Journal of Research and Development*, 20(1):5–19, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chu-Carroll:2012:IIR

[CCBLM12] J. Chu-Carroll, E. W. Brown, A. Lally, and J. W. Murdock. Identifying implicit relationships. *IBM Journal of Research and Development*, 56(3–4):12:1–12:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chance:1979:HPP

[CCC+79] Dudley A. Chance, Jean-Claude A. Chastang, V. S. Crawford, Richard E. Horstmann, and R. O. Lussow. HeNe parallel plate laser development. *IBM Journal of Research and Development*, 23(2):108–118, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chencinski:2015:AIZ

[CCC+15] E. W. Chencinski, C. Colonna, D. Craddock, J. R. Flanagan, J. M. Hoke, M. Klein, G. Kuch, P. Sciuto, R. M. Sczepczenski, and H. M. Yudenfriend. Advances in the IBM z13 I/O function and capability. *IBM Journal of Research and Development*, 59(4–5):5:1–5:10, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cole:1957:LPZ

[CCD57] H. Cole, F. Chambers, and H. Dunn. Lattice parameters of Zn_3As_2. *IBM Journal of Research and Development*, 1(1):90–92, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392723`.

Chencinski:2009:ISZ

[CCD+09] E. W. Chencinski, M. A. Check, C. DeCusatis, H. Deng, M. Grassi, T. A. Gregg,

M. M. Helms, A. D. Koenig, L. Mohr, K. Pandey, T. Schlipf, T. Schober, H. Ulrich, and C. R. Walters. IBM System z10 I/O subsystem. *IBM Journal of Research and Development*, 53 (1):6:1–6:13, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/chencinski.pdf`.

Carnes:2013:SLI

[CCD+13] B. Carnes, B. Chan, E. W. Draeger, J.-L. Fattebert, L. Fried, J. Glosli, W. D. Krauss, S. H. Langer, R. McCallen, A. A. Mirin, F. Najjar, A. L. Nichols, T. Oppelstrup, J. A. Rathkopf, D. Richards, F. Streitz, P. M. Vranas, J. J. Rice, J. A. Gunnels, V. Gurev, C. Kim, J. Magerlein, M. Reumann, and H.-F. Wen. Science at LLNL with IBM Blue Gene/Q. *IBM Journal of Research and Development*, 57(1/2):11:1–11:18, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cohen:1988:BTP

[CCE+88] M. H. Cohen, M. Y. Chou, E. N. Economou, S. John, and C. M. Soukoulis. Band tails, path integrals, instantons, polarons, and all that. *IBM Journal of Research and Development*, 32 (1):82–92, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curzon:2020:UAC

[CCE+20] R. E. Curzon, P. Curotto, M. Evason, A. Failla, P. Kusterer, A. Ogawa, J. Paraszczak, and S. Raghavan. A unique approach to corporate disaster philanthropy focused on delivering technology and expertise. *IBM Journal of Research and Development*, 64(1/2):2:1–2:14, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cascaval:2010:TAA

[CCF+10] C. Cascaval, S. Chatterjee, H. Franke, K. J. Gildea, and P. Pattnaik. A taxonomy of accelerator architectures and their programming models. *IBM Journal of Research and Development*, 54(5):5:1–5:10, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chu-Carroll:2012:FNH

[CCFB+12] J. Chu-Carroll, J. Fan, B. K. Boguraev, D. Carmel, D. Sheinwald, and C. Welty. Finding needles in the haystack: Search and candidate generation. *IBM Journal of Research and Development*, 56(3–4):6:1–6:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chu-Carroll:2012:TRA

[CCFSZ12] J. Chu-Carroll, J. Fan, N. Schlaefer, and W. Zadrozny. Textual resource acquisition and engi-

neering. *IBM Journal of Research and Development*, 56(3–4):4:1–4:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chaudhari:1973:AMF

[CCG73] P. Chaudhari, J. J. Cuomo, and R. J. Gambino. Amorphous metallic films for bubble domain applications. *IBM Journal of Research and Development*, 17(1):66–8, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Case:1981:DAI

[CCG+81] P. W. Case, M. Correia, W. Gianopulos, W. R. Heller, H. Ofek, T. C. Raymond, R. L. Simek, and C. B. Stieglitz. Design automation in IBM. *IBM Journal of Research and Development*, 25(5):631–646, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiu:1996:TFI

[CCH+96] A. Chiu, I. Croll, D. E. Heim, R. E. Jones, Jr., P. Kasiraj, K. B. Klaassen, C. D. Mee, and R. G. Simmons. Thin film inductive heads. *IBM Journal of Research and Development*, 40 (3):283–300, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-3.html#one`.

Chen:1981:HDB

[CCJH81] Joseph Z. Chen, William Chin, Teh Sen Jen, and Joseph Hutt, Jr. A high density bipolar logic masterslice for small systems. *IBM Journal of Research and Development*, 25(2/3):142–151, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Corr:1965:PPN

[CCM65] F. Corr, R. Crutchfield, and J. Marchese. A pulsed pseudonoise VHF radio set. *IBM Journal of Research and Development*, 9(4):256–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carnevali:1985:IPS

[CCP85] P. Carnevali, L. Coletti, and S. Patarnello. Image processing by simulated annealing. *IBM Journal of Research and Development*, 29(6):569–579, November 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curran:2002:IEZ

[CCW+02] B. W. Curran, Y. H. Chan, P. T. Wu, P. J. Camporese, G. A. Northrop, R. F. Hatch, L. B. Lacey, J. P. Eckhardt, D. T. Hui, and H. H. Smith. IBM eServer z900 high-frequency microprocessor technology, circuits, and design methodology. *IBM Journal of Research and Development*, 46(4/5):631–644,

???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/curran.html`; `http://www.research.ibm.com/journal/rd/464/curran.pdf`.

Cameron:1978:PSD

[CD78] T. J. Cameron and M. H. Dost. Paper servo design for a high speed printer using simulation. *IBM Journal of Research and Development*, 22(1):19–25, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Corongiu:1985:LSA

[CD85] Giorgina Corongiu and John H. Detrich. Large-scale scientific application programs in chemistry and physics on an experimental parallel computer system. *IBM Journal of Research and Development*, 29(4):422–432, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cheng:1996:FHR

[CDC96] J.-M. Cheng, L. M. Duyanovich, and D. J. Craft. A fast, highly reliable data compression chip and algorithm for storage systems. *IBM Journal of Research and Development*, 40(6):603–613, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-6.html#two`.

Carre:1982:SMT

[CDD82] H. Carre, R. H. Doxtator, and M. C. Duffy. Semiconductor manufacturing technology at IBM. *IBM Journal of Research and Development*, 26(5):528–531, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chetlur:2010:SWM

[CDD+10] M. Chetlur, U. Devi, P. Dutta, P. Gupta, L. Chen, Z. Zhu, S. Kalyanaraman, and Y. Lin. A software WiMAX medium access control layer using massively multithreaded processors. *IBM Journal of Research and Development*, 54(1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/chetlur-dutta.html`.

Cormier:1983:SEA

[CDG83] R. L. Cormier, Robert J. Dugan, and Richard R. Guyette. System/370 extended architecture: the channel subsystem. *IBM Journal of Research and Development*, 27(3):206–218, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chenthamarakshan:2010:EDS

[CDG+10] V. Chenthamarakshan, K. Dixit, M. Gattani, M. Goyal, P. Gupta,

N. Kambhatla, R. M. Lotlikar, D. Majumdar, G. R. Parija, S. Roy, S. Soni, and K. Visweswariah. Effective decision support systems for workforce deployment. *IBM Journal of Research and Development*, 54(6):5:1–5:15, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Critchlow:1964:VSP

[CDH64] D. L. Critchlow, R. H. Dennard, and E. Hopner. A vestigial-sideband, phase-reversal data transmission system. *IBM Journal of Research and Development*, 8(1):33–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801E.pdf`.

Cao:2014:SAT

[CDL+14] H. Cao, W. S. Dong, L. S. Liu, C. Y. Ma, W. H. Qian, J. W. Shi, C. H. Tian, Y. Wang, D. Konopnicki, M. Shmueli-Scheuer, D. Cohen, N. Modani, H. Lamba, A. Dwivedi, A. A. Nanavati, and M. Kumar. SoLoMo analytics for telco Big Data monetization. *IBM Journal of Research and Development*, 58(5/6):9:1–9:13, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Calta:1992:ESC

[CdLS92] S. A. Calta, S. A. deVeer, E. Loizides, and R. N. Strangewayes. Enterprise Systems Connection (ESCON) architecture — system overview. *IBM Journal of Research and Development*, 36(4):535–551, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chaudhari:1989:CCM

[CDM89] Praveen Chaudhari, Duane Dimos, and Jochen Mannhart. Critical current measurements in single crystals and single-grain boundaries in $YBa_2cu_3O_7$ films. *IBM Journal of Research and Development*, 33(3):299–306, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiu:1992:IES

[CDM92] K. Chiu, J. J. DeFazio, and T. G. McNamara. IBM Enterprise System/9000 clock system: a technology and system perspective. *IBM Journal of Research and Development*, 36 (5):867–875, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Critchlow:1973:DCN

[CDS73] D. L. Critchlow, R. H. Dennard, and S. E. Schuster. Design and characteristics of n-channel insulated-gate field-effect transistors. *IBM Journal of Research and Development*, 17(5): 430–442, September 1973. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cannon:1986:DPM

[CDS+86] D. M. Cannon, W. R. Dempwolf, J. M. Schmalhorst, F. B. Shelledy, and R. D. Silkensen. Design and performance of a magnetic head for a high-density tape drive. *IBM Journal of Research and Development*, 30(3):270–277, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Critchlow:2000:DCC

[CDS00] D. L. Critchlow, R. H. Dennard, and S. E. Schuster. Design and characteristics of n-channel insulated-gate field-effect transistors. *IBM Journal of Research and Development*, 44(1/2):70–82, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/critchlow.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Curbera:2019:BEH

[CDS+19] F. Curbera, D. M. Dias, V. Simonyan, W. A. Yoon, and A. Casella. Blockchain: An enabler for healthcare and life sciences transformation. *IBM Journal of Research and Development*, 63(2–3):8:1–8:9, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cascaval:2006:PEM

[CDSW06] C. Caşcaval, E. Duesterwald, P. F. Sweeney, and R. W. Wisniewski. Performance and environment monitoring for continuous program optimization. *IBM Journal of Research and Development*, 50(2/3):239–248, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/cascaval.html`.

Chiu:1975:PAM

[CDW75] W. Chiu, D. Dumont, and R. Wood. Performance analysis of a multiprogrammed computer system. *IBM Journal of Research and Development*, 19 (3):263–271, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chow:1978:CSW

[CEHL78] F. I. Chow, P. A. Engel, D. C. Heath, and S. Lawphongpanich. Contact stress and wear study for type characters. *IBM Journal of Research and Development*, 22(6):658–667, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Calhoun:1976:CAB

[CERS76] B. A. Calhoun, J. S. Eggenberger, L. L. Rosier, and L. F.

Shew. Column access of a bubble lattice: Column translation and lattice translation. *IBM Journal of Research and Development*, 20(4):368–375, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Crawford:1984:PQM

[CEY84] J. L. Crawford, C. D. Elzinga, and R. Yudico. Print quality measurements for high-speed electrophotographic printers. *IBM Journal of Research and Development*, 28(3):276–284, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1972:MFA

[CF72] W. T. Chen and T. F. Flavin. Mechanics of film adhesion: Elastic and elastic-plastic behavior. *IBM Journal of Research and Development*, 16 (3):203–213, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cohen:1964:CCB

[CFG64] M. H. Cohen, L. M. Falicov, and S. Golin. Crystal chemistry and band structures of the Group V semimetals and the IV–VI semiconductors. *IBM Journal of Research and Development*, 8(3):215–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cheroff:1964:ELT

[CFH64] G. Cheroff, F. Fang, and F. Hochberg. Effect of low temperature annealing on the surface conductivity of Si in the Si–SiO_2–Al system. *IBM Journal of Research and Development*, 8(4):416–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:2009:GIH

[CFH+09] R. N. Chang, W. Falk, H. Hall, P. Kopp, S. Pappe, M. Schultz, A. Szypka, and N. C. Wadia. Gaining insight into the health of SOA infrastructures. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/chang-falk.html`.

Canetti:1991:PCP

[CFK+91] R. Canetti, L. P. Fertig, S. A. Kravitz, D. Malki, R. Y. Pinter, S. Porat, and A. Teperman. The parallel C (pC) programming language. *IBM Journal of Research and Development*, 35(5/6):727–741, September/ November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Courant:1967:PDE

[CFL67] R. Courant, K. Friedrichs, and H. Lewy. On the partial dif-

ference equations of mathematical physics. *IBM Journal of Research and Development*, 11 (2):215–234, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391985`.

Chamberlin:1973:APA

[CFL73] D. D. Chamberlin, S. H. Fuller, and L. Y. Liu. Analysis of page allocation strategies for multiprogramming systems with virtual memory. *IBM Journal of Research and Development*, 17 (5):404–412, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curran:2007:PCH

[CFP+07] B. Curran, E. Fluhr, J. Paredes, L. Sigal, J. Friedrich, Y.-H. Chan, and C. Hwang. Power-constrained high-frequency circuits for the IBM POWER6 microprocessor. *IBM Journal of Research and Development*, 51(6):715–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/curran.html`.

Coletti:2020:TDL

[CFP20] M. Coletti, A. Fafard, and D. Page. Troubleshooting deep-learner training data problems using an evolutionary algorithm on Summit. *IBM Journal of Research and Development*, 64(3/4):1–12, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cho:2019:BDA

[CFS+19] M. Cho, U. Finkler, M. Serrano, D. Kung, and H. Hunter. BlueConnect: Decomposing all-reduce for deep learning on heterogeneous network hierarchy. *IBM Journal of Research and Development*, 63(6): 1:1–1:11, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Casey:1982:ASD

[CFW82] R. G. Casey, T. D. Friedman, and K. Y. Wong. Automatic scaling of digital print fonts. *IBM Journal of Research and Development*, 26(6): 657–666, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiu:1971:DMA

[CG71] T. L. Chiu and H. N. Ghosh. A diffusion model for arsenic in silicon. *IBM Journal of Research and Development*, 15(6): 472–476, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Case:1964:SLD

[CGG+64] P. W. Case, H. H. Graff, L. E. Griffith, A. R. LeClercq, W. B. Murley, and T. M. Spence. Solid logic design automation. *IBM Journal of*

Research and Development, 8 (2):127–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802F.pdf`.

Cecchi:2017:CSL

[CGH+17] G. A. Cecchi, V. Gurev, S. J. Heisig, R. Norel, I. Rish, and S. R. Schrecke. Computing the structure of language for neuropsychiatric evaluation. *IBM Journal of Research and Development*, 61(2–3):1:1–1:10, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921633/`.

Cuomo:1977:OEN

[CGHK77] J. J. Cuomo, R. J. Gambino, J. M. E. Harper, and J. D. Kuptsis. Origin and effects of negative ions in the sputtering of intermetallic compounds. *IBM Journal of Research and Development*, 21(6): 580–583, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Choi:1993:SBC

[CGLL93] H.-C. Choi, Y. Guo, W. LaFontaine, and C. K. Lim. Solder Ball Connect (SBC) assemblies under thermal loading: II. strain analysis via image processing, and reliability considerations. *IBM Journal of Research and Development*, 37(5): 649–659, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cardonha:2015:TPS

[CGM+15a] C. H. Cardonha, R. L. Guimaraes, A. Mattos, J. Nogima, P. Avegliano, D. Gallo, R. Herrmann, and S. Borger. Toward a platform to support vocational training of people with disabilities. *IBM Journal of Research and Development*, 59(6):2:1–2:7, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cavalin:2015:SAR

[CGM+15b] P. R. Cavalin, M. A. C. Gatti, T. G. P. Moraes, F. S. Oliveira, C. S. Pinhanez, A. Rademaker, and R. A. de Paula. A scalable architecture for real-time analysis of microblogging data. *IBM Journal of Research and Development*, 59(2–3):16:1–16:10, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Collins:1972:SPT

[CGN72] R. H. Collins, E. G. Grochowski, and W. D. North. Silicon process technology for monolithic memory. *IBM Journal of Research and Development*, 16(1):2–10, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cheung:1988:IRM

[CGR88] Ho-Fai Cheung, Yuval Gefen, and Eberhard K. Riedel. Isolated rings of mesoscopic dimensions. quantum coherence and persistent currents. *IBM Journal of Research and Development*, 32(3):359–371, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiu:2005:P

[CGR05] G. L.-T. Chiu, M. Gupta, and A. K. Royyurus. Preface. *IBM Journal of Research and Development*, 49(2/3):191–193, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/preface.pdf`.

Craft:1961:TLM

[CGS61] J. L. Craft, E. H. Goldman, and W. B. Strohm. A table look-up machine for processing of natural languages. *IBM Journal of Research and Development*, 5(3):192–203, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392447`.

Chang:1974:SDF

[CH74] W. H. Chang and L. G. Heller. Structure dependence of free-charge transfer in charge-coupled devices. *IBM Journal of Research and Development*, 18(5):436–442, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chaudhari:1976:SSB

[CH76] P. Chaudhari and S. R. Herd. Submicrometer stripes and bubbles in amorphous films. *IBM Journal of Research and Development*, 20(2):102–108, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Collins:1982:PCC

[CH82] G. G. Collins and C. W. Halsted. Process control of the chlorobenzene single-step liftoff process with a diazo-type resist. *IBM Journal of Research and Development*, 26(5): 596–604, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1984:ECS

[CH84] C. L. Chen and M. Y. Hsiao. Error-correcting codes for semiconductor memory applications: a state-of-the-art review. *IBM Journal of Research and Development*, 28(2):124–134, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carter:2006:MWD

[CH06] N. P. Carter and A. Hussain. Modeling wire delay, area, power, and performance in a simulation infrastructure. *IBM Journal of Research*

and Development, 50(2/3):311–319, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/carter.html`.

Chang:1962:ASQ

[Cha62] Hsu Chang. Analysis of static and quasidynamic behavior of magnetostatically coupled thin magnetic films. *IBM Journal of Research and Development*, 6(4):419–429, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392316`.

Chang:1967:STS

[Cha67] A. Chang. Synchronization of traffic signals in grid networks. *IBM Journal of Research and Development*, 11(4):436–441, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391947`.

Chaudhari:1969:MSR

[Cha69] P. Chaudhari. Mechanisms of stress relief in polycrystalline films. *IBM Journal of Research and Development*, 13(2):197–204, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1973:CIA

[Cha73a] W. Chang. Computer interference analysis. *IBM Journal of Research and Development*, 17 (1):13–26, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chastang:1973:OTM

[Cha73b] J. C. Chastang. Optical techniques for measurement of chamber spacing. *IBM Journal of Research and Development*, 17(6):519–524, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1974:BQM

[Cha74] W. Chang. Bulk queue model for computer system analysis. *IBM Journal of Research and Development*, 18(4):370–372, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See comment [Sta75].

Chang:1975:TRT

[Cha75a] J. H. Chang. Terminal response times in data communications systems. *IBM Journal of Research and Development*, 19(3):272–282, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1975:SSQ

[Cha75b] W. Chang. Sequential server queues for computer communication system analysis. *IBM Journal of Research and*

Development, 19(5):476–485, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chaitin:1977:AIT

[Cha77] G. J. Chaitin. Algorithmic information theory. *IBM Journal of Research and Development*, 21(4):350–359, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chastang:1979:PPP

[Cha79] Jean-Claude A. Chastang. Polarization problems of parallel plate lasers. *IBM Journal of Research and Development*, 23 (2):132–139, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chamberlin:1987:DCI

[Cha87] Donald D. Chamberlin. Document convergence in an interactive formatting system. *IBM Journal of Research and Development*, 31(1):58–72, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1988:EDS

[Cha88] C. S. Chang. Electrical design of signal lines for multilayer printed circuit boards. *IBM Journal of Research and Development*, 32(5):647–657, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chan:1985:SCS

[CHBH85] Derek Y. C. Chan, Douglas Henderson, Jorge Barojas, and Andrew M. Homola. Stability of a colloidal suspension of coated magnetic particles in an aqueous solution. *IBM Journal of Research and Development*, 29(1):11–17, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Casanova:1992:ESR

[CHdTG92] M. A. Casanova, A. S. Hemerly, and R. A. de T. Guerreiro. Explaining SLDNF resolution with non-normal defaults. *IBM Journal of Research and Development*, 36(3):347–359, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1964:DDT

[Che64] W. T. Chen. Displacement discontinuity over a transversely isotropic elastic halfspace. *IBM Journal of Research and Development*, 8(4):435–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1972:ACE

[Che72] Tien Chi Chen. Automatic computation of exponentials, logarithms, ratios and square roots. *IBM Journal of Research and Development*, 16 (4):380–388, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL http://www.research.ibm.com/journal/rd/164/chen.pdf.

Chen:2006:MVP

[Che06] T.-C. Chen. Message from the Vice President, Science and Technology, IBM Research Division. *IBM Journal of Research and Development*, 50 (4/5):??, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/504/message.html.

Chen:2008:MVP

[Che08] T.-C. Chen. Message from the Vice President, Science and Technology, IBM Research Division. *IBM Journal of Research and Development*, 52 (3):??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/523/message.html.

Crivelli:2004:NLB

[CHG04] S. Crivelli and T. Head-Gordon. A new load-balancing strategy for the solution of dynamical large-tree-search problems using a hierarchical approach. *IBM Journal of Research and Development*, 48(2): 153–160, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/482/crivelli.html; http://www.research.ibm.com/journal/rd/482/crivelli.pdf.

Castelli:2001:PMS

[CHH+01] V. Castelli, R. E. Harper, P. Heidelberger, S. W. Hunter, K. S. Trivedi, K. Vaidyanathan, and W. P. Zeggert. Proactive management of software aging. *IBM Journal of Research and Development*, 45(2): 311–332, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/452/castelli.html.

Chien:1960:CON

[Chi60a] R. T. Chien. A class of optimal noiseless load-sharing matrix switches. *IBM Journal of Research and Development*, 4 (4):414–417, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392517.

Chien:1960:SCN

[Chi60b] R. T. Chien. Synthesis of a communication net. *IBM Journal of Research and Development*, 4(3):311–320, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392501.

Ching:1986:PAC

[Chi86] Wai-Mee Ching. Program analysis and code generation in an APL/370 compiler. *IBM Journal of Research and Development*, 30(6):594–602, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Craddock:2018:ZLL

[CHJ+18] D. Craddock, A. Hoshikawa, J. Josten, D. F. Riedy, P. G. Sutton, and H. M. Yudenfriend. zHyperLink: Low-latency I/O for Db2 on IBM Z and DS8880 storage. *IBM Journal of Research and Development*, 62(2–3):13:1–13:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8280518/`.

Christensen:2011:PSE

[CHL+11] S. L. Christensen, B. M. Haines, U. D. Lanke, M. F. Paige, and S. G. Urquhart. Partial secondary electron-yield NEXAFS spectromicroscopy with an energy-filtered X-PEEM. *IBM Journal of Research and Development*, 55(4):5:1–5:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chari:2016:PAU

[CHM+16] S. N. Chari, T. A. Habeck, I. Molloy, Y. Park, J. R. Rao, and W. Teiken. A platform and analytics for usage and entitlement analytics. *IBM Journal of Research and Development*, 60(4):7:1–7:12, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523361/`.

Conklin:2007:RPO

[CHMW07] C. R. Conklin, C. J. Hollenback, C. Mayer, and A. Winter. Reducing planned outages for book hardware maintenance with concurrent book replacement. *IBM Journal of Research and Development*, 51 (1/2):157–171, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/conklin.html`.

Chow:1974:OSH

[Cho74] C. K. Chow. On optimization of storage hierarchies. *IBM Journal of Research and Development*, 18(3):194–203, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chow:1975:CSM

[Cho75] We Min Chow. Central server model for multiprogrammed computer systems with different classes of jobs. *IBM Journal of Research and Development*, 19(3):314–320, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Papers on system performance evaluation.

Chu:1982:CCL

[CHS82] Richard C. Chu, Un Pah Hwang, and Robert E. Simons. Conduction cooling for an LSI package: a one-dimensional approach. *IBM Journal of Research and Development*, 26(1): 45–54, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coteus:2013:PIB

[CHT+13] P. W. Coteus, S. A. Hall, T. Takken, R. A. Rand, S. Tian, G. V. Kopcsay, R. Bickford, F. P. Giordano, C. M. Marroquin, and M. J. Jeanson. Packaging the IBM Blue Gene/Q supercomputer. *IBM Journal of Research and Development*, 57 (1/2):2:1–2:13, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chuang:1982:LCE

[Chu82] T. J. Chuang. Laser-enhanced chemical etching of solid surfaces. *IBM Journal of Research and Development*, 26(2): 145–151 (or 145–150??), March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chandy:1975:AAG

[CHW75a] K. M. Chandy, U. Herzog, and L. Woo. Approximate analysis of general queueing networks. *IBM Journal of Research and Development*, 19(1):43–49, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chandy:1975:PAQ

[CHW75b] K. M. Chandy, U. Herzog, and L. Woo. Parametric analysis of queueing networks. *IBM Journal of Research and Development*, 19(1):36–42, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cwiakala:1992:MDR

[CHY92] R. Cwiakala, J. D. Haggar, and H. M. Yudenfriend. MVS Dynamic Reconfiguration Management. *IBM Journal of Research and Development*, 36 (4):633–646, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coon:1976:SAC

[CI76] Thomas R. Coon and John E. Irby. Skylab attitude control system. *IBM Journal of Research and Development*, 20(1): 58–66, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Childers:2003:SOM

[CIE+03] E. R. Childers, W. Imaino, J. H. Eaton, G. A. Jaquette, P. V. Koeppe, and D. J. Hellman. Six orders of magnitude in linear tape technology: The one-terabyte project. *IBM Journal of Research and Development*,

47(4):471–482, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/childers.pdf`.

Cho:2010:OPP

[CIJ+10] S. M. Cho, D. W. Im, O. Y. Jang, H. J. Song, B. D. Paulovicks, V. Sheinin, and H. Yeo. OpenCL and parallel primitives for digital TV applications. *IBM Journal of Research and Development*, 54(5): 7:1–7:14, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cioffi:1986:LSI

[Cio86] J. M. Cioffi. Least-squares storage-channel identification. *IBM Journal of Research and Development*, 30(3):310–320, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chu:1978:LSS

[CJ78a] W. H. Chu and J. T. Jacobs. Light scattering study of structures in a smectic liquid crystal. *IBM Journal of Research and Development*, 22(1):40–50, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cox:1978:PEL

[CJ78b] R. J. Cox and J. F. Johnson. Phase equilibria in liquid crystal mixtures. *IBM Journal of Research and Development*, 22(1):51–59, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Casey:1983:POS

[CJ83] R. G. Casey and C. R. Jih. A processor-based OCR system. *IBM Journal of Research and Development*, 27(4):386–399, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ching:1991:EAP

[CJ91] W.-M. Ching and D. Ju. Execution of automatically parallelized APL programs on RP3. *IBM Journal of Research and Development*, 35(5/6): 767–777, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curran:2015:IZM

[CJB+15] B. W. Curran, C. Jacobi, J. J. Bonanno, D. A. Schroter, K. J. Alexander, A. Puranik, and M. M. Helms. The IBM z13 multithreaded microprocessor. *IBM Journal of Research and Development*, 59(4–5):1:1–1:13, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:2015:FDI

[CJH+15] H. Chang, I. H. Jiang, H. P. Hofstee, D. Jamsek, and G. Nam. Feature detection for image analytics via FPGA acceleration. *IBM Journal of Research and Development*, 59(2–

3):8:1–8:10, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cash:2016:MII

[CJJ+16] S. Cash, V. Jain, L. Jiang, A. Karve, J. Kidambi, M. Lyons, T. Mathews, S. Mullen, M. Mulsow, and N. Patel. Managed infrastructure with IBM Cloud OpenStack Services. *IBM Journal of Research and Development*, 60(2–3):6:1–6:12, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cook:2013:MIA

[CJK+13] T. Cook, D. Jaramillo, N. Katz, B. Bodin, S. Cooper, C. H. Becker, R. Smart, and C. Lu. Mobile innovation applications for the BYOD enterprise user. *IBM Journal of Research and Development*, 57(6): 6:1–6:10, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coppersmith:1996:PMT

[CJM96] D. Coppersmith, D. B. Johnson, and S. M. Matyas. A proposed mode for triple DES encryption. *IBM Journal of Research and Development*, 40(2): 253–262, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-2.html#seven`.

Chang:1962:TCD

[CJT62] G. K. Chang, R. E. Jones, and A. M. Toxen. Thermal conductivity of dilute indium-mercury superconducting alloys. *IBM Journal of Research and Development*, 6(1): 112–115, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392423`.

Crook:1963:ESH

[CK63] M. N. Crook and D. S. Kellogg. Experimental study of human factors for a handwritten numeral reader [letter to the editor]. *IBM Journal of Research and Development*, 7 (1):76–78, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392345`.

Coburn:1979:SCA

[CK79] John W. Coburn and Eric Kay. Some chemical aspects of the fluorocarbon plasma etching of silicon and its compounds. *IBM Journal of Research and Development*, 23(1):33–41, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Campbell:2017:PDL

[CK17a] Murray Campbell and Tim Klinger. Preface: Deep learning. *IBM Journal of Research*

and Development, 61(4–5):4:1–4:5, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cecchi:2017:PCN

[CK17b] Guillermo A. Cecchi and James Kozloski. Preface: Computational neuroscience. *IBM Journal of Research and Development*, 61(2–3):0:1–0:4, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cope:2010:IRB

[CKE+10] E. W. Cope, J. M. Kuster, D. Etzweiler, L. A. Deleris, and B. Ray. Incorporating risk into business process models. *IBM Journal of Research and Development*, 54(3):4:1–4:13, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Campbell:1999:TDT

[CKG+99] S. A. Campbell, H.-S. Kim, D. C. Gilmer, B. He, T. Ma, and W. L. Gladfelter. Titanium dioxide (TiO_2)-based gate insulators. *IBM Journal of Research and Development*, 43 (3):383–392, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/campbell.html`.

Chang:1988:NT

[CKK+88] T. H. P. Chang, Dieter P. Kern, Ernst Kratschmer, Kim Y. Lee, Hans E. Luhn, Mark A. McCord, Stephen A. Rishton, and Yuli Vladimirsky. Nanostructure technology. *IBM Journal of Research and Development*, 32(4):462–493, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coghlan:2013:AAI

[CKL+13] S. Coghlan, K. Kumaran, R. M. Loy, P. Messina, V. Morozov, J. C. Osborn, S. Parker, K. M. Riley, N. A. Romero, and T. J. Williams. Argonne applications for the IBM Blue Gene/Q, Mira. *IBM Journal of Research and Development*, 57(1/2):12:1–12:11, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Castrucci:1964:ECS

[CL64] P. P. Castrucci and J. S. Logan. Electrode control of SiO_2 passivated planar junctions. *IBM Journal of Research and Development*, 8(4):394–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1974:PDI

[CL74] W. H. Chang and H. S. Lee. Potential distribution of an inhomogeneously doped MIS array. *IBM Journal of Research and Development*, 18(1):47–52, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cytron:1986:AOG

[CL86] Ron Cytron and Paul G. Loewner. An automatic overlay generator. *IBM Journal of Research and Development*, 30(6): 603–608, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clark:1979:DSM

[Cla79] William D. Clark. Document scanner mechanism. *IBM Journal of Research and Development*, 23(4):415–423, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clauberg:2003:DAA

[Cla03] R. Clauberg. Data aggregation architectures for single-chip SDH/SONET framers. *IBM Journal of Research and Development*, 47(2/3):211–221, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/clauberg.pdf`.

Clementi:1965:AIC

[Cle65a] E. Clementi. Ab initio computations in atoms and molecules. *IBM Journal of Research and Development*, 9(1):2–19, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See supplemental volume [Cle65b].

Clementi:1965:TAF

[Cle65b] Enrico Clementi. Tables of atomic functions. *IBM Journal of Research and Development*, 9(Supplement):(various), 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). This volume is a supplement to [Cle65a].

Clementi:1981:CSC

[Cle81] Enrico Clementi. Computer simulations of complex chemical systems: Solvation of DNA and solvent effects in conformational transitions. *IBM Journal of Research and Development*, 25(4):315–326, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cleverley:1983:PQL

[Cle83] Donald S. Cleverley. Product quality level monitoring and control for logic chips and modules. *IBM Journal of Research and Development*, 27(1):4–10, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clementi:2000:ICA

[Cle00] Enrico Clementi. Ab initio computations in atoms and molecules. *IBM Journal of Research and Development*, 44 (1/2):228–245, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/clementi.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Coden:2016:UIT

[CLH+16] A. Coden, W. S. Lin, K. Houck, M. Tanenblatt, J. Boston, J. E. MacNaught, D. Soroker, J. D. Weisz, S. Pan, J.-H. H. Lai, J. Lu, S. Wood, Y. Xia, and C.-Y. Y. Lin. Uncovering insider threats from the digital footprints of individuals. *IBM Journal of Research and Development*, 60(4):8:1–8:11, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523357/`.

Clinger:1990:HRF

[Cli90] William D. Clinger. How to read floating point numbers accurately. *ACM SIGPLAN Notices*, 25(6):92–101, June 1990. CODEN SINODQ. ISBN 0-89791-364-7. ISSN 0362-1340 (print), 1523-2867 (print), 1558-1160 (electronic). URL `http://www.acm.org:80/pubs/citations/proceedings/pldi/93542/p92-clinger/`. See also output algorithms in [Knu90, SW90, BD96, ABC+99b, **?**].

Ciskowski:1987:SIE

[CLOR87] R. D. Ciskowski, C. H. Liu, H. H. Ottesen, and S. U. Rahman. System identification: an experimental verification. *IBM Journal of Research and Development*, 31(5): 571–584, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Castro:2013:RAM

[CLP+13a] P. C. Castro, J. W. Ligman, M. Pistoia, J. Ponzo, G. S. Thomas, and U. Topkara. Runtime adaptive multifactor authentication for mobile devices. *IBM Journal of Research and Development*, 57(6): 8:1–8:17, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Castro:2013:EBY

[CLP+13b] P. C. Castro, J. W. Ligman, M. Pistoia, J. Ponzo, G. S. Thomas, S. P. Wood, and M. Baluda. Enabling bring-your-own-device using mobile application instrumentation. *IBM Journal of Research and Development*, 57(6): 7:1–7:11, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coppersmith:1979:EPN

[CLW79] Don Coppersmith, D. T. Lee, and Chak Kuen Wong. An elementary proof of nonexistence of isometries between l_p^k and l_q^k. *IBM Journal of Research and Development*, 23(6): 696–699, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chung:1980:CPR

[CLW80] K. M. Chung, F. Luccio, and C. K. Wong. On the complexity of permuting records in magnetic bubble memory systems. *IBM Journal of Research and Development*, 24(1):75–84, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Comstock:1974:FFR

[CM74] R. L. Comstock and E. B. Moore. Ferrite film recording surfaces for disk recording. *IBM Journal of Research and Development*, 18(6):556–562, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cocke:1980:SRD

[CM80] John Cocke and Peter W. Markstein. Strength reduction for division and modulo with application to accessing a multilevel store. *IBM Journal of Research and Development*, 24(6): 692–694, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cocke:1990:ERT

[CM90] John Cocke and Victoria Markstein. The evolution of RISC technology at IBM. *IBM Journal of Research and Development*, 34(1):4–11, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401C.pdf`.

Colyer:1998:IJA

[CM98] P. S. Colyer and J. L. Mitchell. The IBM JBIG-ABIC Verification Suite. *IBM Journal of Research and Development*, 42 (6):785–794, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/colyer.html`.

Cocke:2000:MGR

[CM00] John Cocke and V. Markstein. The evolution of RISC technology at IBM. *IBM Journal of Research and Development*, 44(1/2):48–55, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/cocke.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Coates:2019:IEM

[CM19] D. L. Coates and A. Martin. An instrument to evaluate the maturity of bias governance capability in artificial intelligence projects. *IBM Journal of Research and Development*, 63(4–5):7:1–7:15, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1987:PPA

[CMP87] Yi-Hsin Chen, Frederick C. Mintzer, and Keith S. Pennington. Panda: Processing Algorithm for Noncoded Document

Acquisition. *IBM Journal of Research and Development*, 31 (1):32–43, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carter:1964:DSF

[CMPR64] W. E. Carter, H. C. Montgomery, R. J. Preiss, and H. J. Reinheimer. Design of serviceability features for the IBM System/360. *IBM Journal of Research and Development*, 8 (2):115–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802E.pdf`.

Crispi:1972:MMD

[CMR72] F. J. Crispi, G. C. Maling, Jr., and A. W. Rzant. Monitoring microinch displacements in ultrasonic welding equipment. *IBM Journal of Research and Development*, 16(3):307–312, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1990:ESF

[CMR+90] A. Chang, M. F. Mergen, R. K. Rader, J. A. Roberts, and S. L. Porter. Evolution of storage facilities in AIX version 3 for RISC System/6000 processors. *IBM Journal of Research and Development*, 34(1): 105–110, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401M.pdf`.

Chow:1985:AMS

[CMS85] We-Min Chow, Edward A. MacNair, and Charles H. Sauer. Analysis of manufacturing systems by the Research Queueing Package. *IBM Journal of Research and Development*, 29 (4):330–342, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coleman:1992:FDD

[CMW92] J. J. Coleman, C. B. Meltzer, and J. L. Weiner. Fiber Distributed Data Interface attachment to System/390. *IBM Journal of Research and Development*, 36(4):647–654, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Choquet:1971:GSD

[CN71] M. F. Choquet and H. J. Nussbaumer. Generation of synchronous data transmission signals by digital echo modulation. *IBM Journal of Research and Development*, 15(5): 364–377, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Choquet:1974:MMT

[CN74] M. F. Choquet and H. J. Nussbaumer. Microcoded modem transmitters. *IBM Journal of Research and Development*, 18 (4):338–351, June 1974. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1979:TSB

[CN79] William T. Chen and Carl W. Nelson. Thermal stress in bonded joints. *IBM Journal of Research and Development*, 23 (2):179–188, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chesshire:1994:EPD

[CN94] G. Chesshire and V. K. Naik. An environment for parallel and distributed computation with application to overlapping grids. *IBM Journal of Research and Development*, 38(3): 285–300, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#seven`.

Chen:2018:PUG

[CN18] Ching-Hua Chen and Kenney Ng. Preface: User-generated health data and applications. *IBM Journal of Research and Development*, 62(1):1–3, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cote:1995:LTC

[CNC+95] D. R. Cote, S. V. Nguyen, W. J. Cote, S. L. Pennington, A. K. Stamper, and D. V. Podlesnik. Low temperature chemical vapor deposition processes and dielectrics for microelectronic circuit manufacturing at IBM. *IBM Journal of Research and Development*, 39 (4):437–464, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#six`.

Commer:2008:MPE

[CNC+08] M. Commer, G. A. Newman, J. J. Carazzone, T. A. Dickens, K. E. Green, L. A. Wahrmund, D. E. Willen, and J. Shiu. Massively parallel electrical-conductivity imaging of hydrocarbons using the IBM Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 52(1/2):93–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/commer.html`.

Chapin:2009:TPW

[CNG09] D. A. Chapin, A. C. Nelson, and B. S. Gerber. A technology perspective on worldwide privacy regulations. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/chapin.html`.

Chow:1973:XIS

[CNH73] C. K. Chow, K. E. Niebuhr, and S. K. Hilal. X-ray image sub-

traction by digital means. *IBM Journal of Research and Development*, 17(3):206–218, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:2019:AHA

[CNL+19] H. . Chang, P. Narayanan, S. C. Lewis, N. C. P. Farinha, K. Hosokawa, C. Mackin, H. Tsai, S. Ambrogio, A. Chen, and G. W. Burr. AI hardware acceleration with analog memory: Microarchitectures for low energy at high speed. *IBM Journal of Research and Development*, 63(6):8:1–8:14, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Contractor:2015:SLC

[CNP+15] D. Contractor, S. Negi, K. Popat, S. Ikbal, B. Prasad, S. Vedula, S. Kakaraparthy, B. Sengupta, and V. Kumar. Smarter learning content management using the Learning Content Hub. *IBM Journal of Research and Development*, 59(6):3:1–3:9, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Codella:2017:DLE

[CNP+17] N. C. F. Codella, Q. B. Nguyen, S. Pankanti, D. A. Gutman, B. Helba, A. C. Halpern, and J. R. Smith. Deep learning ensembles for melanoma recognition in dermoscopy images. *IBM Journal of Research and Development*, 61(4–5):5:1–5:15, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030303/`.

Cote:1999:PAC

[CNS+99] D. R. Cote, S. V. Nguyen, A. K. Stamper, D. S. Armbrust, D. Tobben, R. A. Conti, and G. Y. Lee. Plasma-assisted chemical vapor deposition of dielectric thin films for ULSI semiconductor circuits. *IBM Journal of Research and Development*, 43(1/2):5–38, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/cote.html`.

Conklin:2012:CUS

[CNSS12] C. R. Conklin, W. Niklaus, R. Schaufler, and S. Swaney. Concurrently update the scan-initialization data of a processor core. *IBM Journal of Research and Development*, 56(1–2):7:1–7:6, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cahill:2015:IPS

[CNV+15] J. J. Cahill, T. Nguyen, M. Vega, D. Baska, D. Szerdi, H. Pross, R. X. Arroyo, H. Nguyen, M. J. Mueller, D. J. Henderson, and J. Moreira. IBM Power Systems built with

the POWER8 architecture and processors. *IBM Journal of Research and Development*, 59 (1):4:1–4:10, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chambers:1961:SXR

[COC61] F. Chambers, M. Okrasinski, and H. Cole. Safe X-ray shutter and filter system [letter to the editor]. *IBM Journal of Research and Development*, 5 (1):69–70, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392482`.

Cohen:1987:AMN

[Coh87] Hirsh Cohen. Applied mathematics, a national view. *IBM Journal of Research and Development*, 31(2):158–161, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cole:1959:IFC

[Col59] H. Cole. Interatomic-force constants from a central-force law. *IBM Journal of Research and Development*, 3(2): 126–131, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392602`.

Coles:1962:EEC

[Col62] B. R. Coles. Effects of electron concentration and mean free path on the superconducting behavior of alloys. *IBM Journal of Research and Development*, 6(1):68–70, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392415`.

Colas:1969:OPI

[Col69a] J. D. Colas. Operational program for the IBM 2750. *IBM Journal of Research and Development*, 13(4):428–438, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cole:1969:CXL

[Col69b] H. Cole. Computer-operated X-ray laboratory equipment. *IBM Journal of Research and Development*, 13(1):5–14, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Comfort:1983:FSA

[Com83] Webb T. Comfort. Fault-tolerant system architecture for Navy applications. *IBM Journal of Research and Development*, 27(3):219–236, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Constantine:1958:LSM

[Con58] G. Constantine. A load-sharing matrix switch. *IBM Journal of Research and Development*, 2(3):204–211, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392623`.

Constantine:1960:NDL

[Con60] G. Constantine. New developments in load-sharing matrix switches [letter to the editor]. *IBM Journal of Research and Development*, 4(4): 418–422, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392518`.

Cooper:1962:SET

[Coo62] L. N. Cooper. Some elementary theoretical considerations concerning superconductivity of superimposed metallic films. *IBM Journal of Research and Development*, 6 (1):75–76, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392417`.

Cooley:1982:RTD

[Coo82] James W. Cooley. Rectangular transforms for digital convolution on the research signal processor. *IBM Journal of Research and Development*, 26 (4):424–430, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cook:1984:CSG

[Coo84] Peter W. Cook. Constraint solver for generalized IC layout. *IBM Journal of Research and Development*, 28(5):581–589, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cooper:1990:DFA

[Coo90] E. S. Cooper. Disk file access-time constraints imposed by magnetic air-bearing compliance. *IBM Journal of Research and Development*, 34(5): 668–679, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cooper:2018:CNC

[Coo18] K. Cooper. The challenge of new chemical entities attrition. *IBM Journal of Research and Development*, 62(6):1:1–1:9, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coppersmith:1987:C

[Cop87] D. Coppersmith. Cryptography. *IBM Journal of Research and Development*, 31(2):244–248, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coppersmith:1994:DES

[Cop94] D. Coppersmith. The Data Encryption Standard (DES) and its strength against attacks. *IBM Journal of Research and Development*, 38(3): 243–250, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#two`.

Copel:2000:MEI

[Cop00a] M. Copel. Medium-energy ion scattering for analysis of microelectronic materials. *IBM Journal of Research and Development*, 44(4):571–582, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/copel.html`.

Coppersmith:2000:C

[Cop00b] D. Coppersmith. Cryptography. *IBM Journal of Research and Development*, 44(1/2):246–250, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/coppersmith.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Corby:1969:IVD

[Cor69] B. Corby. IBM 2750 voice and data switching system: organization and functions. *IBM Journal of Research and Development*, 13(4):408–415, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Correale:1982:PDC

[Cor82] Anthony Correale. Physical design of a custom 16-bit microprocessor. *IBM Journal of Research and Development*, 26 (4):446–453, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Correale:1984:DCS

[Cor84] A. Correale. Design considerations of a static LSSD polarity hold latch pair. *IBM Journal of Research and Development*, 28(4):370–378, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Corbin:1993:FEA

[Cor93] J. S. Corbin. Finite element analysis for Solder Ball Connect (SBC) structural design optimization. *IBM Journal of Research and Development*, 37(5): 585–596, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cornell:2018:PCT

[Cor18] W. Cornell. Preface: Computational technologies for drug discovery. *IBM Journal of Research and Development*, 62 (6):1–2, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Covi:1992:TFC

[Cov92] K. R. Covi. Three-loop feedback control of fault-tolerant power supplies in IBM Enterprise System/9000 processors. *IBM Journal of Research and Development*, 36(4):781–789, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cowlishaw:1987:LPS

[Cow87] M. F. Cowlishaw. LEXX — a programmable structured editor. *IBM Journal of Research and Development*, 31(1):73–80, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chung:1963:DAR

[CP63] D. H. Chung and J. A. Palmieri. Design of ACP resistor-coupled switching circuits. *IBM Journal of Research and Development*, 7(3):190–198, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392302`.

Canosa:1972:PSM

[CP72] José Canosa and H. R. Penafiel. Parallel shooting method for boundary-value problems: application to the neutron transport equation. *IBM Journal of Research and Development*, 16 (4):354–364, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Curry:1977:SMI

[CP77] S. A. Curry and H. Portig. Scale model of an ink jet. *IBM Journal of Research and Development*, 21(1):10–20, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Coombs:1986:PVT

[CP86] J. H. Coombs and J. B. Pethica. Properties of vacuum tunneling currents: Anomalous barrier heights. *IBM Journal of Research and Development*, 30 (5):455–459, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cohen:1991:MNPa

[CP91] M. S. Cohen and K. S. Pennington. Making negatives and plates for printing by electroerosion. I. Physical principles. *IBM Journal of Research and Development*, 35(4):466–488, July 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Charney:1997:PMS

[CP97] M. J. Charney and T. R. Puzak. Prefetching and memory system behavior of the SPEC95 benchmark suite. *IBM Journal of Research and Development*, 41(3):265–286, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL http://www.almaden.ibm.com/journal/rd/413/charney.html.

Carswell:1999:PPI

[CP99] Kevin Carswell and Cyril Price. Preface: Papers on IBM S/390 Server G5/G6. *IBM Journal of Research and Development*, 43(5/6):619–620, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/435/preface.html.

Checconi:2013:MDA

[CP13] F. Checconi and F. Petrini. Massive data analytics: The Graph 500 on IBM Blue Gene/Q. *IBM Journal of Research and Development*, 57(1/2):10:1–10:11, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Codella:2018:DQC

[CPCC18] J. Codella, C. Partovian, H. Y. Chang, and C. H. Chen. Data quality challenges for person-generated health and wellness data. *IBM Journal of Research and Development*, 62 (1):3:1–3:8, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/document/8269766/.

Cohen:2009:AAO

[CPD+09] D. Cohen, F. Petrini, M. D. Day, M. Ben-Yehuda, S. W. Hunter, and U. Cummings. Applying Amdahl's Other Law to the data center. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/535/cohen-hunter.html.

Cole:1974:NAS

[CPL+74] R. W. Cole, R. I. Potter, C. C. Lin, K. L. Deckert, and E. P. Valstyn. Numerical analysis of the shielded magnetoresistive head. *IBM Journal of Research and Development*, 18(6): 551–555, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chambliss:2008:ASH

[CPT+08] David Chambliss, Prashant Pandey, Tarun Thakur, Aki Fleshler, Thomas Clark, James A. Ruddy, Kevin D. Gougherty, Matt Kalos, Lyle Merithew, John G. Thompson, and Harry M. Yudenfriend. An architecture for storage-hosted application extensions. *IBM Journal of Research and Development*, 52(4/5):427–437, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/524/chambliss.html.

Colgan:1998:TFT

[CPTW98] E. G. Colgan, R. J. Polastre, M. Takeichi, and R. L. Wisnieff. Thin-film-transistor process-characterization test structures. *IBM Journal of Research and Development*, 42 (3/4):481–490, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/polastre.html`.

Carter:2000:APP

[CPvR00] P. H. Carter II, D. J. Pines, and L. v. Rudd. Approximate performance of periodic hypersonic cruise trajectories for global reach. *IBM Journal of Research and Development*, 44(5):703–714, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/carter.pdf`.

Crawford:1963:ITD

[CPZ63] D. J. Crawford, W. D. Pricer, and J. J. Zasio. An improved tunnel diode memory system. *IBM Journal of Research and Development*, 7(3): 199–206, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392303`.

Chen:1976:ECC

[CR76] C. L. Chen and R. A. Rutledge. Error correcting codes for satellite communication channels. *IBM Journal of Research and Development*, 20(2):168–175, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1984:FMS

[CR84] C. L. Chen and R. A. Rutledge. Fault-tolerant Memory Simulator. *IBM Journal of Research and Development*, 28(2): 184–195, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Codish:2015:DPE

[CR15] D. Codish and G. Ravid. Detecting playfulness in educational gamification through behavior patterns. *IBM Journal of Research and Development*, 59(6):6:1–6:14, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Craft:1998:FHD

[Cra98] D. J. Craft. A fast hardware data compression algorithm and some algorithmic extensions. *IBM Journal of Research and Development*, 42(6): 733–745, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/craft.html`.

Cao:2018:PQC

[CRAG18] Y. Cao, J. Romero, and A. Aspuru-Guzik. Potential of quantum computing for drug discovery. *IBM Journal of Research and Development*, 62(6): 6:1–6:20, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:2007:CBE

[CRDI07] T. Chen, R. Raghavan, J. N. Dale, and E. Iwata. Cell Broadband Engine Architecture and its first implementation—A performance view. *IBM Journal of Research and Development*, 51(5):559–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/chen.html`.

Credle:1958:ELT

[Cre58] A. B. Credle. Effects of low temperatures on transistor characteristics. *IBM Journal of Research and Development*, 2(1):54–71, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392658`.

Creasy:1981:OVT

[Cre81] R. J. Creasy. The origin of the VM/370 time-sharing system. *IBM Journal of Research and Development*, 25(5): 483–490, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen-Ritzo:2012:PTH

[CRH12] C.-H. Chen-Ritzo and J. Hu. Preface: Technologies for healthcare transformation. *IBM Journal of Research and Development*, 56(5):0:1–0:2, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261576`.

Chen-Ritzo:2009:IP

[CRHPP09] C.-H. Chen-Ritzo, C. Harrison, J. Paraszczak, and F. Parr. Instrumenting the planet. *IBM Journal of Research and Development*, 53 (3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/chen-ritzo.html`.

Corbin:2002:LGA

[CRM02] J. S. Corbin, C. N. Ramirez, and D. E. Massey. Land grid array sockets for server applications. *IBM Journal of Research and Development*, 46(6): 763–778, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/corbin.pdf`.

Crowe:1957:TFS

[Cro57] J. W. Crowe. Trapped-flux superconducting memory. *IBM Journal of Research and Development*, 1(4): 294–303, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392695`.

Croisier:1970:IPT

[Cro70] A. Croisier. Introduction to pseudoternary transmission codes. *IBM Journal of Research and Development*, 14(4):354–367, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Crow:1979:GLR

[Cro79] J. D. Crow. (GaAl)As laser requirements for local attached data link applications. *IBM Journal of Research and Development*, 23(5):576–584, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1965:CCT

[CS65a] W. T. Chen and R. P. Soni. On a circular crack in a transversely isotropic elastic material under prescribed shear stress. *IBM Journal of Research and Development*, 9(3): 192–195, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cooley:1965:SEW

[CS65b] J. W. Cooley and F. Stern. Solution of the equation for wave propagation in layered slabs with complex dielectric constants. *IBM Journal of Research and Development*, 9(5/6):405–411, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Capelli:1984:DIG

[CS84] Ronald B. Capelli and George C. Sax. A device-independent graphics package for CAD applications. *IBM Journal of Research and Development*, 28(5): 512–523, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chieu:1985:ITR

[CS85] Trieu C. Chieu and O. Sahni. Ink temperatures in resistive ribbon thermal transfer printing. *IBM Journal of Research and Development*, 29(5):509–518, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiu:1997:OLI

[CS97] G. L.-T. Chiu and J. M. Shaw. Optical lithography: Introduction. *IBM Journal of Research and Development*, 41 (1/2):3–6, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/chiu.html`.

Check:1999:CGG

[CS99] M. A. Check and T. J. Slegel. Custom S/390 G5 and G6 microprocessors. *IBM Journal of Research and Development*, 43(5/6):671–680, September/ November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/check.html`.

Cozzolino:2002:P

[CS02] Vincent Cozzolino and Prabjit Singhs. Preface. *IBM Journal of Research and Development*, 46(6):709, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/preface2.pdf`.

Chevillat:2003:BRL

[CS03] P. R. Chevillat and W. Schott. Broadband radio LANs and the evolution of wireless beyond 3G. *IBM Journal of Research and Development*, 47 (2/3):327–336, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/chevillat.pdf`.

Chang:1966:EBA

[CSE66] L. L. Chang, P. J. Stiles, and L. Esaki. Electron barriers in Al-Al_2O_3-SnTe and Al-Al_2O_3-GeTe tunnel junctions. *IBM Journal of Research and Development*, 10(6): 484–486, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392009`.

Collins:1989:ISN

[CSH+89] Reuben T. Collins, Zack Schlesinger, Frederic H. Holtzberg, Praveen Chaudhari, and Christopher A. Feild. Infrared studies of the normal and superconducting states of $Y_1ba_2cu_3O_7$. *IBM Journal of Research and Development*, 33 (3):238–245, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Clarke:1983:MAS

[CSS83] T. C. Clarke, J. C. Scott, and G. B. Street. Magic angle spinning NMR of conducting polymers. *IBM Journal of Research and Development*, 27(4):313–320, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chamberlin:1973:ESD

[CSW73] D. D. Chamberlin, H. P. Schlaeppi, and I. Wladawsky. Experimental study of deadline scheduling for interactive systems. *IBM Journal of Research and Development*, 17(3):263–269, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ciszek:1979:SSD

[CSY79] T. F. Ciszek, G. H. Schwuttke, and K. H. Yang. Solar-grade silicon by directional solidification in carbon crucibles. *IBM Journal of Research and Development*, 23(3):270–277, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Carnevali:1986:MIM

[CSZ86] Paolo Carnevali, Piero Sguazzero, and Vittorio Zecca. Microtasking on IBM multiprocessors. *IBM Journal of Research and Development*, 30(6): 574–582, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chien:1965:DB

[CT65] R. T. Chien and D. T. Tang. On definitions of a burst. *IBM Journal of Research and Development*, 9(4):292–293, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1976:SMO

[CT76] T. C. Chen and C. Tung. Storage management operations in linked uniform shift-register loops. *IBM Journal of Research and Development*, 20(2):123–131, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Campbell:1982:DCV

[CT82] John E. Campbell and Joseph Tahmoush. Design considerations for a VLSI microprocessor. *IBM Journal of Research and Development*, 26(4):454–463, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cheng:2006:HQI

[CT06] A. C. Cheng and G. S. Tyson. High-quality ISA synthesis for low-power cache designs in embedded microprocessors. *IBM Journal of Research and Development*, 50(2/3):299–309, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/cheng.html`.

Chen:2016:ASC

[CTD+16] H. Chen, A. Turk, S. S. Duri, C. Isci, and A. K. Coskun. Automated system change discovery and management in the cloud. *IBM Journal of Research and Development*, 60(2–3):2:1–2:10, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1992:FDI

[CTS+92] C. L. Chen, N. N. Tendolkar, A. J. Sutton, M. Y. Hsiao, and D. C. Bossen. Fault-tolerance design of the IBM Enterprise System/9000 type 9021 processors. *IBM Journal of Research and Development*, 36(4):765–779, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Czaykowski:1966:SFT

[CTT66] G. T. Czaykowski, I. G. Tadjbakhsh, and Yih-O. Tu. Stability of flexible tapes in parallel flow. *IBM Journal of Research and Development*, 10 (3):220–224, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392074`.

Chu:1991:CSR

[CTT91] J. L. Chu, H. R. Torabi, and F. J. Towler. A 128Kb CMOS static random-access memory. *IBM Journal of Research and Development*, 35(3):321–329, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Colgan:1998:CML

[CU98] E. G. Colgan and M. Uda. On-chip metallization layers for reflective light valves. *IBM Journal of Research and Development*, 42(3/4):339–345, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/colgan.html`.

Cvetanovic:1987:PAF

[Cve87a] Zark Cvetanovic. Performance analysis of the FFT algorithm on a shared-memory parallel architecture. *IBM Journal of Research and Development*, 31 (4):435–451, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Cvetanovic:1987:BWM

[Cve87b] Zarka Cvetanovic. Best and worst mappings for the omega network. *IBM Journal of Research and Development*, 31 (4):452–463, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chen:1958:NCE

[CW58] T. C. Chen and R. A. Willoughby. A note on the computation of eigenvalues and vectors of Hermitean matrices. *IBM Journal of Research and Development*, 2(2): 169–170, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392674`.

Crowder:1972:LCC

[CW72] Harlan Crowder and Philip Wolfe. Linear convergence of the conjugate gradient method. *IBM Journal of Research and Development*, 16(4):431–433, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Chow:1977:BPA

[CW77] We-Min M. Chow and Lin S. Woo. Buffer performance analysis of communication processors during slowdown at network control. *IBM Journal of*

Research and Development, 21 (3):264–272, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chuang:1978:SPT

[CW78] Tung J. Chuang and Klaus R. Wandelt. Sputter profiling through Ni/Fe interfaces by Auger electron spectroscopy. *IBM Journal of Research and Development*, 22(3):277–284, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curtin:1983:MMT

[CW83] James J. Curtin and John A. Waicukauski. Multi-chip module test and diagnostic methodology. *IBM Journal of Research and Development*, 27(1):27–34, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chang:1985:GTB

[CW85] Fung-Yuel Chang and Lawrence F. Wagner. Generation of three-dimensional bipolar transistor models for circuit analysis. *IBM Journal of Research and Development*, 29(3):252–262, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chiang:1986:CUS

[CW86] S. Chiang and R. J. Wilson. Construction of a UHV scanning tunneling microscope. *IBM Journal of Research and Development*, 30(5):515–519, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Curran:1991:IES

[CW91] B. W. Curran and M. H. Walz. IBM Enterprise System/9000 Type 9121 system controller and memory subsystem design. *IBM Journal of Research and Development*, 35 (3):357–366, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Chambliss:1995:USS

[CWC95] D. D. Chambliss, R. J. Wilson, and S. Chiang. The use of STM to study metal film epitaxy. *IBM Journal of Research and Development*, 39(6): 639–654, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#five`.

Chen:2017:EIA

[CXZ+17] L. L. Chen, J. Xu, Q. Zhang, Q. H. Wang, Y. Q. Xue, and C. R. Ren. Evaluating impact of air pollution on different diseases in Shenzhen, China. *IBM Journal of Research and Development*, 61(6):2:1–2:9, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DiMaria:1977:CSS

[DA77] Donelli J. DiMaria and Patrick C. Arnett. Conduction studies in

silicon nitride: Dark currents and photocurrents. *IBM Journal of Research and Development*, 21(3):227–244, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DiVincenzo:2004:P

[DA04] D. DiVincenzo and N. Amer. Preface. *IBM Journal of Research and Development*, 48 (1):3–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/preface.pdf`.

Doany:1997:LFS

[DAB+97] F. E. Doany, T. Ainsworth, N. Bobroff, D. Goodman, and A. E. Rosenbluth. Large-field scanning laser ablation system. *IBM Journal of Research and Development*, 41 (1/2):131–142, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/doany.html`.

Dunn:2003:FRC

[DAC+03] J. S. Dunn, D. C. Ahlgren, D. D. Coolbaugh, N. B. Feilchenfeld, G. Freeman, D. R. Greenberg, R. A. Groves, F. J. Guarín, Y. Hammad, A. J. Joseph, L. D. Lanzerotti, S. A. St.Onge, B. A. Orner, J.-S. Rieh, K. J. Stein, S. H. Voldman, P.-C. Wang, M. J. Zierak, S. Subbanna, D. L. Harame, D. A. Herman, Jr., and B. S. Meyerson. Foundation of rf CMOS and SiGe BiCMOS technologies. *IBM Journal of Research and Development*, 47 (2/3):101–138, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/dunn.pdf`.

Daher:1963:ACM

[Dah63] P. R. Daher. Automatic correction of multiple errors originating in a computer memory. *IBM Journal of Research and Development*, 7(4): 317–324, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392258`.

Dahlin:1967:LIP

[Dah67] E. B. Dahlin. On-line identification of process dynamics. *IBM Journal of Research and Development*, 11(4):406–426, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391945`.

Dammann:1966:ECD

[Dam66] J. E. Dammann. An experiment in cluster detection [letter to the editor]. *IBM Journal of Research and Development*,

10(1):80–88, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392106`.

Dantzig:1960:IPS

[Dan60] G. B. Dantzig. Inductive proof of the simplex method. *IBM Journal of Research and Development*, 4(5):505–506, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392464`.

Daniel:1966:PEA

[Dan66] James W. Daniel. A partial error analysis for the solution of differential equations in simulation: a look at Fowler's z-transform root-locus method. *IBM Journal of Research and Development*, 10(6):472–476, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392007`.

Dansky:1981:BCD

[Dan81] Allan H. Dansky. Bipolar circuit design for a 5000-circuit VLSI gate array. *IBM Journal of Research and Development*, 25(2/3):116–125, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Danielsson:1982:ISC

[Dan82] P.-E. Danielsson. An improved segmentation and coding algorithm for binary and nonbinary images. *IBM Journal of Research and Development*, 26(6):698–707, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Deutsch:1994:PLE

[DAS+94] A. Deutsch, G. Arjavalingam, C. W. Surovic, A. P. Lanzetta, K. E. Fogel, F. Doany, and M. Ritter. Performance limits of electrical cables for intrasystem communication. *IBM Journal of Research and Development*, 38(6):659–672, November 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html#two`.

Datta:1993:ADM

[Dat93] M. Datta. Anodic dissolution of metals at high rates. *IBM Journal of Research and Development*, 37(2):207–226, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Datta:1998:AEM

[Dat98a] M. Datta. Applications of electrochemical microfabrication: An introduction. *IBM Journal of Research and Development*, 42(5):563–566, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

almaden.ibm.com/journal/rd/425/intro.html.

Datta:1998:MEM

[Dat98b] M. Datta. Microfabrication by electrochemical metal removal. *IBM Journal of Research and Development*, 42(5): 655–669, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/425/datta.html.

Doi:1991:DVU

[DAUS91] A. Doi, M. Aono, N. Urano, and K. Sugimoto. Data visualization using a general-purpose renderer. *IBM Journal of Research and Development*, 35(1/2):45–58, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

David:1958:AAR

[Dav58] E. E. David. Artificial auditory recognition in telephony. *IBM Journal of Research and Development*, 2(4): 294–309, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392642.

Dave:1969:SER

[Dav69] J. V. Dave. Scattering of electromagnetic radiation by a large, absorbing sphere. *IBM Journal of Research and Development*, 13(3):302–313, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davies:1977:CMP

[Dav77] J. E. Davies. Control of magnetic properties during the processing of single crystal garnet films. *IBM Journal of Research and Development*, 21(6): 522–527, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dave:1979:CAF

[Dav79] Jitendra V. Dave. Contrast attenuation factors for remote sensing. *IBM Journal of Research and Development*, 23(2): 214–224, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davis:1980:RMD

[Dav80] Donald E. Davis. Registration mark detection for electron-beam lithography — EL1 system. *IBM Journal of Research and Development*, 24(5): 545–553, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davidson:1982:EDH

[Dav82] E. E. Davidson. Electrical design of a high speed computer package. *IBM Journal of Research and Development*, 26 (3):349–361, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dixon:1969:MMP

[DB69] R. C. Dixon and P. E. Boudreau. Mathematical model for pattern verification. *IBM Journal of Research and Development*, 13(6):717–721, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dimsdale:1976:BPS

[DB76] B. Dimsdale and R. M. Burkley. Bicubic patch surfaces for high-speed numerical control processing. *IBM Journal of Research and Development*, 20 (4):358–367, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DeVoe:1979:SOF

[DB79] R. G. DeVoe and R. G. Brewer. Subnanosecond optical free-induction decay. *IBM Journal of Research and Development*, 23(5):527–533, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dix:1982:CCU

[DB82] G. L. Dix and M. D. Brown. Common chip for use in disk and diskette controllers. *IBM Journal of Research and Development*, 26(4):440–445, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davison:2001:BFE

[DB01] D. B. Davison and J. F. Burke. Brute force estimation of the number of human genes using EST clustering as a measure. *IBM Journal of Research and Development*, 45 (3/4):439–447, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/davison.html`; `http://www.research.ibm.com/journal/rd/453/davison.pdf`.

Dalal:2020:DAW

[DB20] S. Dalal and D. Bassu. Deep analytics for workplace risk and disaster management. *IBM Journal of Research and Development*, 64(1/2):14:1–14:9, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Darringer:2002:EAT

[DBB+02] J. A. Darringer, R. A. Bergamaschi, S. Bhattacharya, D. Brand, A. Herkersdorf, J. K. Morrell, I. I. Nair, P. Sagmeister, and Y. Shin. Early analysis tools for system-on-a-chip design. *IBM Journal of Research and Development*, 46(6):691–707, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/darringer.pdf`.

Desai:2005:BSO

[DBC+05] D. M. Desai, T. M. Bradicich, D. Champion, W. G. Holland, and B. M. Kreuz. BladeCenter system overview. *IBM Jour-*

nal of Research and Development, 49(6):809–821, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/desai.html`.

Dongarra:2006:SAN

[DBC+06] J. Dongarra, G. Bosilca, Z. Chen, V. Eijkhout, G. E. Fagg, E. Fuentes, J. Langou, P. Luszczek, J. Pjesivac-Grbovic, K. Seymour, H. You, and S. S. Vadhiyar. Self-Adapting Numerical Software (SANS) effort. *IBM Journal of Research and Development*, 50(2/3):223–238, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/dongarra.html`.

Darringer:1984:LSP

[DBG+84] John A. Darringer, Daniel Brand, John V. Gerbi, William H. Joyner, Jr., and Louise Trevillyan. LSS: a system for production logic synthesis. *IBM Journal of Research and Development*, 28(5):537–545, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Darringer:2000:LSP

[DBG+00] John A. Darringer, Daniel Brand, John V. Gerbi, William H. Joyner, Jr., and Louise Trevillyan. LSS: a system for production logic synthesis. *IBM Journal of Research and Development*, 44(1/2):157–165, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/darringer.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Dave:1982:IHC

[DBK82] J. V. Dave, R. Bernstein, and H. G. Kolsky. Importance of higher-order components to multispectral classification (landsat image data). *IBM Journal of Research and Development*, 26(6):715–723, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dura-Bernal:2017:EAO

[DBNK+17] S. Dura-Bernal, S. A. Neymotin, C. C. Kerr, S. Sivagnanam, A. Majumdar, J. T. Francis, and W. W. Lytton. Evolutionary algorithm optimization of biological learning parameters in a biomimetic neuroprosthesis. *IBM Journal of Research and Development*, 61(2–3):6:1–6:14, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7922468/`.

Delobel:1973:DDB

[DC73a] C. Delobel and R. G. Casey. Decomposition of a data base and

the theory of Boolean switching functions. *IBM Journal of Research and Development*, 17(5): 374–386, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [DCB77].

Dodge:1973:APM

[DC73b] F. A. Dodge, Jr. and J. W. Cooley. Action potential of the motorneuron. *IBM Journal of Research and Development*, 17 (3):219–229, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dewey:1982:AGL

[DC82] A. G. Dewey and J. D. Crow. Application of GaAlAs lasers to high-resolution liquid-crystal projection displays. *IBM Journal of Research and Development*, 26(2):177–185, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Delobel:1977:CDD

[DCB77] C. Delobel, R. G. Casey, and P. A. Bernstein. Comment on: "Decomposition of a data base and the theory of Boolean switching functions" (IBM J. Res. Develop. **17** (1973), 374–386) by Delobel and Casey. *IBM Journal of Research and Development*, 21(5):484–485, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [DC73a].

Dhoolia:2017:CSB

[DCC+17] P. Dhoolia, P. Chugh, P. Costa, N. Gantayat, M. Gupta, N. Kambhatla, R. Kumar, S. Mani, P. Mitra, C. Rogerson, and M. Saxena. A cognitive system for business and technical support: A case study. *IBM Journal of Research and Development*, 61(1): 7:74–7:85, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877283/`.

Deutsch:1993:ECP

[DDA+93] A. Deutsch, D. W. Dranchak, G. Arjavalingam, C. W. Surovic, J. K. Tam, G. V. Kopcsay, and J. B. Gillett. Electrical characterization and performance limits of a flexible cable. *IBM Journal of Research and Development*, 37(1):22–38, January 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Danko:2012:HPE

[DDDKW12] T. Danko, D. G. Downs, A. Dunlap-Kraft, and J. R. Walkup. Helping people embrace change in IT-enabled business transformations. *IBM Journal of Research and Development*, 56(6):5:1–5:9, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353943`.

DiZenzo:1992:ORH

[DDMS92] S. Di Zenzoo, M. Del Buono, M. Meucci, and A. Spirito. Optical recognition of hand-printed characters of any size, position, and orientation. *IBM Journal of Research and Development*, 36(3):487–501, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Duale:2007:DFP

[DDZ+07] A. Y. Duale, M. H. Decker, H.-G. Zipperer, M. Aharoni, and T. J. Bohizic. Decimal floating-point in z9: An implementation and testing perspective. *IBM Journal of Research and Development*, 51(1/2):217–227, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/duale.html`.

Deckert:1990:CDS

[Dec90] K. L. Deckert. Computer-aided design of slider bearings in magnetic disk files. *IBM Journal of Research and Development*, 34(5):660–667, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dhaliwal:2001:PEP

[DEG+01] R. S. Dhaliwal, W. A. Enichen, S. D. Golladay, M. S. Gordon, R. A. Kendall, J. E. Lieberman, H. C. Pfeiffer, D. J. Pinckney, C. F. Robinson, J. D. Rockrohr, W. Stickel, and E. V. Tressler. PREVAIL — electron projection technology approach for next-generation lithography. *IBM Journal of Research and Development*, 45(5):615–638, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/dhaliwal.html; http://www.research.ibm.com/journal/rd/455/dhaliwal.pdf`.

Dorsch:2012:IPS

[DEH+12] R. Dorsch, R. K. Errickson, M. M. Helms, G. Crew, T. A. Gregg, W. Haileselassie, L. W. Helmer, A. Kohler, K. Pandey, S. Roscher, E. S. Rotter, and C. Haubelt. IBM Parallel Sysplex design for the IBM z196 system. *IBM Journal of Research and Development*, 56(1–2):9:1–9:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dell:2008:SRI

[Del08] T. J. Dell. System RAS implications of DRAM soft errors. *IBM Journal of Research and Development*, 52(3):307–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/dell.html`.

Demuth:1978:MGA

[Dem78] Joseph E. Demuth. Molecular geometries of acetylene and ethylene chemisorbed on Cu, Ni, Pd, and Pt surfaces. *IBM Journal of Research and Development*, 22(3):265–276, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DeMaris:1991:VVD

[DeM91] D. L. DeMaris. Visualization in a VLSI design automation system. *IBM Journal of Research and Development*, 35(1/2):238–243, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Denil:1980:BL

[Den80] N. J. Denil. A business language. *IBM Journal of Research and Development*, 24(6): 732–746, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Desens:2002:MVP

[Des02] Michael Desens. Message from the Vice President, Server Systems Development, IBM Server Group. *IBM Journal of Research and Development*, 46 (4/5):??, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/message.html`; `http://www.research.ibm.com/journal/rd/464/message.pdf`.

Desens:2004:MVP

[Des04] Michael Desens. Message from the Vice President, Systems Hardware Development, IBM Systems and Technology Group. *IBM Journal of Research and Development*, 48 (3/4):??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/message.html`; `http://www.research.ibm.com/journal/rd/483/message.pdf`.

DAmora:2015:DCA

[DF15] B. D'Amora and G. C. Fossum. A data-centric algorithm for automated detection and extraction of isoparametric surfaces. *IBM Journal of Research and Development*, 59(2–3):15:1–15:8, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dan:1998:ECM

[DFaDNS98] A. Dan, S. I. Feldman, and an D. N. Serpanos. Evolution and challenges in multimedia. *IBM Journal of Research and Development*, 42(2): 177–184, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/dan.html`.

Dusanapudi:2015:DPS

[DFF+15] M. Dusanapudi, S. Fields, M. S. Floyd, G. L. Guthrie, R. Kalla, S. Kapoor, L. S. Leitner, C. F. Marino, J. J. McGill, A. Nahir, K. Reick, H. Shen, and K. L. Wright. Debugging post-silicon fails in the IBM POWER8 bring-up lab. *IBM Journal of Research and Development*, 59(1):12:1–12:10, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DOrta:1988:LSR

[DFM+88] Paolo D'Orta, Marco Ferretti, Alex Martelli, Sergio Melecrinis, Stefano Scarci, and Giampiero Volpi. Large-vocabulary speech recognition: a system for the Italian language. *IBM Journal of Research and Development*, 32(2): 217–226, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Diaz:2017:EAH

[DFNNS17] G. I. Diaz, A. Fokoue-Nkoutche, G. Nannicini, and H. Samulowitz. An effective algorithm for hyperparameter optimization of neural networks. *IBM Journal of Research and Development*, 61(4–5):9:1–9:11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030298/`.

Dan:1998:PMS

[DFS98] A. Dan, S. I. Feldman, and D. N. Serpanos. Preface: Multimedia systems. *IBM Journal of Research and Development*, 42 (2):162–163, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/preface.html`.

deGrolier:1958:PSC

[dG58] E. de Grolier. Problems in scientific communication. *IBM Journal of Research and Development*, 2(4):276–281, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392639`.

Dave:1984:RRN

[DG84] J. V. Dave and Jeno Gazdag. Reduction of random noise from multiband image data using phase relationships among their Fourier coefficients. *IBM Journal of Research and Development*, 28(4):399–411, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Diaz:1993:CCO

[DG93] A. F. Diaz and J. Guay. Contact charging of organic materials: Ion vs. electron transfer. *IBM Journal of Research and Development*, 37(2):249–

259, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Doelman:1978:DAR

[DGB78] A. Doelman, A. R. Gregges, and E. M. Barrall II. Data acquisition and reduction program for thermogravimetry. *IBM Journal of Research and Development*, 22(1):81–89, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Delia:1992:SCD

[DGG+92] D. J. Delia, T. C. Gilgert, N. H. Graham, U. Hwang, P. W. Ing, J. C. Kan, R. G. Kemink, G. C. Maling, R. F. Martin, K. P. Moran, J. R. Reyes, R. R. Schmidt, and R. A. Steinbrecher. System cooling design for the water-cooled IBM Enterprise System/9000 processors. *IBM Journal of Research and Development*, 36(4):791–803, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Desmond:2014:SAP

[DGH+14] M. Desmond, H. L. Guo, F. F. Heath, S. Bao, E. Khabiri, S. Krasikov, N. Modani, S. Nagar, M. Ohno, H. Srinivasan, H. Takeuchi, R. Vaculin, S. W. Zhao, and T. Hamid. A social analytics platform for smarter commerce solutions. *IBM Journal of Research and Development*, 58(5/6):10:1–10:14, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Doettling:1997:PES

[DGL+97] G. Doettling, K. J. Getzlaff, B. Leppla, W. Lipponer, T. Pflueger, T. Schlipf, D. Schmunkamp, and U. Wille. S/390 Parallel Enterprise Server Generation 3: a balanced system and cache structure. *IBM Journal of Research and Development*, 41(4/5):405–428, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/doettling.html`.

Drougard:1957:EEF

[DH57] M. E. Drougard and E. J. Huibregtse. The effect of an electric field on the transitions of barium titanate. *IBM Journal of Research and Development*, 1(4):318–329, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392698`.

Dew-Hughes:1961:DPF

[DH61] D. Dew-Hughes. Dislocations and plastic flow in germanium. *IBM Journal of Research and Development*, 5(4): 279–286, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392389.

Davis:1969:MOT

[DH69] J. B. Davis and H. H. Herd. Measuring optical transfer functions of lenses with the aid of a digital computer. *IBM Journal of Research and Development*, 13(1):93–103, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donath:1973:LBP

[DH73] W. E. Donath and A. J. Hoffman. Lower bounds for the partitioning of graphs. *IBM Journal of Research and Development*, 17(5):420–425, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Diaz:1983:MPE

[DH83] A. F. Diaz and B. Hall. Mechanical properties of electrochemically prepared polypyrrole films. *IBM Journal of Research and Development*, 27 (4):342–347, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dietrich:2003:GAP

[DH03] B. L. Dietrich and A. J. Hoffman. On greedy algorithms, partially ordered sets, and submodular functions. *IBM Journal of Research and Development*, 47(1):25–30, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/471/dietrich.pdf.

Dhaka:1968:DFS

[Dha68] V. A. Dhaka. Design and fabrication of subnanosecond current switch and transistors. *IBM Journal of Research and Development*, 12(6):476–482, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Driever:2020:SES

[DHC20] P. G. Driever, R. Hathorn, and C. Colonna. Securing the enterprise SAN with IBM Fibre Channel Endpoint Security. *IBM Journal of Research and Development*, 64(5/6):4:1–4:8, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davidson:1992:PED

[DHK+92] E. E. Davidson, P. W. Hardin, G. A. Katopis, M. G. Nealon, and L. L. Wu. Physical and electrical design features of the IBM Enterprise System/9000 circuit module. *IBM Journal of Research and Development*, 36(5):877–888, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Drayton:2000:MPC

[DHK00] R. F. Drayton, R. M. Henderson, and L. P. B. Katehi. Monolithic packaging concepts for high isolation in circuits and

antennas. *IBM Journal of Research and Development*, 44(5): 715–723, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/drayton.pdf`.

Dave:1975:CIS

[DHM75] J. V. Dave, P. Halpern, and H. J. Myers. Computation of incident solar energy. *IBM Journal of Research and Development*, 19(6):539–549, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Denardo:1994:NAP

[DHMP94] E. V. Denardo, A. J. Hoffman, T. Mackenzie, and W. R. Pulleyblank. A nonlinear allocation problem. *IBM Journal of Research and Development*, 38 (3):301–306, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#eight`.

Davis:1964:SLT

[DHSC64] E. M. Davis, W. E. Harding, R. S. Schwartz, and J. J. Corning. Solid logic technology: Versatile, high-performance microelectronics. *IBM Journal of Research and Development*, 8 (2):102–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802D.pdf`.

Davis:2000:SLT

[DHSC00] E. M. Davis, W. E. Harding, R. S. Schwartz, and J. J. Corning. Solid logic technology: Versatile, high-performance microelectronics. *IBM Journal of Research and Development*, 44(1/2):56–68, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/davis.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Demuth:1986:STM

[DHTW86] J. E. Demuth, R. J. Hamers, R. M. Tromp, and M. E. Welland. A scanning tunneling microscope for surface science studies. *IBM Journal of Research and Development*, 30 (4):396–402, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DiZenzo:1988:MLA

[Di 88] Silvano Di Zenzo. A many-valued logic for approximate reasoning. *IBM Journal of Research and Development*, 32 (4):552–565, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dickinson:1960:CRS

[Dic60] W. E. Dickinson. A character-recognition study. *IBM Journal*

of Research and Development, 4(3):335–348, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392504`.

Dickinson:1991:IAT

[Dic91] R. R. Dickinson. Interactive analysis of the topology of 4D vector fields. *IBM Journal of Research and Development*, 35(1/2):59–66, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dietrich:1962:PSP

[Die62] W. Dietrich. Partial-switching processes in thin magnetic films [letter to the editor]. *IBM Journal of Research and Development*, 6(3):368–371, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392381`.

Dimmock:1970:OPE

[Dim70] J. O. Dimmock. Optical properties of the europium chalcogenides. *IBM Journal of Research and Development*, 14 (3):301–308, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dimsdale:1978:CCS

[Dim78] B. Dimsdale. Convex cubic splines. *IBM Journal of Research and Development*, 22(2): 168–178, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dash:1970:SDS

[DJ70] S. Dash and M. L. Joshi. Silicon defect structure induced by arsenic diffusion and subsequent steam oxidation. *IBM Journal of Research and Development*, 14(4):453–460, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dimsdale:1975:MS

[DJ75] B. Dimsdale and K. Johnson. Multiconic surfaces. *IBM Journal of Research and Development*, 19(6):523–529, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Darringer:1981:LST

[DJBT81] John A. Darringer, William H. Joyner, Jr., C. Leonard Berman, and Louise Trevillyan. Logic synthesis through local transformations. *IBM Journal of Research and Development*, 25 (4):272–280, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Duch:2014:NAO

[DJK14] K. Duch, Y. Jiang, and A. Kreinin. New approaches to operational risk modeling. *IBM Journal of Research and Development*, 58(4):3:1–3:9, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Diao:2016:SAI

[DJL+16] Y. Diao, E. Jan, Y. Li, D. Rosu, and A. Sailer. Service analytics for IT service management. *IBM Journal of Research and Development*, 60 (2–3):13:1–13:17, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Delaney:1967:MCP

[DK67] R. A. Delaney and H. D. Kaiser. Multiple-curie-point capacitor dielectrics. *IBM Journal of Research and Development*, 11 (5):511–519, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391959`.

Diaz:1979:ECA

[DK79] A. F. Diaz and K. K. Kanazawa. Electrodes with covalently attached monolayers. *IBM Journal of Research and Development*, 23(3):316–329, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Drews:2005:MSC

[DKA+05] T. O. Drews, S. Krishnan, J. C. Alameda, Jr., D. Gannon, R. D. Braatz, and R. C. Alkire. Multiscale simulations of copper electrodeposition onto a resistive substrate. *IBM Journal of Research and Development*, 49(1):49–63, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/drews.pdf`.

Daughton:1967:DWE

[DKAC67] J. M. Daughton, G. E. Keefe, K. Y. Ahn, and C.-C. Cho. Domain wall energy measurements using narrow permalloy strips. *IBM Journal of Research and Development*, 11(5): 555–557, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391965`.

Darema:1987:PAC

[DKN87] Frederica Darema, Scott Kirkpatrick, and V. A. Norton. Parallel algorithms for chip placement by simulated annealing. *IBM Journal of Research and Development*, 31(3):391–402, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Deutsch:1990:HSP

[DKR+90] A. Deutsch, G. V. Kopcsay, V. A. Ranieri, J. K. Cataldo, E. A. Galligan, W. S. Graham, R. P. McGuouey, S. L. Nunes, J. R. Paraszczak, J. J. Ritsko, R. J. Serino, D. Y. Shih, and J. S. Wilczynski. High-speed signal propagation on lossy transmission lines. *IBM Journal of Research and Development*, 34(4):601–615, July

1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dischinger:2012:SCS

[DKR12] J. S. Dischinger, C. D. Karwatowski, and A. Raina. Supplier connection: a supply-chain ecosystem for small business job growth. *IBM Journal of Research and Development*, 56(6): 11:1–11:9, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353945`.

Dash:2007:PDP

[DKRS07] S. Dash, J. Kalagnanam, C. Reddy, and S. H. Song. Production design for plate products in the steel industry. *IBM Journal of Research and Development*, 51(3/4):345–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/dash.html`.

Deutsch:1995:MCL

[DKS+95] A. Deutsch, G. V. Kopcsay, C. W. Surovic, B. J. Rubin, L. M. Terman, R. P. Dunne, Jr., T. A. Gallo, and R. H. Dennard. Modeling and characterization of long on-chip interconnections for high-performance microprocessors. *IBM Journal of Research and Development*, 39(5):547–567, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-5.html#three`.

Doerre:2002:IAS

[DL02] G. W. Doerre and D. E. Lackey. The IBM ASIC/SoC methodology—A recipe for first-time success. *IBM Journal of Research and Development*, 46(6):649–660, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/doerre.pdf`.

Djurfeldt:2008:BSS

[DLJ+08] M. Djurfeldt, M. Lundqvist, C. Johansson, M. Rehn, Ö. Ekeberg, and A. Lansner. Brain-scale simulation of the neocortex on the IBM Blue Gene/L supercomputer. *IBM Journal of Research and Development*, 52(1/2):31–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/djurfeldt.html`.

Darling:1984:MIJ

[DLK84] Richard H. Darling, Chen-Hsiung Lee, and Lawrence Kuhn. Multiple-nozzle ink jet printing experiment. *IBM Journal of Research and Development*, 28(3):300–306, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dong:2014:PSC

[DLN14] J. Dong, R. Lougee, and C. Narayanaswami. Preface: Smarter commerce. *IBM Journal of Research and Development*, 58(5/6):1–5, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Diel:1986:ECA

[DLW86] H. Diel, N. Lenz, and H. M. Welsch. An experimental computer architecture supporting expert systems and logic programming. *IBM Journal of Research and Development*, 30(1): 102–111, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dresselhaus:1964:FSG

[DM64] M. S. Dresselhaus and J. G. Mavroides. The Fermi surface of graphite. *IBM Journal of Research and Development*, 8(3): 262–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dimitrakopoulos:2001:OTF

[DM01] C. D. Dimitrakopoulos and D. J. Mascaro. Organic thin-film transistors: a review of recent advances. *IBM Journal of Research and Development*, 45 (1):11–28, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/dimitrakopoulos.html`.

Deicke:2003:TMS

[DM03] J. Deicke and W. Mueller. Tape management in a storage networking environment. *IBM Journal of Research and Development*, 47(4):453–457, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/deicke.pdf`.

Deng:2017:ASS

[DMG+17] Y. Deng, K. E. Maghraoui, T. D. Griffin, V. Agarwal, S. G. Tamilselvam, R. D. Sharnagat, T. H. Alexander, N. E. Gómez, C. M. Cramer, A. Bivens, D. Jadav, Z. M. Valli-Hasham, and K. Wahlmeier. Advanced search system for IT support services. *IBM Journal of Research and Development*, 61(1): 3:27–3:40, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877289/`.

Dunham:1959:MBD

[DMN+59] B. Dunham, D. Middleton, J. H. North, J. A. Sliter, and J. W. Weltzien. The multipurpose bias device — Part II: The efficiency of logical elements. *IBM Journal of Research and Development*, 3(1): 46–53, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392590.

Doyle:1959:AFR

[DMP59] R. H. Doyle, R. A. Meyer, and R. P. Pedowitz. Automatic failure recovery in a digital data processing system. *IBM Journal of Research and Development*, 3(1): 2–12, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392585.

Dorler:1981:ERA

[DMR+81] Jack Arthur Dorler, Joseph M. Mosley, Glenn A. Ritter, Richard O. Seeger, and James R. Struk. A 1024-byte ECL random access memory using a complementary transistor switch (CTS) cell. *IBM Journal of Research and Development*, 25(2/3):126–134, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davis:1977:ARE

[DMWW77] D. E. Davis, R. D. Moore, M. C. Williams, and O. C. Woodard. Automatic registration in an electron-beam lithographic system. *IBM Journal of Research and Development*, 21(6):498–505, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Doany:1997:LRP

[DN97] F. E. Doany and C. Narayan. Laser release process to obtain freestanding multilayer metal-polyimide circuits. *IBM Journal of Research and Development*, 41(1/2):151–157, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/411/narayan.html.

Dillenberger:2019:BAA

[DNZ+19] D. N. Dillenberger, P. Novotny, Q. Zhang, P. Jayachandran, H. Gupta, S. Hans, D. Verma, S. Chakraborty, J. J. Thomas, M. M. Walli, R. Vaculin, and K. Sarpatwar. Blockchain analytics and artificial intelligence. *IBM Journal of Research and Development*, 63(2–3):5:1–5:14, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Das:1974:PLE

[DO74] G. Das and N. A. O'Neil. Preparation of large-area electron-transparent samples from silicon devices. *IBM Journal of Research and Development*, 18 (1):76–79, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Driscoll:1986:CAY

[DO86] Graham C. Driscoll, Jr. and Donald L. Orth. Compiling APL: the Yorktown APL translator. *IBM Journal of Research and Development*, 30(6):

583–593, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dodd:1963:SAE

[Dod63] P. D. Dodd. A simple active equivalent to a lattice pulse-slimming filter [letter to the editor]. *IBM Journal of Research and Development*, 7(3): 257–258, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392309`.

Dixon:2014:SDN

[DOJ+14] C. Dixon, D. Olshefski, V. Jain, C. DeCusatis, W. Felter, J. Carter, M. Banikazemi, V. Mann, J. M. Tracey, and R. Recio. Software defined networking to support the software defined environment. *IBM Journal of Research and Development*, 58(2–3):3:1–3:14, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donath:1969:AAB

[Don69] W. E. Donath. Algorithm and average-value bounds for assignment problems. *IBM Journal of Research and Development*, 13(4):380–386, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donath:1974:EMR

[Don74] W. E. Donath. Equivalence of memory to "random logic". *IBM Journal of Research and Development*, 18(5):401–407, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donath:1980:SWP

[Don80] Wilm E. Donath. Stand-alone wiring program for Josephson logic. *IBM Journal of Research and Development*, 24(4):480–485, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donath:1981:WLD

[Don81] Wilm E. Donath. Wire length distribution for placements of computer logic. *IBM Journal of Research and Development*, 25 (2/3):152–155, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Donofrio:1990:P

[Don90] N. M. Donofrio. Preface. *IBM Journal of Research and Development*, 34(1):2–3, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401B.pdf`. Special issue: "The IBM RISC System/6000 processor".

Donofrio:1992:P

[Don92] N. M. Donofrio. Preface. *IBM Journal of Research and De-*

velopment, 36(4):533–534, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Special issue: "System/390 architecture".

Donofrio:2000:MNM

[Don00] Nicholas M. Donofrio. Message from Nicholas M. Donofrio, Senior Vice President, Manufacturing and Technology, IBM Corporation. *IBM Journal of Research and Development*, 44 (5):iii, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/message.html`.

Dooley:1983:MPA

[Doo83] Brian J. Dooley. Model for the prediction of assembly, rework, and test yields. *IBM Journal of Research and Development*, 27 (1):59–67, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dorn:1960:DTC

[Dor60] William S. Dorn. A duality theorem for convex programs. *IBM Journal of Research and Development*, 4(4): 407–413, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392516`.

Dorn:1962:GHR

[Dor62] William S. Dorn. Generalizations of Horner's rule for polynomial evaluation. *IBM Journal of Research and Development*, 6(2):239–245, April 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392358`.

Douglass:1962:MFD

[Dou62] D. H. Douglass. Magnetic field dependence of the superconducting energy gap in Ginzburg–Landau theory with application to al. *IBM Journal of Research and Development*, 6(1):44–48, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392410`.

Dietrich:1959:MMR

[DP59] W. Dietrich and W. E. Proebster. Millimicrosecond magnetization reversal in thin magnetic films. *IBM Journal of Research and Development*, 3 (4):375–376, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392578`.

Dowley:1968:SLA

[DP68] M. W. Dowley and W. L. Peticolas. The study of laser-

induced absorption of a secondary light beam in molecular liquids and solutions. *IBM Journal of Research and Development*, 12(2):188–191, March 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dillenberger:2013:CBM

[DP13] D. Dillenberger and D. Petersen. A contrast between mainframe Parallel Sysplex availability and selected distributed computing availability solutions. *IBM Journal of Research and Development*, 57(5): 9:1–9:14, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Durig:1986:NFO

[DPR86] Urs Dürig, Dieter Pohl, and Flavio Rohner. Near-field optical scanning microscopy with tunnel-distance regulation. *IBM Journal of Research and Development*, 30(5):478–483, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dietrich:1960:NST

[DPW60] W. Dietrich, W. E. Proebster, and P. Wolf. Nanosecond switching in thin magnetic films. *IBM Journal of Research and Development*, 4 (2):189–196, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392549`.

Dietrich:2000:NST

[DPW00] W. Dietrich, W. E. Proebster, and P. Wolf. Nanosecond switching in thin magnetic films. *IBM Journal of Research and Development*, 44(1/2):167–174, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/dietrich.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Davies:1982:RSP

[DR82] Ken Davies and Fred Ris. Real-time signal processor software support. *IBM Journal of Research and Development*, 26 (4):431–439, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Deligianni:1993:SSP

[DR93] H. Deligianni and L. T. Romankiw. In situ surface pH measurement during electrolysis using a rotating pH electrode. *IBM Journal of Research and Development*, 37(2):85–95, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dean:2008:MVP

[DR08] Mark E. Dean and Barry Rudolph. Message from the Vice President, Technical Strategy and Global Operations,

IBM Research and the Vice President, System Storage, IBM Systems and Technology Group. *IBM Journal of Research and Development*, 52 (4/5), ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/message.html`.

Dahm:2020:SCE

[DRB+20] J. P. Dahm, D. F. Richards, A. Black, A. D. Bertsch, L. Grinberg, I. Karlin, S. Kokkila-Schumacher, E. A. León, J. R. Neely, R. Pankajakshan, and O. Pearce. Sierra Center of Excellence: Lessons learned. *IBM Journal of Research and Development*, 64(3/4):2:1–2:14, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dunne:2015:RMF

[DRSM15] C. Dunne, S. I. Ross, B. Shneiderman, and M. Martino. Readability metric feedback for aiding node-link visualization designers. *IBM Journal of Research and Development*, 59 (2–3):14:1–14:16, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Davidson:1965:SCC

[DS65] B. Davidson and M. J. Shah. Simulation of the catalytic cracking process for styrene production. *IBM Journal of Research and Development*, 9(5/6):388–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Drangeid:1970:DPS

[DS70] K. E. Drangeid and R. S. Sommerhalder. Dynamic performance of Schottky-Barrier field effect transistors. *IBM Journal of Research and Development*, 14(2):82–94, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dill:1977:TEP

[DS77] Frederick H. Dill and Jane M. Shaw. Thermal effects on the photoresist AZ1350J. *IBM Journal of Research and Development*, 21(3):210–218, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dietrich:2003:P

[DS03] Brenda Dietrich and Michael Shubs. Preface. *IBM Journal of Research and Development*, 47(1):3, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/preface.pdf`.

DeCusatis:1999:FOI

[DSM+99] C. M. DeCusatis, D. J. Stigliani, Jr., W. L. Mostowy, M. E. Lewis, D. B. Petersen, and N. R. Dhondy. Fiber optic interconnects for

the IBM S/390 Parallel Enterprise Server G5. *IBM Journal of Research and Development*, 43(5/6):807–828, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/decusatis.html`.

Doany:1998:PDT

[DSRC98] F. E. Doany, R. N. Singh, A. E. Rosenbluth, and G. L.-T. Chiu. Projection display throughput: Efficiency of optical transmission and light-source collection. *IBM Journal of Research and Development*, 42(3/4):387–399, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/doany.html`.

Dhondy:1992:CTC

[DSS+92] Noshir R. Dhondy, Richard J. Schmalz, Ronald M. Smith, Sr., Julian Thomas, and Phil Yeh. Coordination of time-of-day clocks among multiple systems. *IBM Journal of Research and Development*, 36(4):655–665, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Drangeid:1964:AMF

[DSSS64] K. E. Drangeid, R. Sommerhalder, A. Segmüller, and H. Seitz. Attenuation of a magnetic field by a superconductor. *IBM Journal of Research and Development*, 8(1): 13–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801C.pdf`.

Dammann:1963:DDS

[DSW63] J. E. Dammann, E. J. Skiko, and E. V. Weber. A data display subsystem. *IBM Journal of Research and Development*, 7(4):325–333, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392259`.

Duke:1971:SVT

[DSW71] K. A. Duke, H. D. Schnurmann, and T. I. Wilson. System validation by three-level modelling synthesis. *IBM Journal of Research and Development*, 15(2): 166–174, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dickson:1982:HIS

[DSW82] LeRoy D. Dickson, Glenn T. Sincerbox, and Albert D. Wolfheimer. Holography in the IBM 3687 supermarket scanner. *IBM Journal of Research and Development*, 26(2):228–234, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DeViney:2012:BGI

[DSZ+12] N. DeViney, K. Sturtevant, F. Zadeh, L. Peluso, and P. Tambor. Becoming a globally integrated enterprise: Lessons on enabling organizational and cultural change. *IBM Journal of Research and Development*, 56(6):2:1–2:8, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353944`.

Dennis:2008:SCS

[DT08] J. M. Dennis and H. M. Tufo. Scaling climate simulation applications on the IBM Blue Gene/L system. *IBM Journal of Research and Development*, 52(1/2):117–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/dennis.html`.

Guerreiro:1992:SPL

[dTGHC92] R. A. de T. Guerreiro, A. S. Hemerly, and M. A. Casanova. STORK and PENGUIN: logic programming systems using general clauses and defaults. *IBM Journal of Research and Development*, 36(3):361–374, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dao-Trong:1992:SCI

[DTH92] S. Dao-Trong and K. Helwig. A single-chip IBM system/390 floating-point processor in CMOS. *IBM Journal of Research and Development*, 36 (4):733–749, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dhong:1995:LTC

[DTTK95] S. H. Dhong, M. Tanaka, S. W. Tomashot, and T. Kirihata. A low-noise TTL-compatible CMOS off-chip driver circuit. *IBM Journal of Research and Development*, 39(1/2):105–112, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#eleven`.

Dubrulle:1972:SCS

[Dub72] A. A. Dubrulle. Solution of the complete symmetric eigenproblem in a virtual memory environment. *IBM Journal of Research and Development*, 16(6): 612–616, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dubrulle:1983:CNM

[Dub83] Augustin A. Dubrulle. Class of numerical methods for the computation of Pythagorean sums. *IBM Journal of Research and Development*, 27(6): 582–589, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Duijvestijn:1959:TSN

[Dui59] A. J. W. Duijvestijn. On the transition from superconducting to normal phase, accounting for latent heat and eddy currents. *IBM Journal of Research and Development*, 3(2): 132–139, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392603`.

Dukovic:1990:CCD

[Duk90] J. O. Dukovic. Computation of current distribution in electrodeposition, a review. *IBM Journal of Research and Development*, 34(5):693–705, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dukovic:1993:FSR

[Duk93] J. O. Dukovic. Feature-scale simulation of resist-patterned electrodeposition. *IBM Journal of Research and Development*, 37(2):125–141, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dumke:1963:EMP

[Dum63] W. P. Dumke. Electromagnetic mode population in light-emitting junctions [letter to the editor]. *IBM Journal of Research and Development*, 7 (1):66–67, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392340`.

Dunham:1957:FSL

[Dun57a] B. Dunham. The formalization of scientific languages. I. The work of Woodger and Hull. *IBM Journal of Research and Development*, 1(4): 341–348, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392700; http://www.research.ibm.com/journal/rd/014/ibmrd0104G.pdf`.

Dunham:1957:MBD

[Dun57b] B. Dunham. The multipurpose bias device — Part I: The commutator transistor. *IBM Journal of Research and Development*, 1(2): 116–129, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392732`.

Durbeck:1970:PES

[Dur70] R. C. Durbeck. Performance equivalence of suboptimally controlled nonlinear systems. *IBM Journal of Research and Development*, 14(5):558–562, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Durig:1994:ASM

[Dür94] U. Dürig. Atomic-scale metal adhesion investigated by scanning tunneling microscopy. *IBM Journal of Research and Development*, 38 (4):347–366, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#two`.

Dushkes:1971:DSU

[Dus71] S. Z. Dushkes. A design study of ultrasonic bonding tips. *IBM Journal of Research and Development*, 15(3):230–235, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Datars:1964:CRF

[DV64] W. R. Datars and J. Vanderkooy. Cyclotron resonance and the Fermi surface of antimony. *IBM Journal of Research and Development*, 8(3):247–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DiStefano:1974:IIS

[DV74] T. H. DiStefano and J. M. Viggiano. Interface imaging by scanning internal photoemission. *IBM Journal of Research and Development*, 18(2):94–99, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Diaz:1981:PNO

[DVM81] A. Diaz, J. M. Vasquez Vallejo, and A. Martinez Duran. (pt)polypyrrole: a new organic electrode material. *IBM Journal of Research and Development*, 25(1):42–50, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dickinson:1958:RIU

[DW58] W. E. Dickinson and R. M. Walker. Reliability improvement by the use of multiple-element switching circuits. *IBM Journal of Research and Development*, 2(2):142–147, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392670`.

Dang:2008:CSC

[DWA+08] Bing Dang, Steven L. Wright, Paul S. Andry, Edmund J. Sprogis, Cornelia K. Tsang, Mario J. Interrante, Bucknell C. Webb, Robert J. Polastre, Raymond R. Horton, Chirag S. Patel, Arun Sharma, Jiantao Zheng, Katsuyuki Sakuma, and John U. Knickerbocker. 3D chip stacking with C4 technology. *IBM Journal of Research and Development*, 52(6): 599–609, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/526/dang.html.

DeFosse:1985:DMS

[DWGC85] Stephen F. DeFosse, George T. Williams, Dominic A. Gostomski, Jr., and Robert H. Cobb. Development of a membrane switch-type full-travel tactile keyboard. *IBM Journal of Research and Development*, 29(5): 478–487, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Daehn:1990:AEL

[DWW90] W. Daehn, T. W. Williams, and K. D. Wagner. Aliasing errors in linear automata used as multiple-input signature analyzers. *IBM Journal of Research and Development*, 34 (2/3):363–380 (or 363–379??), March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dong:2013:FEV

[DXZS13] J. Dong, M. Xie, L. Zhao, and D. Shang. A framework for electric vehicle charging-point network optimization. *IBM Journal of Research and Development*, 57(1/2):15:1–15:9, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Deutscher:1989:SS

[DY89] Guy Deutscher and Kazuyoshi Yamada. Short-coherence-length superconductors. *IBM Journal of Research and Development*, 33(3):293–298, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

DiMaria:1978:LTC

[DYHS78] Donelli J. DiMaria, Donald R. Young, William R. Hunter, and Carlos M. Serrano. Location of trapped charge in aluminum-implanted SiO_2. *IBM Journal of Research and Development*, 22(3):289–293, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Dubinsky:2010:EMR

[DYK10] Y. Dubinsky, A. Yaeli, and A. Kofman. Effective management of roles and responsibilities: Driving accountability in software development teams. *IBM Journal of Research and Development*, 54(2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/542/dubinsky.html.

Easton:1975:MID

[Eas75] M. C. Easton. Model for interactive data base reference string. *IBM Journal of Research and Development*, 19(6): 550–556, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Easton:1978:MDR

[Eas78] M. C. Easton. Model for database reference strings

based on behavior of reference clusters. *IBM Journal of Research and Development*, 22(2): 197–202, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Easton:1986:KDS

[Eas86] Malcolm C. Easton. Key-sequence data sets on indelible storage. *IBM Journal of Research and Development*, 30 (3):230–241, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eichelberger:1991:DCS

[EB91] E. B. Eichelberger and S. E. Bello. Differential current switch — high performance at low power. *IBM Journal of Research and Development*, 35 (3):313–320, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ellis:1999:NON

[EB99] K. A. Ellis and R. A. Buhrman. Nitrous oxide (N_2O) processing for silicon oxynitride gate dielectrics. *IBM Journal of Research and Development*, 43 (3):287–300, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/ellis.html`.

Eckman:2006:GDM

[EB06] B. A. Eckman and P. G. Brown. Graph data management for molecular and cell biology. *IBM Journal of Research and Development*, 50(6): 545–560, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/eckman.html`.

Eichenberger:2020:HCG

[EBB+20] A. E. Eichenberger, G.-T. Bercea, A. Bataev, L. Grinberg, and J. K. O'Brien. Hybrid CPU/GPU tasks optimized for concurrency in OpenMP. *IBM Journal of Research and Development*, 64(3/4):13:1–13:14, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elrod:1986:TM

[EBd+86] S. A. Elrod, A. Bryant, A. L. de Lozanne, S. Park, D. Smith, and C. F. Quate. Tunneling microscopy from 300 to 4.2K. *IBM Journal of Research and Development*, 30(4):387–395, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ellis:1995:MDA

[EBD+95] W. F. Ellis, J. E. Barth, Jr., S. Divakaruni, J. H. Dreibelbis, A. Furman, E. L. Hedberg, H. S. Lee, T. M. Maffitt, C. P. Miller, C. H. Stapper, and H. L. Kalter. Multipurpose DRAM architecture for optimal power, performance, and product flexibility. *IBM Journal of Research and Development*,

39(1/2):51–62, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#six`.

Edlund:2016:DMC

[EBH+16] S. B. Edlund, K. L. Beck, N. Haiminen, L. P. Parida, D. B. Storey, B. C. Weimer, J. H. Kaufman, and D. D. Chambliss. Design of the MCAW compute service for food safety bioinformatics. *IBM Journal of Research and Development*, 60(5–6):2:1–2:12, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580716/`.

Engle:1971:APS

[EC71] P. A. Engle and H. D. Conway. Adhesion and partial slip between normally loaded round surfaces. *IBM Journal of Research and Development*, 15(2):116–122, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Easter:1999:PES

[ECD+99] R. J. Easter, E. W. Chencinski, E. J. D'Avignon, S. R. Greenspan, W. A. Merz, and C. D. Norberg. S/390 Parallel Enterprise Server CMOS cryptographic coprocessor. *IBM Journal of Research and Development*, 43(5/6):761–776, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/easter.html`.

Ein-Dor:2013:ARM

[EDGL+13] L. Ein-Dor, Y. Goldschmidt, O. Lavi, G. E. Miller, M. Ninio, and D. Dillenberger. Analytics for resiliency in the mainframe. *IBM Journal of Research and Development*, 57(5):8:1–8:5, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Erickson:2015:SCC

[EEM15] T. Erickson, J. B. Ellis, and K. P. McAuliffe. Supporting coordinated care: Designing social context visualizations for care teams. *IBM Journal of Research and Development*, 59(2–3):11:1–11:11, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Enenkel:2005:CMF

[EFG+05] R. F. Enenkel, B. G. Fitch, R. S. Germain, F. G. Gustavson, A. Martin, M. Mendell, J. W. Pitera, M. C. Pitman, A. Rayshubskiy, F. Suits, W. C. Swope, and T. J. C. Ward. Custom math functions for molecular dynamics. *IBM Journal of Research and Development*, 49(2/3):465–474, ???? 2005. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/enenkel.pdf`.

Eleftheriou:2005:SFF

[EFR+05] M. Eleftheriou, B. G. Fitch, A. Rayshubskiy, T. J. C. Ward, and R. S. Germain. Scalable framework for 3D FFTs on the Blue Gene/L supercomputer: Implementation and early performance measurements. *IBM Journal of Research and Development*, 49(2/3):457–464, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/eleftheriou.pdf`.

Elmroth:2000:ARS

[EG00] E. Elmroth and F. G. Gustavson. Applying recursion to serial and parallel QR factorization leads to better performance. *IBM Journal of Research and Development*, 44 (4):605–624, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/elmroth.html`.

Ennis:1986:CRE

[EGH+86] R. L. Ennis, J. H. Griesmer, S. J. Hong, M. Karnaugh, J. K. Kastner, D. A. Klein, K. R. Milliken, M. I. Schor, and H. M. Van Woerkom. A continuous real-time expert system for computer operations. *IBM Journal of Research and Development*, 30(1):14–28, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Engel:1996:DMI

[EGH+96] J. J. Engel, T. S. Guzowski, A. Hunt, D. E. Lackey, L. D. Pickup, R. A. Proctor, K. Reynolds, A. M. Rincon, and D. R. Stauffer. Design methodology for IBM ASIC products. *IBM Journal of Research and Development*, 40 (4):387–406, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#three`.

Eleftheriou:2019:DLA

[EGN+19] E. Eleftheriou, M. L. Gallo, S. R. Nandakumar, C. Piveteau, I. Boybat, V. Joshi, R. Khaddam-Aljameh, M. Dazzi, I. Giannopoulos, G. Karunaratne, B. Kersting, M. Stanislavjevic, V. P. Jonnalagadda, N. Ioannou, K. Kourtis, P. A. Francese, and A. Sebastian. Deep learning acceleration based on in-memory computing. *IBM Journal of Research and Development*, 63(6):7:1–7:16, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Erlbach:1960:MMF

[EGS60] E. Erlbach, R. L. Garwin, and M. P. Sarachik. Measure-

ment of magnetic-field attenuation by thin superconducting films. *IBM Journal of Research and Development*, 4(2): 107–115, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392540`.

Engelke:1985:IMM

[EGS+85] Helmut Engelke, Jens Grotrian, Claus Scheuing, Arno Schmackpfeffer, Walter Schwarz, Bernhard Solf, and Josef Tomann. Integrated Manufacturing Modeling System. *IBM Journal of Research and Development*, 29(4):343–355, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Edwards:1967:DSA

[EHHP67] R. B. Edwards, D. T. Hodges, W. D. Hopkins, and D. P. Paris. Digital simulation applied to a photo-optical system. *IBM Journal of Research and Development*, 11(2): 189–194, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391979`.

Endoch:1989:QIN

[EHK+89] Yasuo Endoch, Y. Hidaka, Kazuhisa Kakurai, Marc A. Kastner, and T. Murakami. Quasi-elastic and inelastic neutron-scattering studies of superconducting $la_{2-x}Sr_xCuO_4$. *IBM Journal of Research and Development*, 33(3):270–276, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [DY89].

Eastwood:2001:EPS

[EHLSW01] M. P. Eastwood, C. Hardin, Z. Luthey-Schulten, and P. G. Wolynes. Evaluating protein structure-prediction schemes using energy landscape theory. *IBM Journal of Research and Development*, 45 (3/4):475–497, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/eastwood.html`; `http://www.research.ibm.com/journal/rd/453/eastwood.pdf`.

Elzinga:1981:LEP

[EHMW81] C. D. Elzinga, T. M. Hallmark, R. H. Mattern, Jr., and J. M. Woodward. Laser electrophotographic printing technology. *IBM Journal of Research and Development*, 25(5): 767–773, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Emma:2005:ELP

[EHPS05] P. G. Emma, A. Hartstein, T. R. Puzak, and V. Srinivasan. Exploring the limits of prefetching. *IBM Journal of Research and Development*, 49 (1):127–144, ???? 2005. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/emma.pdf`.

Eichelberger:1965:HDC

[Eic65] E. B. Eichelberger. Hazard detection in combinational and sequential switching circuits. *IBM Journal of Research and Development*, 9(2):90–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eickhoff:2018:PIZ

[Eic18] Felix Eickhoff. Preface: IBM z14 design and technology. *IBM Journal of Research and Development*, 62 (2–3):1–4, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8353758/`.

Elnozahy:2003:P

[EJ03] G. N. Elnozahy and R. Joshis. Preface. *IBM Journal of Research and Development*, 47 (5/6):521–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/preface.pdf`.

Emma:2008:CTN

[EK08] Philip G. Emma and Eren Kursun. Is 3D chip technology the next growth engine for performance improvement? *IBM Journal of Research and Development*, 52(6):541–552, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/emma.html`.

Estes:1964:SSS

[EKMW64] S. E. Estes, H. R. Kerby, H. D. Maxey, and R. M. Walker. Speech synthesis from stored data. *IBM Journal of Research and Development*, 8(1): 2–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801B.pdf`.

Evans:1987:SGO

[EKR87] Roger C. Evans, George Koppelman, and V. T. Rajan. Shaping geometric objects by cumulative translational sweeps. *IBM Journal of Research and Development*, 31 (3):343–360, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elmegreen:2004:SMM

[EKS+04] B. G. Elmegreen, R. H. Koch, M. E. Schabes, T. Crawford, T. Ebisuzaki, H. Furusawa, T. Narumi, R. Susukita, and K. Yasuoka. Simulations of magnetic materials with MDGRAPE-2. *IBM Journal of Research and Development*, 48 (2):199–207, ???? 2004. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/elmegreen.html; http://www.research.ibm.com/journal/rd/482/elmegreen.pdf`.

El-Kareh:1990:SMP

[EKTT90] B. El-Kareh, W. R. Tonti, and S. L. Titcomb. A submicron MOSFET parameter extraction technique. *IBM Journal of Research and Development*, 34(2/3):243–249, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

elAgizy:1969:DIM

[el 69] M. N. el Agizy. Dynamic inventory models and stochastic programming. *IBM Journal of Research and Development*, 13 (4):351–356, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

ElAgizy:1974:EOS

[El 74] M. N. El Agizy. Economic order and surplus quantities model. *IBM Journal of Research and Development*, 18(1):72–75, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eichelberger:1980:HTG

[EL80] E. B. Eichelberger and E. Lindbloom. Heuristic test-pattern generator for programmable logic arrays. *IBM Journal of Research and Development*, 24 (1):15–22, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eichelberger:1983:RCE

[EL83] Edward B. Eichelberger and Eric Lindbloom. Random-pattern coverage enhancement and diagnosis for LSSD logic self-test. *IBM Journal of Research and Development*, 27 (3):265–272, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elgedawy:2011:DCC

[Elg11] I. Elgedawy. On-demand conversation customization for services in large smart environments. *IBM Journal of Research and Development*, 55(1–2):5:1–5:14, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elias:1958:CPN

[Eli58] P. Elias. Computation in the presence of noise. *IBM Journal of Research and Development*, 2(4):346–353, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392647`.

Elmendorf:1984:KMU

[Elm84] Peter C. Elmendorf. KWIRE: a multiple-technology, user-reconfigurable wiring tool for VLSI. *IBM Journal of Research and Development*, 28(5):

603–612, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Engelke:1977:CND

[ELMR77] H. Engelke, J. F. Loughran, M. S. Michail, and P. M. Ryan. Correction of nonlinear deflection distortion in a direct exposure electron-beam system. *IBM Journal of Research and Development*, 21(6): 506–513, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Engel:1979:DRP

[ELZ79] P. A. Engel, H. C. Lee, and J. L. Zable. Dynamic response of a print belt system. *IBM Journal of Research and Development*, 23(4):403–410, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elgot:1965:RDG

[EM65] C. C. Elgot and J. E. Mezei. On relations defined by generalized finite automata. *IBM Journal of Research and Development*, 9 (1):47–68, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Egitto:1994:PMP

[EM94] F. D. Egitto and L. J. Matienzo. Plasma modification of polymer surfaces for adhesion improvement. *IBM Journal of Research and Development*, 38 (4):423–439, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#seven`.

Emery:1989:NHS

[Eme89] Victor J. Emery. On the nature of high-temperature superconductivity. *IBM Journal of Research and Development*, 33 (3):246–251, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Emma:1997:USS

[Emm97] P. G. Emma. Understanding some simple processor-performance limits. *IBM Journal of Research and Development*, 41(3):215–232, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/emma.html`.

Eickhoff:2018:LSA

[EMM+18] F. L. Eickhoff, M. L. McGrath, C. Mayer, A. Bieswanger, and P. A. Wojciak. Large-scale application of IBM design thinking and agile development for IBM z14. *IBM Journal of Research and Development*, 62(2–3):1:1–1:9, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8270603/`.

Engh:1981:IDD

[Eng81] James T. Engh. The IBM diskette and diskette drive. *IBM Journal of Research and*

Development, 25(5):701–710, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Engbersen:2003:PST

[Eng03] A. P. J. Engbersen. Prizma switch technology. *IBM Journal of Research and Development*, 47(2/3):195–209, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/engbersen.pdf`.

Eichenberger:2013:ELO

[EO13] A. E. Eichenberger and K. O'Brien. Experimenting with low-overhead OpenMP runtime on IBM Blue Gene/Q. *IBM Journal of Research and Development*, 57 (1/2):8:1–8:8, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eleftheriou:2010:ANP

[EÖH10] E. Eleftheriou, S. Ölçer, and R. A. Hutchins. Adaptive noise-predictive maximum-likelihood (NPML) data detection for magnetic tape storage systems. *IBM Journal of Research and Development*, 54 (2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/eleftheriou.html`.

Eddy:1986:SRB

[EP86] William F. Eddy and Gabriel P. Pei. Structures of rule-based belief functions. *IBM Journal of Research and Development*, 30(1):93–101, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elisseeff:2010:CNR

[EPP10] A. Elisseeff, J.-P. Pellet, and E. Pratsini. Causal networks for risk and compliance: Methodology and application. *IBM Journal of Research and Development*, 54(3):6:1–6:12, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Erdos:1959:EDN

[Erd59] P. Erdős. Elementary divisors of normal matrices. *IBM Journal of Research and Development*, 3(2):197, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392613`.

Erdos:1988:DSO

[Erd88] Paul Erdos. Density of states of one-dimensional random potentials. *IBM Journal of Research and Development*, 32(1):47–51, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Elliott:1992:IES

[ES92] J. C. Elliott and M. W. Sachs. The IBM Enterprise Systems Connection (ESCON) architecture. *IBM Journal of Research and Development*, 36(4):577–591, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Esaki:1962:CTD

[Esa62] L. Esaki. Characterization of tunnel diode performance in terms of device figure of merit and circuit time constant. *IBM Journal of Research and Development*, 6(2): 170–178, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392352`.

Ellsworth:2002:DAS

[ESA02] M. J. Ellsworth, Jr., R. R. Schmidt, and D. Agonafer. Design and analysis of a scheme to mitigate condensation on an assembly used to cool a processor module. *IBM Journal of Research and Development*, 46 (6):753–761, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/ellsworth.pdf`.

Edelstein:1995:VCI

[ESHM95] D. C. Edelstein, G. A. Sai-Halasz, and Y.-J. Mii. VLSI on-chip interconnection performance simulations and measurements. *IBM Journal of Research and Development*, 39 (4):383–401, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#three`.

Epstein:2012:MWF

[ESI+12] E. A. Epstein, M. I. Schor, B. S. Iyer, A. Lally, E. W. Brown, and J. Cwiklik. Making Watson fast. *IBM Journal of Research and Development*, 56(3–4):15:1–15:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eck:2016:TDW

[ESM16] B. J. Eck, H. Saito, and S. A. McKenna. Temperature dynamics and water quality in distribution systems. *IBM Journal of Research and Development*, 60(5–6):7:1–7:8, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580677/`.

Enenkel:2020:EDS

[ESS+20] M. Enenkel, R. M. Shrestha, E. Stokes, M. Román, Z. Wang, M. T. M. Espinosa, I. Hajzmanova, J. Ginnetti, and P. Vinck. Emergencies do not stop at night: Advanced analysis of displacement based on satellite-derived nighttime light

observations. *IBM Journal of Research and Development*, 64 (1/2):8:1–8:12, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ewen:1995:CCG

[ESW+95] J. F. Ewen, M. Soyuer, A. X. Widmer, K. R. Wrenner, B. D. Parker, and H. A. Ainspan. CMOS circuits for Gb/s serial data communication. *IBM Journal of Research and Development*, 39(1/2):73–81, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#eight`.

Evers:1969:PAC

[ET69] W. H. Evers and S. S. Thakur. Programmed automatic customer engineer (PACE) dispatch. *IBM Journal of Research and Development*, 13(4):357–365, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Esaki:1970:SND

[ET70] L. Esaki and R. Tsu. Superlattice and negative differential conductivity in semiconductors. *IBM Journal of Research and Development*, 14(1):61–65, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Efrat:1986:PIL

[ET86] Ilan Efrat and Miron Tismenetsky. Parallel iterative linear solvers for oil reservoir models. *IBM Journal of Research and Development*, 30(2):184–192, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ethier:2008:LSG

[ETWO08] S. Ethier, W. M. Tang, R. Walkup, and L. Oliker. Large-scale gyrokinetic particle simulation of microturbulence in magnetically confined fusion plasmas. *IBM Journal of Research and Development*, 52 (1/2):105–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/ethier.html`.

Eickemeyer:1993:LIU

[EV93] R. J. Eickemeyer and S. Vassiliadis. A load instruction unit for pipelined processors. *IBM Journal of Research and Development*, 37(4):547–564, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eckman:2009:ISQ

[EWBR09] B. Eckman, P. C. West, C. Barford, and G. Raber. Intuitive simulation, querying, and visualization for river basin policy and management. *IBM Journal of Research and Develop-*

ment, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/eckman.html`.

Evangelinos:2013:DPC

[EWS+13] C. Evangelinos, R. E. Walkup, V. Sachdeva, K. E. Jordan, H. Gahvari, I.-H. Chung, M. P. Perrone, L. Lu, L.-K. Liu, and K. Magerlein. Determination of performance characteristics of scientific applications on IBM Blue Gene/Q. *IBM Journal of Research and Development*, 57 (1/2):9:1–9:12, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Eisen:2007:IPA

[EWT+07] L. Eisen, J. W. Ward III, H.-W. Tast, N. Mäding, J. Leenstra, S. M. Mueller, C. Jacobi, J. Preiss, E. M. Schwarz, and S. R. Carlough. IBM POWER6 accelerators: VMX and DFU. *IBM Journal of Research and Development*, 51(6): 663–683, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/eisen.html`.

Friedman:1970:HEB

[FA70] L. R. Friedman and A. Amith. Hole and electron bands in n-type $CdCr_2/Se_4$. *IBM Journal of Research and Development*, 14(3):289–291, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flachs:2007:MIS

[FAD+07] B. Flachs, S. Asano, S. H. Dhong, H. P. Hofstee, G. Gervais, R. Kim, T. Le, P. Liu, J. Leenstra, J. S. Liberty, B. Michael, H.-J. Oh, S. M. Mueller, O. Takahashi, K. Hirairi, A. Kawasumi, H. Murakami, H. Noro, S. Onishi, J. Pille, J. Silberman, S. Yong, A. Hatakeyama, Y. Watanabe, N. Yano, D. A. Brokenshire, M. Peyravian, V. To, and E. Iwata. Microarchitecture and implementation of the synergistic processor in 65-nm and 90-nm SOI. *IBM Journal of Research and Development*, 51(5):529–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/flachs.html`.

Farrell:1991:VIM

[FAFL91] E. J. Farrell, P. A. Appino, D. P. Foty, and T. D. Linton, Jr. Visual interpretation of multidimensional computations and transistor design. *IBM Journal of Research and Development*, 35(1/2):26–44, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fagin:1977:FDR

[Fag77] R. Fagin. Functional depen-

dencies in a relational database and propositional logic. *IBM Journal of Research and Development*, 21(6):534–544, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franklin:1994:CWP

[FAJ+94] M. T. Franklin, W. P. Alexander, R. Jauhari, A. M. G. Maynard, and B. R. Olszewski. Commercial workload performance in the IBM POWER2 RISC System/6000 processor. *IBM Journal of Research and Development*, 38(5):555–561, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#seven`.

Falconer:1970:NDP

[Fal70] D. G. Falconer. Noise and distortion in photographic data storage. *IBM Journal of Research and Development*, 14(5):521–526, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fan:1961:SPP

[Fan61] George J. Fan. A study of the playback process of a magnetic ring head. *IBM Journal of Research and Development*, 5(4):321–325, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392393`.

Fan:1964:NRM

[Fan64] G. J. Y. Fan. A note on the resonant modes and spatial coherency of a Fabry–Perot maser interferometer. *IBM Journal of Research and Development*, 8(3):335–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farrell:1982:BAI

[Far82] E. J. Farrell. Backscatter and attenuation imaging from ultrasonic scanning in medicine. *IBM Journal of Research and Development*, 26(6):746–758, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farrell:1983:CDI

[Far83] Edward J. Farrell. Color display and interactive interpretation of three-dimensional data. *IBM Journal of Research and Development*, 27(4):356–366, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farouki:1987:TAE

[Far87] Rida T. Farouki. Trimmed-surface algorithms for the evaluation and interrogation of solid boundary representation. *IBM Journal of Research and Development*, 31(3):314–334, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farrell:1991:PVI

[Far91] E. J. Farrell. Preface: Visual interpretation of complex data. *IBM Journal of Research and Development*, 35(1/2):3, January 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farrow:1998:RMB

[Far98] R. F. C. Farrow. The role of molecular beam epitaxy in research on giant magnetoresistance and interlayer exchange coupling. *IBM Journal of Research and Development*, 42 (1):43–52, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/farrow.html`.

Franaszek:1978:AVT

[FB78] Peter A. Franaszek and Brian T. Bennett. Adaptive variation of the transfer unit in a storage hierarchy. *IBM Journal of Research and Development*, 22 (4):405–412, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Frey:2012:IUR

[FBG12] J. A. Frey, F. Baitinger, and J. M. Gdaniec. IBM Unified Resource Manager introduction and overview. *IBM Journal of Research and Development*, 56 (1–2):16:1–16:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fann:2004:SOM

[FBHJ04] G. Fann, G. Beylkin, R. J. Harrison, and K. E. Jordan. Singular operators in multiwavelet bases. *IBM Journal of Research and Development*, 48(2): 161–172, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/fann.html; http://www.research.ibm.com/journal/rd/482/fann.pdf`.

Fillmore:1977:DCD

[FBW77] G. L. Fillmore, W. L. Buehner, and D. L. West. Drop charging and deflection in an electrostatic ink jet printer. *IBM Journal of Research and Development*, 21(1):37–47, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freiman:1963:FRP

[FC63] C. V. Freiman and R. T. Chien. Further results in polynomial addressing [letter to the editor]. *IBM Journal of Research and Development*, 7(4): 353–354, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392266`.

Franaszek:1979:RSF

[FC79] Peter A. Franaszek and James P. Considine. Reduction of stor-

age fragmentation on direct access devices. *IBM Journal of Research and Development*, 23 (2):140–148, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freeman:2015:POG

[FCE+15] G. Freeman, P. Chang, E. R. Engbrecht, K. J. Giewont, D. F. Hilscher, M. Lagus, T. J. McArdle, B. Morgenfeld, S. Narasimha, J. P. Norum, K. A. Nummy, P. Parries, G. Wang, J. K. Winslow, P. Agnello, and R. Malik. Performance-optimized gate-first 22-nm SOI technology with embedded DRAM. *IBM Journal of Research and Development*, 59(1):5:1–5:14, January/ February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fischer:1970:CTF

[FCH70] R. B. Fischer, C. M. Cox, and C. Holdinsky. Computer-aided testing and fabrication of magnetic tape heads. *IBM Journal of Research and Development*, 14(6):633–640, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fore:2005:BS

[FCP+05] L. S. Fore, D. W. Cosby, G. Pruett, D. B. Rhoades, C. O. Schulz, B. Smith, and J. L. Wooldridge. BladeCenter solutions. *IBM Journal of Research and Development*, 49(6): 861–871, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/fore.html`.

Fair:2004:RAS

[FCS+04] M. L. Fair, C. R. Conklin, S. B. Swaney, P. J. Meaney, W. J. Clarke, L. C. Alves, I. N. Modi, F. Freier, W. Fischer, and N. E. Weber. Reliability, availability, and serviceability (RAS) of the IBM eServer z990. *IBM Journal of Research and Development*, 48(3/4):519–534, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/fair.html`; `http://www.research.ibm.com/journal/rd/483/fair.pdf`.

Friedberg:1959:LMP

[FDN59] R. M. Friedberg, B. Dunham, and J. H. North. A learning machine: Part II. *IBM Journal of Research and Development*, 3(3):282–287, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392566`.

Floyd:2013:RPR

[FDS+13] M. S. Floyd, A. Drake, N. S. Schwartz, R. W. Berry, C. R. Lefurgy, M. Ware, K. Rajamani, V. Zyuban, R. Willaman, and R. M. Zgabay. Run-

time power reduction capability of the IBM POWER7+ chip. *IBM Journal of Research and Development*, 57(6): 2:1–2:17, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flehinger:1975:HSC

[FE75] B. J. Flehinger and R. L. Engle, Jr. Heme: a self-improving computer program for diagnosis-oriented analysis of hematologic diseases. *IBM Journal of Research and Development*, 19(6):557–564, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ferdinand:1970:SMA

[Fer70] A. E. Ferdinand. A statistical mechanical approach to systems analysis. *IBM Journal of Research and Development*, 14(5):539–547, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ferrari:1975:TPM

[Fer75] Domenico Ferrari. Tailoring programs to models of program behavior. *IBM Journal of Research and Development*, 19(3):244–251, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ferrucci:2012:IW

[Fer12] D. A. Ferrucci. Introduction to This is Watson. *IBM Journal of Research and Development*, 56 (3–4):1:1–1:15, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flamholz:1973:DMD

[FF73] A. L. Flamholz and H. A. Froot. Dimensional measurement and defect detection using spatial filtering. *IBM Journal of Research and Development*, 17(6): 509–518, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Feenstra:1986:STM

[FF86] R. M. Feenstra and A. P. Fein. Scanning tunneling microscopy of cleaved semiconductor surfaces. *IBM Journal of Research and Development*, 30(5): 466–471, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fowler:1964:HMS

[FFH64] A. B. Fowler, F. Fang, and F. Hochberg. Hall measurements on silicon field effect transistor structures. *IBM Journal of Research and Development*, 8(4):427–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flanagan:1992:IES

[FGC92] J. R. Flanagan, T. A. Gregg, and D. F. Casper. The IBM Enterprise Systems Connection (ESCON) channel — a versatile building block. *IBM Journal of Research and Development*, 36

(4):617–632, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fong:2013:TSD

[FGG+13] L. L. Fong, Y. Gao, X. R. Guerin, Y. G. Liu, T. Salo, S. R. Seelam, W. Tan, and S. Tata. Toward a scale-out data-management middleware for low-latency enterprise computing. *IBM Journal of Research and Development*, 57 (3/4):6:1–6:14, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fleiner:2006:RMM

[FGH+06] C. Fleiner, R. B. Garner, J. L. Hafner, KK Rao, D. R. Kenchammana-Hosekote, W. W. Wilcke, and J. S. Glider. Reliability of modular mesh-connected intelligent storage brick systems. *IBM Journal of Research and Development*, 50(2/3):199–208, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/fleiner.html`.

Floyd:2007:SPM

[FGK+07] M. S. Floyd, S. Ghiasi, T. W. Keller, K. Rajamani, F. L. Rawson, J. C. Rubio, and M. S. Ware. System power management support in the IBM POWER6 microprocessor. *IBM Journal of Research and Development*, 51(6): 733–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/floyd.html`.

Franchi:1983:DIA

[FGM+83] Paolo Franchi, Jorge Gonzalez, Patrick Mantey, Carlo Paoli, Albertao Parolo, and John Simmons. Design issues and architecture of hacienda, an experimental image processing system. *IBM Journal of Research and Development*, 27(2):116–126, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Feger:2005:MRS

[FGMPK05] C. Feger, J. D. Gelorme, M. McGlashan-Powell, and D. M. Kalyon. Mixing, rheology, and stability of highly filled thermal pastes. *IBM Journal of Research and Development*, 49 (4/5):699–707, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/feger.html`.

Fellenstein:1985:PMK

[FGP+85] Craig Fellenstein, Charles O. Green, Lucinda M. Palmer, Adrian Walker, and David J. Wyler. A prototype manufacturing knowledge base in Syllog. *IBM Journal of Research and Development*, 29(4):413–421, July 1985. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freiberger:1975:PPR

[FGS75] W. F. Freiberger, U. Grenander, and P. D. Sampson. Patterns in program references. *IBM Journal of Research and Development*, 19(3):230–243, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Papers on system performance evaluation.

Franaszek:1991:HIM

[FGT91] P. A. Franaszek, C. J. Georgiou, and A. N. Tantawi. Hierarchically interconnected multiprocessors. *IBM Journal of Research and Development*, 35(5/6):603–616, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fitzgerald:1981:GIG

[FGW81] William Fitzgerald, Franklin Gracer, and Robert Wolfe. GRIN: interactive graphics for modeling solids. *IBM Journal of Research and Development*, 25(4):281–294, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flynn:1984:MIE

[FH84] Michael J. Flynn and Lee W. Hoevel. Measures of ideal execution architectures. *IBM Journal of Research and Development*, 28(4):356–369, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fried:1982:VBM

[FHL+82] L. J. Fried, J. Havas, J. S. Lechaton, J. S. Logan, G. Paal, and P. A. Totta. A VLSI bipolar metallization design with three-level wiring and area array solder connections. *IBM Journal of Research and Development*, 26(3):362–371, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franke:2014:PSD

[FHL+14] H. Franke, M. Hogstrom, D. Lindquist, B. McCredie, and S. Pappe. Preface: Software defined environments. *IBM Journal of Research and Development*, 58(2–3):??, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:2001:ADS

[FHPR01] P. A. Franaszek, P. Heidelberger, D. E. Poff, and J. T. Robinson. Algorithms and data structures for compressed-memory machines. *IBM Journal of Research and Development*, 45(2):245–258, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/franaszek.html`.

Frank:2006:OCT

[FHSD06] D. J. Frank, W. Haensch, G. Shahidi, and O. H. Dokumaci. Optimizing CMOS technology for maximum performance. *IBM Journal of Research and Development*, 50 (4/5):419–431, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/frank.html`.

Faris:1980:BDJ

[FHVZ80] S. M. Faris, W. H. Henkels, E. A. Valsamakis, and H. H. Zappe. Basic design of a Josephson technology cache memory. *IBM Journal of Research and Development*, 24(2): 143–154, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Falkoff:1973:DA

[FI73] A. D. Falkoff and K. E. Iverson. The design of APL. *IBM Journal of Research and Development*, 17(4):324–334, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fields:1965:STS

[Fie65] D. S. Fields, Jr. Sheet thermoforming of a superplastic alloy. *IBM Journal of Research and Development*, 9(2):134–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Filipowsky:1970:CMT

[Fil70] R. F. Filipowsky. On the correlation matrices of trigonometric product functions. *IBM Journal of Research and Development*, 14(6):680–685, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fink:1986:MTS

[Fin86] Hans-Werner Fink. Monoatomic tips for scanning tunneling microscopy. *IBM Journal of Research and Development*, 30(5):460–465, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fisher:1988:DEE

[Fis88] Michael E. Fisher. Diffusion from an entrance to an exit. *IBM Journal of Research and Development*, 32(1):76–81, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Basic concepts in quantum and stochastic transport.

Fitch:1957:DEC

[Fit57] C. J. Fitch. Development of the electrostatic clutch. *IBM Journal of Research and Development*, 1(1):49–56, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392717`.

Fordyce:1989:RKF

[FJSS89] K. Fordyce, J. Jantzen, G. A. Sullivan, Sr., and G. A. Sullivan, Jr. Representing knowledge with functions and Boolean arrays. *IBM Journal of Research and Development*, 33(6):627–646, November 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Friedman:1960:SEC

[FK60] A. N. Friedman and S. H. Koenig. Size effects for conduction in thin bismuth crystals. *IBM Journal of Research and Development*, 4(2): 158–162, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392545`.

Francis:1962:TSM

[FK62] E. E. Francis and T. C. Ku. A theoretical solution for the magnetic field in the vicinity of a recording head air gap [letter to the editor]. *IBM Journal of Research and Development*, 6(2):260–262, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392364`.

Fan:2012:AKE

[FKGF12] J. Fan, A. Kalyanpur, D. C. Gondek, and D. A. Ferrucci. Automatic knowledge extraction from documents. *IBM Journal of Research and Development*, 56(3–4):5:1–5:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Felter:2003:PUD

[FKK+03] W. M. Felter, T. W. Keller, M. D. Kistler, C. Lefurgy, K. Rajamani, R. Rajamony, F. L. Rawson, B. A. Smith, and E. Van Hensbergen. On the performance and use of dense servers. *IBM Journal of Research and Development*, 47 (5/6):671–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/felter.pdf`.

Fisher:2008:TTC

[FKL+08] R. T. Fisher, L. P. Kadanoff, D. Q. Lamb, A. Dubey, T. Plewa, A. Calder, F. Cattaneo, P. Constantin, I. Foster, M. E. Papka, S. I. Abarzhi, S. M. Asida, P. M. Rich, C. C. Glendenin, K. Antypas, D. J. Sheeler, L. B. Reid, B. Gallagher, and S. G. Needham. Terascale turbulence computation using the FLASH3 application framework on the IBM Blue Gene/L system. *IBM Journal of Research and Development*, 52(1/2):127–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL `http://www.research.ibm.com/journal/rd/521/fisher.html`.

Fox:1990:SET

[FKOP90] F. Fox, J. Kolzer, J. Otto, and E. Plies. A submicron electron-beam tester for VLSI circuits beyond the 4-Mb DRAM. *IBM Journal of Research and Development*, 34(2/3):215–226, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fleming:2016:TFD

[FKOW16] K. Fleming, A. Kouassi, E. Ondula, and P. Waweru. Toward farmer decision profiles to improve food security in Kenya. *IBM Journal of Research and Development*, 60(5–6):6:1–6:10, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580717/`.

Flehinger:1959:TPL

[FL59] B. J. Flehinger and P. A. Lewis. Two-parameter lifetime distributions for reliability studies of renewal processes. *IBM Journal of Research and Development*, 3(1):58–73, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392592`.

Flynn:1967:ISM

[FL67] M. J. Flynn and P. R. Low. The IBM System/ 360 model 91: Some remarks on system development. *IBM Journal of Research and Development*, 11(1):2–7, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392014`.

Fryklund:1969:UTC

[FL69] J. Fryklund and W. Loveland. Use of a time-sharing computer in nuclear chemistry. *IBM Journal of Research and Development*, 13(1):75–8, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fleischer:1974:ILI

[FL74] J. M. Fleischer and C. Lin. Infrared laser interferometer for measuring air-bearing separation. *IBM Journal of Research and Development*, 18(6):529–533, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fernandez:1975:CLB

[FL75] E. B. Fernández and T. Lang. Computation of lower bounds for multiprocessor schedules. *IBM Journal of Research and Development*, 19(5):435–444, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fernandez:1976:SGT

[FL76] Eduardo B. Fernández and Tomas Lang. Scheduling as a graph transformation. *IBM Journal of Research and Development*, 20(6):551–559, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fossheim:1989:REP

[FL89] Kristian Fossheim and Trygve Laegreid. A review of elastic properties of high-T_c superconductors and some related C_p results. *IBM Journal of Research and Development*, 33 (3):365–371, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flatt:1965:CMC

[Fla65] H. P. Flatt. Chain matrices and the Crank–Nicolson equation. *IBM Journal of Research and Development*, 9(3): 196–199, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flatt:1981:CME

[Fla81] H. P. Flatt. Computer modeling in energy and the environment. *IBM Journal of Research and Development*, 25(5):571–581 (or 571–580??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flatt:1991:FRU

[Fla91] H. P. Flatt. Further results using the overhead model for parallel systems. *IBM Journal of Research and Development*, 35(5/6):721–726, September/ November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fuller:2019:RTN

[FLB+19] E. J. Fuller, Y. Li, C. Bennet, S. T. Keene, A. Melianas, S. Agarwal, M. J. Marinella, A. Salleo, and A. A. Talin. Redox transistors for neuromorphic computing. *IBM Journal of Research and Development*, 63(6):9:1–9:9, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farrell:1985:ACD

[FLCB85] Edward J. Farrell, Steven E. Laux, Phillip L. Corson, and Edward M. Buturla. Animation and 3D color display of multiple-variable data: Application to semiconductor design. *IBM Journal of Research and Development*, 29(3):302–315, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fargues:1986:CGS

[FLDC86] Jean Fargues, Marie-Claude Landau, Anne Dugourd, and Laurent Catach. Conceptual graphs for semantics and knowledge processing. *IBM Journal of Research and Development*, 30(1):70–79, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flehinger:1958:RIT

[Fle58] B. J. Flehinger. Reliability improvement through redundancy at various system levels. *IBM Journal of Research and Development*, 2(2): 148–158, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392671`.

Fleming:1995:PIC

[Fle95] Daniel J. Fleming. Preface: IBM CMOS technology. *IBM Journal of Research and Development*, 39(1/2):3, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#one`.

Fiebrich:1984:PSL

[FLKA84] Rolf-Dieter Fiebrich, Yuh-Zen Liao, George Koppelman, and Edward Adams. PSI: a symbolic layout system. *IBM Journal of Research and Development*, 28(5):572–580, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:2006:VMC

[FLMKS06] P. A. Franaszek, L. A. Lastras-Montaño, S. R. Kunkel, and A. C. Sawdey. Victim management in a cache hierarchy. *IBM Journal of Research and Development*, 50(4/5):507–523, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/franaszek.html`.

Farrow:1990:MMS

[FLP90] R. F. C. Farrow, C. H. Lee, and S. S. P. Parkin. Magnetic multilayer structures. *IBM Journal of Research and Development*, 34(6):903–915, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fleischer:1977:LSI

[FLR77] John M. Fleischer, Milton R. Latta, and Melbourne E. Rabedeau. Laser-optical system of the IBM 3800 printer. *IBM Journal of Research and Development*, 21(5):479–483, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Findley:1978:CIP

[FLS78] G. I. Findley, D. P. Leabo, and A. C. Slutman. Control of the IBM 3800 printing subsystem. *IBM Journal of Research and Development*, 22(1):2–12, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flur:1967:MPS

[Flu67] B. L. Flur. On the magnetic properties of sputtered NiFe films. *IBM Journal of Research and Development*, 11(5):

563–569, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391967`.

Fernandez:1978:ERA

[FLW78] E. B. Fernández, T. Lang, and C. Wood. Effect of replacement algorithms on a paged buffer database system. *IBM Journal of Research and Development*, 22(2):185–196, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fleisher:1975:IAL

[FM75] H. Fleisher and L. I. Maissel. An introduction to array logic. *IBM Journal of Research and Development*, 19 (2):98–109, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Foley:2010:RMF

[FM10] S. N. Foley and H. Moss. A risk-metric framework for enterprise risk management. *IBM Journal of Research and Development*, 54(3):3:1–3:10, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Foglia:1961:CCS

[FMP61] H. R. Foglia, W. L. McDermid, and H. E. Petersen. Card capacitor — a semipermanent, read only memory [letter to the editor]. *IBM Journal of Research and Development*, 5 (1):67–68, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392481`.

Friedman:2003:SBI

[FMP+03] D. J. Friedman, M. Meghelli, B. D. Parker, J. Yang, H. A. Ainspan, A. V. Rylyakov, Y. H. Kwark, M. B. Ritter, L. Shan, S. J. Zier, M. Sorna, and M. Soyuer. SiGe BiCMOS integrated circuits for high-speed serial communication links. *IBM Journal of Research and Development*, 47 (2/3):259–282, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/friedman.pdf`.

Fazzio:1993:HAD

[FMPS93] D. P. Fazzio, M. A. Moser, C. J. Polson, and J. N. Scheffel. Head actuator dynamics of an IBM 51/4-inch disk drive. *IBM Journal of Research and Development*, 37(4):479–490, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fahey:1992:SDS

[FMS+92] P. M. Fahey, S. R. Mader, S. R. Stiffler, R. L. Mohler, J. D. Mis, and J. A. Slinkman. Stress-induced dislocations in silicon integrated circuits. *IBM*

Journal of Research and Development, 36(2):158–182, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fox:1971:DLC

[FN71] P. E. Fox and W. J. Nestork. Design of logic circuit technology for IBM System/370 Models 145 and 155. *IBM Journal of Research and Development*, 15(5):384–390, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1995:PDS

[FN95] P. A. Franaszek and R. D. Nelson. Properties of delay-cost scheduling in time-sharing systems. *IBM Journal of Research and Development*, 39 (3):295–314, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/frana/frana.html`.

Fink:1989:ESS

[FNRF89] J. Fink, N. Nücker, H. A. Romberg, and J. C. Fuggle. Electronic structure studies of high-T_c superconductors by high-energy spectroscopies. *IBM Journal of Research and Development*, 33(3):372–381, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fang:2017:PPW

[FNS+17] F. Fang, T. H. Nguyen, A. Sinha, S. Gholami, A. Plumptre, L. Joppa, M. Tambe, M. Driciru, F. Wanyama, A. Rwetsiba, R. Critchlow, and C. M. Beale. Predicting poaching for wildlife protection. *IBM Journal of Research and Development*, 61(6): 3:1–3:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franke:2010:EHM

[FNY+10] H. Franke, T. Nelms, H. Yu, H. D. Achilles, and R. Salz. Exploiting heterogeneous multicore-processor systems for high-performance network processing. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/franke02.html`.

Fonash:1999:PPD

[Fon99] S. J. Fonash. Plasma processing damage in etching and deposition. *IBM Journal of Research and Development*, 43 (1/2):103–107, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/fonash.html`.

Foss:1957:WMC

[FP57] E. Foss and R. S. Partridge. A 32,000-word magnetic-core

memory. *IBM Journal of Research and Development*, 1(2): 102–109, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392730`. Contains photographs of vacuum-tube memory control system, and a large core panel containing 1KB of memory.

Ferry:1969:MEH

[FP69] D. K. Ferry and W. A. Porter. Microwave emission and high-frequency oscillations in n-type InSb. *IBM Journal of Research and Development*, 13(5): 621–625, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ferris-Prabhu:1973:TMM

[FP73] A. V. Ferris-Prabhu. Theory of MNOS memory device behavior. *IBM Journal of Research and Development*, 17(2): 125–134, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Francois:1983:SMP

[FP83] P. François and A. Potocki. Some methods for providing OSI transport in SNA. *IBM Journal of Research and Development*, 27(5):452–463, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Friedrich:2011:DMI

[FPB+11] J. Friedrich, R. Puri, U. Brandt, M. Buehler, J. DiLullo, J. Hopkins, M. Hossain, M. Kazda, J. Keinert, Z. M. Kurzum, D. Lamb, A. Lee, F. Musante, J. Noack, P. J. Osler, S. Posluszny, H. Qian, S. Ramji, V. Rao, L. N. Reddy, H. Ren, T. Rosser, B. R. Russell, C. Sze, and G. Tellez. Design methodology for the IBM POWER7 microprocessor. *IBM Journal of Research and Development*, 55(3):9:1–9:14, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Foster:1966:FBL

[FPS66] L. M. Foster, T. S. Plaskett, and J. E. Scardefield. Formation of built-in light-emitting junctions in solution-grown GaP containing shallow donors and acceptors. *IBM Journal of Research and Development*, 10 (2):114–121, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392059`.

Fiorelli:2014:CCA

[FPST14] M. Fiorelli, M. T. Pazienza, A. Stellato, and A. Turbati. CODA: Computer-aided ontology development architecture. *IBM Journal of Research and Development*, 58 (2–3):14:1–14:12, March–May 2014. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Fulkerson:1960:TTR

[FR60] D. R. Fulkerson and H. J. Ryser. Traces, term ranks, widths and heights. *IBM Journal of Research and Development*, 4(5):455–459, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392458`.

Franaszek:2001:IOC

[FR01] P. A. Franaszek and J. T. Robinson. On internal organization in compressed random-access memories. *IBM Journal of Research and Development*, 45(2):259–270, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/robinson.html`.

Franaszek:1970:SSM

[Fra70] P. A. Franaszek. Sequence-state methods for run-length-limited coding. *IBM Journal of Research and Development*, 14(4):376–383, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1979:FBC

[Fra79] Peter A. Franaszek. On future-dependent block coding for input-restricted channels. *IBM Journal of Research and Development*, 23(1):75–81, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1980:SBD

[Fra80a] P. A. Franaszek. Synchronous bounded delay coding for input restricted channels. *IBM Journal of Research and Development*, 24(1):43–48, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1980:GMC

[Fra80b] Peter A. Franaszek. A general method for channel coding. *IBM Journal of Research and Development*, 24(5):638–641, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1982:CBD

[Fra82] P. A. Franaszek. Construction of bounded delay codes for discrete noiseless channels. *IBM Journal of Research and Development*, 26(4):506–514, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1983:ARL

[Fra83] P. A. Franaszek. Address-independent routing for local networks. *IBM Journal of Research and Development*, 27(5): 464–471, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1987:PHI

[Fra87] P. A. Franaszek. Path hierarchies in interconnection networks. *IBM Journal of Research and Development*, 31(1): 120–131, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franaszek:1989:CCC

[Fra89] P. A. Franaszek. Coding for constrained channels: a comparison of two approaches. *IBM Journal of Research and Development*, 33(6):602–608, November 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Frank:2002:PCC

[Fra02] D. J. Frank. Power-constrained CMOS scaling limits. *IBM Journal of Research and Development*, 46(2/3):235–244, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/frank.html; http://www.research.ibm.com/journal/rd/462/frank.pdf`.

Freedman:1962:RSS

[Fre62] J. F. Freedman. Residual stress in single-crystal nickel films. *IBM Journal of Research and Development*, 6(4): 449–455, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392319`.

Fredriksen:1967:DDP

[Fre67] T. R. Fredriksen. Direct digital processor control of stepping motors. *IBM Journal of Research and Development*, 11 (2):179–188, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391978`.

Frederikse:1970:CET

[Fre70] H. P. R. Frederikse. Comments on electronic transport in transition metal oxides. *IBM Journal of Research and Development*, 14(3):295–300, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freeze:1972:SHA

[Fre72] R. A. Freeze. Subsurface hydrology at waste disposal sites. *IBM Journal of Research and Development*, 16(2): 117–129, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freiser:1979:ZFC

[Fre79] M. J. Freiser. On the zigzag form of charged domain walls. *IBM Journal of Research and Development*, 23(3):330–338, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freeman:1996:CCC

[Fre96] L. B. Freeman. Critical charge calculations for a bipo-

lar SRAM array. *IBM Journal of Research and Development*, 40(1):119–129, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#ten`.

Fredkin:2004:FBQ

[Fre04] E. Fredkin. Five big questions with pretty simple answers. *IBM Journal of Research and Development*, 48(1):31–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/fredkin.pdf`.

Fitch:2008:BMS

[FRE+08] B. G. Fitch, A. Rayshubskiy, M. Eleftheriou, T. J. C. Ward, M. E. Giampapa, M. C. Pitman, J. W. Pitera, W. C. Swope, and R. S. Germain. Blue Matter: Scaling of N-body simulations to one atom per node. *IBM Journal of Research and Development*, 52(1/2):145–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/fitch.html`.

Friedberg:1958:LMI

[Fri58a] R. M. Friedberg. A learning machine: I. *IBM Journal of Research and Development*, 2 (1):2–13, January 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Friedberg:1958:LMP

[Fri58b] R. M. Friedberg. A learning machine: Part I. *IBM Journal of Research and Development*, 2(1):2–13, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392654`.

Fritzsche:1969:PIA

[Fri69] U. H. Fritzsche. Physics of instabilities in amorphous semiconductors. *IBM Journal of Research and Development*, 13(5):515–521 (or 515–520??), September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fromm:1971:NMC

[Fro71] J. E. Fromm. Numerical method for computing nonlinear, time dependent, buoyant circulation of air in rooms. *IBM Journal of Research and Development*, 15(3):186–196, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fromm:1984:NCF

[Fro84] J. E. Fromm. Numerical calculation of the fluid dynamics of drop-on-demand jets. *IBM Journal of Research and Development*, 28(3):322–333, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Floratos:2001:DPB

[FRPG01] A. Floratos, I. Rigoutsos, L. Parida, and Y. Gao. DELPHI: a pattern-based method for detecting sequence similarity. *IBM Journal of Research and Development*, 45 (3/4):455–473, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/floratos.html; http://www.research.ibm.com/journal/rd/453/floratos.pdf`.

Fluhr:2018:IPC

[FRS+18] E. J. Fluhr, R. M. Rao, H. Smith, A. Buyuktosunoglu, and R. Bertran. IBM POWER9 circuit design and energy optimization for 14-nm technology. *IBM Journal of Research and Development*, 62(4–5):4:1–4:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8383685/`.

Frasch:1982:FSC

[FS82] P. Frasch and K. H. Saremski. Feature size control in IC manufacturing (LSI). *IBM Journal of Research and Development*, 26(5):561–567, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Foden:1988:TTQ

[FS88] C. Foden and K. W. H. Stevens. Tunneling times and a quantum clock. *IBM Journal of Research and Development*, 32 (1):99–102, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Farouki:1990:PH

[FS90] R. T. Farouki and T. Sakkalis. Pythagorean hodographs. *IBM Journal of Research and Development*, 34(5):736–752, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Frase:2005:P

[FS05] Katharine G. Frase and David E. Seeger. Preface. *IBM Journal of Research and Development*, 49(4/5):605–606, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/preface2.html`.

Friedman:1973:IUP

[FSG+73] H. P. Friedman, J. H. Siegel, R. M. Goldwyn, E. J. Farrell, and M. Miller. Identifying and understanding patterns and processes in human shock and trauma. *IBM Journal of Research and Development*, 17 (3):230–240, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fang:1964:CSS

[FT64] F. Fang and S. Triebwasser. Carrier surface scattering in silicon inversion layers. *IBM*

Journal of Research and Development, 8(4):410–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Feliss:1977:CPS

[FT77] Norbert A. Feliss and Frank E. Talke. Capacitance probe study of rotating-head/tape interface. *IBM Journal of Research and Development*, 21 (3):289–293, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fitzgerald:1980:CIF

[FT80] Brian F. Fitzgerald and Endre P. Thoma. Circuit implementation of fusible redundant addresses on RAMs for productivity enhancement. *IBM Journal of Research and Development*, 24(3):291–298, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Flynn:1998:MI

[FT98] R. J. Flynn and W. H. Tetzlaff. Multimedia — an introduction. *IBM Journal of Research and Development*, 42 (2):165–176, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/flynn.html`.

Fleisher:1983:ERB

[FTY83] Harold Fleisher, Morton Tavel, and John Yeager. Exclusive-OR representations of Boolean functions. *IBM Journal of Research and Development*, 27 (4):412–416, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fujimoto:1992:SVS

[Fuj92] Y. Fujimoto. Study of the V_{th} shift of the thin-film transistor by the bias temperature stress test. *IBM Journal of Research and Development*, 36(1):76–82, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Feijen:1990:BOB

[FvGGM90] W. H. J. Feijen, A. J. M. van Gasteren, David Gries, and J. Misra, editors. *Beauty is our Business: a Birthday Salute to Edsger W. Dijkstra*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1990. ISBN 0-387-97299-4, 3-540-97299-4, 1-4612-8792-8 (print), 1-4612-4476-5 (online). ISSN 0172-603X. xix + 453 pp. LCCN QA76 .B326 1990. URL `http://www.zentralblatt-math.org/zmath/en/search/?an=0718.68004`. Contains important treatment of accurate binary-to-decimal conversion [Gri90, Knu90].

Fowler:1967:NIT

[FW67] M. E. Fowler and R. M. Warten. A numerical integration technique for ordinary differential equations with widely sepa-

rated eigenvalues. *IBM Journal of Research and Development*, 11(5):537–543, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391962`.

Fagin:1983:FCS

[FW83] Ronald Fagin and John Hayden Williams. A fair carpool scheduling algorithm. *IBM Journal of Research and Development*, 27(2):133–139, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Freitas:2008:SCM

[FW08] Richard F. Freitas and Winfried W. Wilcke. Storage-class memory: The next storage system technology. *IBM Journal of Research and Development*, 52(4/5):439–447, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/freitas.html`.

Floyd:2011:AEM

[FWR+11] M. Floyd, M. Ware, K. Rajamani, T. Gloekler, B. Brock, P. Bose, A. Buyuktosunoğlu, J. C. Rubio, B. Schubert, B. Spruth, J. A. Tierno, and L. Pesantez. Adaptive energy-management features of the IBM POWER7 chip. *IBM Journal of Research and Development*, 55(3):8:1–8:18, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Fowler:1988:ETS

[FWW88] A. B. Fowler, J. J. Wainer, and R. A. Webb. Electronic transport in small strongly localized structures. *IBM Journal of Research and Development*, 32(3):372–383, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Franke:2010:IWS

[FXB+10] H. Franke, J. Xenidis, C. Basso, B. M. Bass, S. S. Woodward, J. D. Brown, and C. L. Johnson. Introduction to the wire-speed processor and architecture. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/franke03.html`.

Fain:2001:DOC

[FXL01] B. Fain, Y. Xia, and M. Levitt. Determination of optimal Chebyshev-expanded hydrophobic discrimination function for globular proteins. *IBM Journal of Research and Development*, 45 (3/4):525–532, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/fain.html; http:/`

/www.research.ibm.com/journal/rd/453/fain.pdf.

Frisch:1988:SAC

[FZ88] Rudolf Frisch and Antonio Zamora. Spelling assistance for compound words. *IBM Journal of Research and Development*, 32(2):195–200, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghazala:1957:IDC

[(Ga57] M. J. Ghazala (Gazale). Irredundant disjunctive and conjunctive forms of a Boolean function. *IBM Journal of Research and Development*, 1(2): 171–176, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392736.

Ghosh:1968:AFG

[GA68] S. P. Ghosh and C. T. Abraham. Application of finite geometry in file organization for records with multiple-valued attributes. *IBM Journal of Research and Development*, 12(2): 180–187, March 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goyal:1984:PAF

[GA84] A. Goyal and T. Agerwala. Performance analysis of future shared storage systems. *IBM Journal of Research and Development*, 28(1):95–108 (or 95–107??), January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gotro:1988:CBT

[GA88] Jeffrey T. Gotro and Bernd K. Appelt. Characterization of a bis-maleimide triazine resin for multilayer printed circuit boards. *IBM Journal of Research and Development*, 32(5): 616–625, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gabor:1969:AHM

[Gab69] D. Gabor. Associative holographic memories. *IBM Journal of Research and Development*, 13(2):156–159, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gabor:1970:LSE

[Gab70] D. Gabor. Laser speckle and its elimination. *IBM Journal of Research and Development*, 14(5):509–514, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gopisetty:2008:ESM

[GAB+08] Sandeep Gopisetty, Sandip Agarwala, Eric Butler, Divyesh Jadav, Stefan Jaquet, Madhukar Korupolu, Ramani Routray, Prasenjit Sarkar, Aameek Singh, Miriam Sivan-Zimet, Chung-Hao Tan, Sandeep Uttamchandani, David Merbach, Sumant Padbidri, An-

dreas Dieberger, Eben M. Haber, Eser Kandogan, Cheryl A. Kieliszewski, Dakshi Agrawal, Murthy Devarakonda, Kang-Wong Lee, Kostas Magoutis, Dinesh C. Verma, and Norbert G. Vogl. Evolution of storage management: Transforming raw data into information. *IBM Journal of Research and Development*, 52(4/5):341–352, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/gopisetty.html`.

Gershwin:1985:SPS

[GAC85] Stanely B. Gershwin, Ramakrishna Akella, and Yong F. Choong. Short-term production scheduling of an automated manufacturing facility. *IBM Journal of Research and Development*, 29(4):392–400, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gaensslen:1979:GES

[Gae79] Fritz H. Gaensslen. Geometry effects of small MOSFET devices. *IBM Journal of Research and Development*, 23(6): 682–688, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goyal:2016:AHM

[GAJ+16] A. Goyal, E. Aprilia, G. Janssen, Y. Kim, T. Kumar, R. Mueller, D. Phan, A. Raman, J. Schuddebeurs, J. Xiong, and R. Zhang. Asset health management using predictive and prescriptive analytics for the electric power grid. *IBM Journal of Research and Development*, 60(1):4:1–4:14, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gambolati:1972:ESV

[Gam72] G. Gambolati. Estimate of subsidence in Venice using a one-dimensional model of the subsoil. *IBM Journal of Research and Development*, 16(2): 130–137, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghosh:1971:DDU

[GAOD71] H. N. Ghosh, K. G. Ashar, A. S. Oberai, and D. Dewitt. Design and development of an ultralow-capacitance, high-performance pedestal transistor. *IBM Journal of Research and Development*, 15(6):436–442, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Garwin:1957:AOP

[Gar57] R. L. Garwin. An analysis of the operation of a persistent-supercurrent memory cell. *IBM Journal of Research and Development*, 1(4): 304–308, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392696.

Garwin:1964:ANT

[Gar64] R. L. Garwin. Analysis of a nondegenerate two-photon giant-pulse laser. *IBM Journal of Research and Development*, 8(3):338–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Garcia:1986:TST

[Gar86] N. Garcia. Theory of scanning tunneling microscopy and spectroscopy: Resolution, image and field states, and thin oxide layers. *IBM Journal of Research and Development*, 30 (5):533–542, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gardiner:1988:QNQ

[Gar88] C. W. Gardiner. Quantum noise and quantum Langevin equations. *IBM Journal of Research and Development*, 32(1): 127–136, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Garcia:2000:PRC

[Gar00] Armando Garcia. Preface: Research contributions by NACME Scholars. *IBM Journal of Research and Development*, 44(5):667, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/445/preface.html.

Gaur:1977:TAH

[Gau77a] S. P. Gaur. Two-dimensional analysis of high-voltage power transistors. *IBM Journal of Research and Development*, 21 (4):306–314, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gaur:1977:SOA

[Gau77b] Santosh P. Gaur. Safe operating area for bipolar transistors. *IBM Journal of Research and Development*, 21(5): 433–442, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gazdag:1978:ESW

[Gaz78] J. Gazdag. Extrapolation of seismic waveforms by Fourier methods. *IBM Journal of Research and Development*, 22(5): 481–486, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greenberg:1971:IMD

[GB71] S. G. Greenberg and Y. Bard. An improved method for designing optimal linear compensators. *IBM Journal of Research and Development*, 15 (4):318–322, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gaudiello:1993:MIM

[GB93] J. G. Gaudiello and G. L. Ballard. Mechanistic insights

into metal-mediated electroless copper plating employing hypophosphite as a reducing agent. *IBM Journal of Research and Development*, 37(2):107–115, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Giampapa:2005:BGA

[GBB+05a] M. E. Giampapa, R. Bellofatto, M. A. Blumrich, D. Chen, M. B. Dombrowa, A. Gara, R. A. Haring, P. Heidelberger, D. Hoenicke, G. V. Kopcsay, B. J. Nathanson, B. D. Steinmacher-Burow, M. Ohmacht, V. Salapura, and P. Vranas. Blue Gene/L advanced diagnostics environment. *IBM Journal of Research and Development*, 49 (2/):319–331, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/giampapa.pdf`.

Gruber:2005:LCW

[GBB+05b] P. A. Gruber, L. Bélanger, G. P. Brouillette, D. H. Danovitch, J.-L. Landreville, D. T. Naugle, V. A. Oberson, D.-Y. Shih, C. L. Tessler, and M. R. Turgeon. Low-cost wafer bumping. *IBM Journal of Research and Development*, 49 (4/5):621–639, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/gruber.html`.

Ginsberg:1990:SEG

[GBBM90] B. J. Ginsberg, J. Burghartz, G. B. Bronner, and S. R. Mader. Selective epitaxial growth of silicon and some potential applications. *IBM Journal of Research and Development*, 34(6):816–827, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gregor:1965:VPP

[GBC65] L. V. Gregor, P. Balk, and F. J. Campagna. Vapor-phase polishing of silicon with H_2–HBr gas mixtures. *IBM Journal of Research and Development*, 9 (4):327–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gara:2005:OBG

[GBC+05] A. Gara, M. A. Blumrich, D. Chen, G. L.-T. Chiu, P. Coteus, M. E. Giampapa, R. A. Haring, P. Heidelberger, D. Hoenicke, G. V. Kopcsay, T. A. Liebsch, M. Ohmacht, B. D. Steinmacher-Burow, T. Takken, and P. Vranas. Overview of the Blue Gene/L system architecture. *IBM Journal of Research and Development*, 49(2/3):195–212, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/gara.pdf`.

Gopisetty:2008:APS

[GBJ+08] Sandeep Gopisetty, Eric Butler, Stefan Jaquet, Madhukar Korupolu, Tapan K. Nayak, Ramani Routray, Mark Seaman, Aameek Singh, Chung-Hao Tan, Sandeep Uttamchandani, and Akshat Verma. Automated planners for storage provisioning and disaster recovery. *IBM Journal of Research and Development*, 52 (4/5):353–365, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/butler.html`.

Ghose:2019:PMW

[GBK+19] S. Ghose, A. Boroumand, J. S. Kim, J. Gómez-Luna, and O. Mutlu. Processing-in-memory: a workload-driven perspective. *IBM Journal of Research and Development*, 63 (6):3:1–3:19, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gott:2005:FFV

[GBRJ05] R. M. Gott, J. R. Baumgartner, P. Roessler, and S. I. Joe. Functional formal verification on designs of pSeries microprocessors and communication subsystems. *IBM Journal of Research and Development*, 49 (4/5):565–580, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/gott.html`.

Gupta:1987:YAD

[GBS+87] Satish Gupta, David F. Bantz, Paul N. Sholtz, Carlo J. Evangelisti, and William R. DeOrazio. YODA: an advanced display for personal computers. *IBM Journal of Research and Development*, 31(1):44–57 (or 44–56??), January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grice:2009:BPB

[GBW+09] D. Grice, H. Brandt, C. Wright, P. McCarthy, A. Emerich, T. Schimke, C. Archer, J. Carey, P. Sanders, J. A. Fritzjunker, S. Lewis, and P. Germann. Breaking the petaflops barrier. *IBM Journal of Research and Development*, 53 (5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/grice.html`.

Gereth:1968:NAE

[GC68] R. Gereth and M. E. Cowher. New annealing effects on the bulk corrosion potential of germanium. *IBM Journal of Research and Development*, 12(6): 483–485, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gruodis:1981:CLT

[GC81] A. J. Gruodis and C. S. Chang. Coupled lossy transmission line characterization and simulation. *IBM Journal of Research and Development*, 25(1):25–41, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guo:1993:MXP

[GC93] Jerry Z. Y. Guo and F. Cerrina. Modeling X-ray proximity lithography. *IBM Journal of Research and Development*, 37(3):331–349, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gresh:2007:ASC

[GCFW07] D. L. Gresh, D. P. Connors, J. P. Fasano, and R. J. Wittrock. Applying supply chain optimization techniques to workforce planning problems. *IBM Journal of Research and Development*, 51 (3/4):251–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/gresh.html`.

Gervas:2019:LPN

[GCL+19] P. Gervás, E. Concepción, C. León, G. Méndez, and P. Delatorre. The long path to narrative generation. *IBM Journal of Research and Development*, 63(1):8:1–8:10, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Galand:1985:VPC

[GCPVG85] Claude Galand, Chantal Couturier, Guy Platel, and Robert Vermot-Gauchy. Voice-excited predictive coder (VEPC) implementation on a high-performance signal processor. *IBM Journal of Research and Development*, 29(2):147–157, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gregg:2012:OIZ

[GCS+12] T. A. Gregg, D. Craddock, D. J. Stigliani, F. E. Bosco, E. E. Cruz, M. F. Scanlon, P. Sciuto, G. Bayer, M. Jung, and C. Raisch. Overview of IBM zEnterprise 196 I/O subsystem with focus on new PCI Express infrastructure. *IBM Journal of Research and Development*, 56 (1–2):8:1–8:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gkoulalas-Divanis:2014:PPO

[GDA14] A. Gkoulalas-Divanis and P. Mac Aonghusa. Privacy protection in open information management platforms. *IBM Journal of Research and Development*, 58(1):21–211, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gkoulalas-Divanis:2016:ISI

[GDB16] A. Gkoulalas-Divanis and S. Braghin. IPV: A system for identifying privacy vulnerabilities in datasets. *IBM Journal of Research and Development*, 60(4):14:1–14:10, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523360/`.

Gkoulalas-Divanis:2014:TSH

[GDLS14] A. Gkoulalas-Divanis, G. Loukides, and J. Sun. Toward smarter healthcare: Anonymizing medical data to support research studies. *IBM Journal of Research and Development*, 58 (1):9:1–9:11, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gyorgy:1970:PME

[GDR70] E. M. Gyorgy, J. F. Dillon, Jr., and J. P. Remeika. Photoinduced magnetic effects in YIG(Si). *IBM Journal of Research and Development*, 14 (3):321–329, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gregg:2002:CCI

[GE02] T. A. Gregg and R. K. Errickson. Coupling I/O channels for the IBM eServer z900: Reengineering required. *IBM Journal of Research and Development*, 46(4/5):461–474, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/gregg.html; http://www.research.ibm.com/journal/rd/464/gregg.pdf`.

Gecsei:1974:DHR

[Gec74] J. Gecsei. Determining hit ratios for multilevel hierarchies. *IBM Journal of Research and Development*, 18(4):316–327, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gefen:1988:CVO

[Gef88] Yuval Gefen. Coherent voltage oscillations in small normal tunnel junctions and the crossover to the incoherent regime. *IBM Journal of Research and Development*, 32(1):103–106, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gerber:1973:LCP

[Ger73] P. D. Gerber. Linearization of Cauchy's problem for quadratic semilinear partial differential equations. *IBM Journal of Research and Development*, 17 (4):314–323, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gutierrez:1982:MPH

[GFHW82] A. R. Gutierrez, J. Friedrich, D. Haarer, and H. Wolfrum. Multiple photochemical hole burning in organic glasses and

polymers: Spectroscopy and storage aspects. *IBM Journal of Research and Development*, 26 (2):198–208, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guido:1971:APP

[GFS71] A. A. Guido, L. Fulkerson, and P. E. Stuckert. Automatic pulse parameter determination with the Computer Augmented Oscilloscope System. *IBM Journal of Research and Development*, 15(3):204–212, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gattiker:2013:BDT

[GGH+13] A. Gattiker, F. H. Gebara, H. P. Hofstee, J. D. Hayes, and A. Hylick. Big Data text-oriented benchmark creation for Hadoop. *IBM Journal of Research and Development*, 57(3/4):10:1–10:6, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghoting:2013:TOM

[GGK+13] A. N. Ghoting, J. A. Gunnels, P. Kambadur, E. P. Pednault, and M. S. Squillante. Trends and outlook for the massive-scale analytics stack. *IBM Journal of Research and Development*, 57(3/4):2:1–2:11, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gillis:1996:TMD

[GGKK96] P. S. Gillis, T. S. Guzowski, B. L. Keller, and R. H. Kerr. Test methodologies and design automation for IBM ASICs. *IBM Journal of Research and Development*, 40 (4):461–474, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#seven`.

Gani:1991:IES

[GGRW91] V. L. Gani, M. C. Graf, R. F. Rizzolo, and W. F. Washburn. IBM Enterprise System/9000 Type 9121 model 320 air-cooled processor technology. *IBM Journal of Research and Development*, 35(3):342–351, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gimzewski:1986:STM

[GH86] J. K. Gimzewski and A. Humbert. Scanning tunneling microscopy of surface microstructure on rough surfaces. *IBM Journal of Research and Development*, 30(5):472–477, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gianos:1996:DCD

[GH96] C. Gianos and D. Hobson. Design considerations for Digital's PowerStorm graphics processor. *IBM Journal of Research and Development*, 40

(4):485–494, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#nine`.

Ghanem:1975:DPM

[Gha75a] M. Z. Ghanem. Dynamic partitioning of the main memory using the working set concept. *IBM Journal of Research and Development*, 19(5): 445–450, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghanem:1975:SMP

[Gha75b] M. Z. Ghanem. Study of memory partitioning for multiprogramming systems with virtual memory. *IBM Journal of Research and Development*, 19(5): 451–457, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gheewala:1980:DJC

[Ghe80] T. R. Gheewala. Design of 2.5-micrometer Josephson current injection logic (cil). *IBM Journal of Research and Development*, 24(2):130–142, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goudey:2017:FOH

[GHH+17] B. Goudey, R. I. Hickson, C. K. H. Hettiarachchige, M. Pore, C. Reeves, O. J. Smith, and A. Swan. A framework for optimal health worker allocation in under-resourced regions. *IBM Journal of Research and Development*, 61(6): 5:1–5:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gilson:1967:DPS

[GHK67] L. A. Gilson, E. F. Harrold, and F. G. Kilmer. Design principles for sampled-data systems with application to attitude control of a large, flexible booster. *IBM Journal of Research and Development*, 11 (4):442–451, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391948`.

Greanias:1957:DLR

[GHKO57] E. C. Greanias, C. J. Hoppel, M. Kloomok, and J. S. Osborne. Design of logic for recognition of printed characters by simulation. *IBM Journal of Research and Development*, 1 (1):8–18, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392712`.

Gellerich:2004:GBP

[GHL+04] W. Gellerich, T. Hendel, R. Land, H. Lehmann, M. Mueller, P. H. Oden, and H. Penner. The GNU 64-bit PL8 compiler: Toward an open standard environment for firmware devel-

opment. *IBM Journal of Research and Development*, 48 (3/4):543–556, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/gellerich.html; http://www.research.ibm.com/journal/rd/483/gellerich.pdf`.

Gilkinson:1984:ATM

[GHLW84] James L. Gilkinson, Amir Hekmatpour, Steven D. Lewis, and Bruce B. Winter. Automated technology mapping. *IBM Journal of Research and Development*, 28(5):546–556, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grimshaw:2004:PTC

[GHN04] A. S. Grimshaw, M. A. Humphrey, and A. Natrajan. A philosophical and technical comparison of Legion and Globus. *IBM Journal of Research and Development*, 48(2): 233–254, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/grimshaw.html; http://www.research.ibm.com/journal/rd/482/grimshaw.pdf`.

Gaur:1985:TDS

[GHP+85] Santosh P. Gaur, Peter A. Habitz, Young-June Park, Robert K. Cook, Yi-Shiou Huang, and Lawrence F. Wagner. Two-dimensional device simulation program: 2Dp. *IBM Journal of Research and Development*, 29(3):242–251, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Groves:1993:EBL

[GHP+93] T. R. Groves, J. G. Hartley, H. C. Pfeiffer, D. Puisto, and D. K. Bailey. Electron beam lithography tool for manufacture of X-ray masks. *IBM Journal of Research and Development*, 37(3):411–419, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gayles:1970:OFM

[GHW70] J. N. Gayles, Jr., W. L. Honzik, and D. O. Wilson. On-line far-infrared Michelson interferometry in a time-shared mode. *IBM Journal of Research and Development*, 14(1):25–32, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guendert:2020:STS

[GHW+20] S. R. Guendert, J. S. Houston, P. A. Wojciak, S. Cherniak, and D. L. Massey. Sysplex time synchronization using IEEE 1588 Precision Time Protocol (PTP). *IBM Journal of Research and Development*, 64(5/6):12:1–12:9, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghez:1988:KFS

[GI88] Richard Ghez and Subramanian S. Iyer. The kinetics of fast steps on crystal surfaces and its application to the molecular beam epitaxy of silicon. *IBM Journal of Research and Development*, 32(6):804–818, November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Giacoletto:1966:MLP

[Gia66] L. J. Giacoletto. On measures of logic performance: Logic quantum, factor, and figure of merit. *IBM Journal of Research and Development*, 10 (1):51–64, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392104`.

Gilmore:1960:PMQ

[Gil60] P. C. Gilmore. A proof method for quantification theory: its justification and realization. *IBM Journal of Research and Development*, 4 (1):28–35, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392528`.

Gillespie:1979:SLP

[Gil79] Sherry J. Gillespie. Stability of lateral pnp transistors during accelerated aging. *IBM Journal of Research and Development*, 23(6):689–695, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gillespie:1984:RPC

[Gil84] Sherry J. Gillespie. Resist profile control in E-Beam lithography. *IBM Journal of Research and Development*, 28(4):454–460, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gustavson:2000:MSH

[GJ00] F. G. Gustavson and I. Jonsson. Minimal-storage high-performance Cholesky factorization via blocking and recursion. *IBM Journal of Research and Development*, 44(6): 823–850, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/gustavson.html`.

Glang:1960:IID

[GK60] R. Glang and B. W. Kippenhan. Impurity introduction during epitaxial growth of silicon. *IBM Journal of Research and Development*, 4(3): 299–301, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392498`.

Greenberg:1964:LNM

[GK64] H. J. Greenberg and Allan G. Konheim. Linear and nonlinear methods in pattern classification. *IBM Journal of Research and Development*, 8 (3):299–307, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greiner:1980:FPJ

[GKK+80] J. H. Greiner, C. J. Kircher, S. P. Klepner, S. K. Lahiri, A. J. Warnecke, S. Basavaiah, J. M. Baker, P. R. Brosious, H.-C. W. Huang, M. Murakami, I. Ames, and E. T. Yen. Fabrication process for Josephson integrated circuits. *IBM Journal of Research and Development*, 24(2): 195–205, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goth:2004:HCC

[GKMP04] G. F. Goth, D. J. Kearney, U. Meyer, and D. W. Porter. Hybrid cooling with cycle steering in the IBM eServer z990. *IBM Journal of Research and Development*, 48 (3/4):409–423, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/goth.html`; `http://www.research.ibm.com/journal/rd/483/goth.pdf`.

Gschwind:2017:OED

[GKT17] M. Gschwind, T. Kaldewey, and D. K. Tam. Optimizing the efficiency of deep learning through accelerator virtualization. *IBM Journal of Research and Development*, 61(4–5):12:1–12:11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030299/`.

Ginsberg:1962:FIA

[GL62] D. M. Ginsberg and J. D. Leslie. Far-infrared absorption in a lead-thallium superconducting alloy. *IBM Journal of Research and Development*, 6(1):55–57, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392412`.

Goyal:1987:MAC

[GL87] Ambuj Goyal and Stephen S. Lavenberg. Modeling and analysis of computer system availability. *IBM Journal of Research and Development*, 31(6): 651–664, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Glaise:1997:TSC

[Gla97] R. J. Glaise. A two-step computation of cyclic redundancy code CRC-32 for ATM networks. *IBM Journal of Research and Development*, 41(6): 705–709, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL `http://www.almaden.ibm.com/journal/rd/416/glaise.html`.

Guo:1993:SBC

[GLCW93] Y. Guo, C. K. Lim, W. T. Chen, and C. G. Woychik. Solder ball connect (SBC) assemblies under thermal loading. I. deformation measurement via moiré interferometry, and its interpretation. *IBM Journal of Research and Development*, 37(5): 635–647, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gusev:1999:GCU

[GLG+99] E. P. Gusev, H.-C. Lu, E. L. Garfunkel, T. Gustafsson, and M. L. Green. Growth and characterization of ultrathin nitrided silicon oxide films. *IBM Journal of Research and Development*, 43(3):265–286, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/gusev.html`.

Glicksman:1969:SME

[Gli69] M. Glicksman. Summary of microwave emission from InSb. gross features and possible explanations. *IBM Journal of Research and Development*, 13(5): 626–630, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gondek:2012:FMR

[GLK+12] D. C. Gondek, A. Lally, A. Kalyanpur, J. W. Murdock, P. A. Duboue, L. Zhang, Y. Pan, Z. M. Qiu, and C. Welty. A framework for merging and ranking of answers in DeepQA. *IBM Journal of Research and Development*, 56 (3–4):14:1–14:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Golden:1980:DAP

[GLL80] R. L. Golden, P. A. Latus, and P. Lowy. Design automation and the programmable logic array macro. *IBM Journal of Research and Development*, 24 (1):23–31, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gopisetty:1996:AFS

[GLM+96] S. Gopisetty, R. Lorie, J. Mao, M. Mohluddin, A. Sorin, and E. Yair. Automated forms-processing software and services. *IBM Journal of Research and Development*, 40(2): 211–230, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-2.html#five`.

Georgiou:1992:IES

[GLOS92] C. J. Georgiou, T. A. Larsen, P. W. Oakhill, and B. Salimi. The IBM Enterprise Systems Connection (ESCON) Director:

a dynamic switch for 200Mb/s fiber optic links. *IBM Journal of Research and Development*, 36(4):593–616, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gaver:1976:EAA

[GLP76] D. P. Gaver, S. S. Lavenberg, and T. G. Price, Jr. Exploratory analysis of access path length data for a data base management system. *IBM Journal of Research and Development*, 20(5): 449–464, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Geldermans:1967:CCM

[GLS67] P. Geldermans, H. O. Leilich, and T. R. Scott. Characteristics of the chain magnetic film storage element. *IBM Journal of Research and Development*, 11(3):291–301, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391994`.

Gaver:1974:AED

[GLS74] D. P. Gaver, P. A. W. Lewis, and G. S. Shedler. Analysis of exception data in a staging hierarchy. *IBM Journal of Research and Development*, 18(5): 423–435, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guenthner:1986:TRK

[GLS86] Franz Günthner, Hubert Lehmann, and Wolfgang Schönfeld. A theory for the representation of knowledge. *IBM Journal of Research and Development*, 30 (1):39–56, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gunther-Mohr:1960:FPI

[GM60] G. R. Gunther-Mohr. Foreword to papers in this issue [vapor growth]. *IBM Journal of Research and Development*, 4(3):247, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392488`.

Geballe:1962:IEL

[GM62] T. H. Geballe and B. T. Matthias. Isotope effects in low temperature superconductors. *IBM Journal of Research and Development*, 6(2): 256–257, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392361`.

Gutzwiller:1963:NWP

[GM63] M. C. Gutzwiller and W. L. Miranker. Nonlinear wave propagation in a transmission line loaded with thin permalloy films. *IBM Journal of Research and Development*, 7(4):

278–287, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392254`.

Gracer:1969:GCD

[GM69] F. Gracer and R. A. Myers. Graphic computer-assisted design of optical filters. *IBM Journal of Research and Development*, 13(2):172–178, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gourlay:1972:HDM

[GM72] A. R. Gourlay and J. Ll. Morris. Hopscotch difference methods for nonlinear hyperbolic systems. *IBM Journal of Research and Development*, 16(4):349–353, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Ghandour:1973:GAO

[GM73] Z. Ghandour and J. Mezei. General arrays, operators and functions. *IBM Journal of Research and Development*, 17 (4):335–352, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greanias:1963:RHN

[GMNE63] E. C. Greanias, P. F. Meagher, R. J. Norman, and P. Essinger. The recognition of handwritten numerals by contour analysis. *IBM Journal of Research and Development*, 7 (1):14–21, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392332`.

Grill:1990:DCF

[GMP90] A. Grill, B. S. Meyerson, and V. V. Patel. Diamondlike carbon films by RF plasma-assisted chemical vapor deposition from acetylene. *IBM Journal of Research and Development*, 34(6):849–857, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ganis:2010:BRW

[GMR10] M. Ganis, E. M. Maximilien, and T. Rivera. A brief report on working smarter with Agile software development. *IBM Journal of Research and Development*, 54(4):1–10, July/ August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goldman:2005:UMF

[GMS05] S. P. Goldman, L. M. Mohr, and D. R. Smith. Using microcode in the functional verification of an I/O chip. *IBM Journal of Research and Development*, 49(4/5):581–588, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/goldman.html`.

Greiner:2012:PII

[GMS+12] D. F. Greiner, M. M. Mitran, T. J. Slegel, C. R. Walters, and C. F. Webb. Performance innovation in the IBM zEnterprise 196 processor. *IBM Journal of Research and Development*, 56 (1–2):6:1–6:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gunther-Mohr:1957:SCT

[GMT57a] G. R. Gunther-Mohr and S. Triebwasser. Simple constant-temperature oven and control system. *IBM Journal of Research and Development*, 1(1): 84–89, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392722`.

Gunther-Moore:1957:SCT

[GMT57b] G. R. Gunther-Moore and S. Triebwasser. Simple constant-temperature oven and control system. *IBM Journal of Research and Development*, 1(1): 84–??, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gueret:1980:IJC

[GMW80] P. Gueret, A. Moser, and P. Wolf. Investigations for a Josephson computer main memory with single-flux-quantum cells. *IBM Journal of Research and Development*, 24 (2):155–166, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guerard:2014:REC

[GMX14] J. B. Guerard, H. Markowitz, and G. Xu. The role of effective corporate decisions in the creation of efficient portfolios. *IBM Journal of Research and Development*, 58(4):6:1–6:11, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Gusev:2006:AHK

[GNF06] E. P. Gusev, V. Narayanan, and M. M. Frank. Advanced high-κ dielectric stacks with polySi and metal gates: Recent progress and current challenges. *IBM Journal of Research and Development*, 50 (4/5):387–410, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/gusev.html`.

Godard:1974:CEU

[God74] D. Godard. Channel equalization using a Kalman filter for fast data transmission. *IBM Journal of Research and Development*, 18(3):267–273, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gipstein:1977:PAE

[GOJN77] Edward Gipstein, Augustus C. Ouano, Duane E. Johnson, and Omar U. Need III. Parameters affecting the electron

beam sensitivity of poly(methyl methacrylate). *IBM Journal of Research and Development*, 21 (2):143–153, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goldmann:1969:GOC

[Gol69] L. S. Goldmann. Geometric optimization of controlled collapse interconnections. *IBM Journal of Research and Development*, 13(3):251–265, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goldstine:1987:RED

[Gol87] H. H. Goldstine. Reflections on the early days of the department. *IBM Journal of Research and Development*, 31(2): 154–157, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gomer:1986:PMA

[Gom86] Robert Gomer. Possible mechanisms of atom transfer in scanning tunneling microscopy. *IBM Journal of Research and Development*, 30(4):428–430, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gomory:1987:SI

[Gom87] Ralph E. Gomory. Science in industry. *IBM Journal of Research and Development*, 31(2): 151–153, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gonzales:1999:PMT

[Gon99] Cesar A. Gonzales. Preface: Multimedia technologies in IBM. *IBM Journal of Research and Development*, 43 (4):450–452, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/preface.html`.

Gaidis:2006:TLB

[GON+06] M. C. Gaidis, E. J. O'Sullivan, J. J. Nowak, Y. Lu, S. Kanakasabapathy, P. L. Trouilloud, D. C. Worledge, S. Assefa, K. R. Milkove, G. P. Wright, and W. J. Gallagher. Two-level BEOL processing for rapid iteration in MRAM development. *IBM Journal of Research and Development*, 50(1): 41–54, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/gaidis.html`.

Good:1958:HMS

[Goo58] I. J. Good. How much science can you have at your fingertips? *IBM Journal of Research and Development*, 2(4): 282–288, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392640`.

Goodman:1962:MBS

[Goo62] B. B. Goodman. The magnetic behavior of superconductors of negative surface energy. *IBM Journal of Research and Development*, 6(1): 63–67, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392414`.

Gorog:1963:SNC

[Gor63] E. Gorog. Some new classes of cyclic codes used for burst-error correction. *IBM Journal of Research and Development*, 7(2):102–111, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392284`.

Gorog:1965:NAT

[Gor65] E. Gorog. A new approach to time-domain equalization. *IBM Journal of Research and Development*, 9(4):228–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gough:1989:GJQ

[Gou89] C. E. Gough. Granular Josephson and quantum interference effects in HTC ceramic superconductors. *IBM Journal of Research and Development*, 33 (3):262–269, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghosh:1971:AES

[GOVC71] H. N. Ghosh, A. S. Oberai, M. B. Vora, and J. J. Chang. An arsenic emitter structure for high-performance silicon transistors. *IBM Journal of Research and Development*, 15(6): 457–463, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gozzo:1994:RLS

[Goz94] F. Gozzo. Recursive least-squares sequence estimation. *IBM Journal of Research and Development*, 38(2):131–156, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#three`.

Godard:1981:MM

[GP81] Dominique Godard and Daniel Pilost. A 2400-bit/s microprocessor-based modem. *IBM Journal of Research and Development*, 25 (1):17–24, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gallagher:2006:DMT

[GP06a] W. J. Gallagher and S. S. P. Parkin. Development of the magnetic tunnel junction MRAM at IBM: From first junctions to a 16-Mb MRAM demonstrator chip. *IBM Journal of Research and Development*, 50(1):5–24, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.research.ibm.com/journal/rd/501/gallagher.html`. See erratum [Ano06c].

Gallagher:2006:P

[GP06b] W. J. Gallagher and S. S. P. Parkins. Preface. *IBM Journal of Research and Development*, 50(1):3–4, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/preface.html`.

Gschwind:2009:P

[GP09] M. Gschwind and M. Perrones. Preface. *IBM Journal of Research and Development*, 53 (5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/preface.html`.

Gregg:1999:ICB

[GPE99] T. A. Gregg, K. M. Pandey, and R. K. Errickson. The integrated cluster bus for the IBM S/390 Parallel Sysplex. *IBM Journal of Research and Development*, 43(5/6):795–806, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/gregg.html`.

Guthrie:1992:FVB

[GPL+92] W. L. Guthrie, W. J. Patrick, E. Levine, H. C. Jones, E. A. Mehter, T. F. Houghton, G. T. Chiu, and M. A. Fury. A four-level VLSI bipolar metallization design with chemical-mechanical planarization. *IBM Journal of Research and Development*, 36(5):845–857, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gelernter:1958:IBP

[GR58] H. L. Gelernter and N. Rochester. Intelligent behavior in problem-solving machines. *IBM Journal of Research and Development*, 2(4):336–345, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392646`.

Golumbic:1990:ISB

[GR90] M. C. Golumbic and V. Rainish. Instruction scheduling beyond basic blocks. *IBM Journal of Research and Development*, 34(1):93–97, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401K.pdf`.

Gibson:1992:DIS

[GR92] D. H. Gibson and G. S. Rao. Design of the IBM System/390 computer family for numerically intensive applications: An

overview for engineers and scientists. *IBM Journal of Research and Development*, 36 (4):695–711, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grant:1969:AWG

[Gra69] P. M. Grant. Automation of a wide-range, general-purpose spectrophotometric system. *IBM Journal of Research and Development*, 13(1):15–27, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grant:1971:ISR

[Gra71] P. M. Grant. Interleaving slow and rapid-data-rate experiments with a time-sharing laboratory automation system. *IBM Journal of Research and Development*, 15(4):293, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gray:1980:CCS

[Gra80] Kenneth S. Gray. Cross-coupled charge-transfer sense amplifier and latch sense scheme for high-density FET memories. *IBM Journal of Research and Development*, 24(3):283–290, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gheith:2016:IBM

[GRB+16] A. Gheith, R. Rajamony, P. Bohrer, K. Agarwal, M. Kistler, B. L. White Eagle, C. A. Hambridge, J. B. Carter, and T. Kaplinger. IBM bluemix mobile cloud services. *IBM Journal of Research and Development*, 60(2–3):7:1–7:12, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greenstadt:1959:RCP

[Gre59] J. Greenstadt. On the reduction of continuous problems to discrete form. *IBM Journal of Research and Development*, 3 (4):355–363, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392575`.

Greenberg:1960:FAM

[Gre60] H. J. Greenberg. Fourier analysis of the motion of a hydraulically controlled piston. *IBM Journal of Research and Development*, 4(4): 378–390, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392513`.

Gregor:1968:PDF

[Gre68] L. V. Gregor. Polymer dielectric films. *IBM Journal of Research and Development*, 12(2): 140–162, March 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greenberg:1979:SHI

[Gre79] Hermo J. Greenberg. Study of head-tape interaction in high speed rotating head recording. *IBM Journal of Research and Development*, 23(2):197–205, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gregg:1997:CSC

[Gre97] T. A. Gregg. S/390 CMOS server I/O: The continuing evolution. *IBM Journal of Research and Development*, 41 (4/5):449–462, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/gregg.html`.

Gordon:2008:SEU

[GRH+08] M. S. Gordon, K. P. Rodbell, D. F. Heidel, C. Cabral, Jr., E. H. Cannon, and D. D. Reinhardt. Single-event-upset and alpha-particle emission rate measurement techniques. *IBM Journal of Research and Development*, 52(3): 265–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/gordon.html`.

Griesmer:1960:BEC

[Gri60] J. H. Griesmer. A bound for error-correcting codes. *IBM Journal of Research and Development*, 4(5):532–542, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392468`.

Griffith:1969:DRP

[Gri69] R. L. Griffith. Data recovery in a photo-digital storage system. *IBM Journal of Research and Development*, 13(4):456–467, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gries:1990:BDO

[Gri90] David Gries. Binary to decimal, one more time. In Feijen et al. [FvGGM90], chapter 16, pages 141–148. ISBN 0-387-97299-4, 3-540-97299-4, 1-4612-8792-8 (print), 1-4612-4476-5 (online). ISSN 0172-603X. LCCN QA76 .B326 1990. URL `http://www.zentralblatt-math.org/zmath/en/search/?an=0718.68004`. This paper presents an alternate proof of Knuth's algorithm [Knu90] for conversion between decimal and fixed-point binary numbers.

Griesmer:1992:PPA

[Gri92] J. H. Griesmer. Preface: Papers on artificial intelligence. *IBM Journal of Research and Development*, 36(3):328, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grill:1999:PDD

[Gri99] A. Grill. Plasma-deposited diamondlike carbon and related materials. *IBM Journal of Research and Development*, 43 (1/2):147–161, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/grill.html`.

Grinstein:2004:CCS

[Gri04] G. Grinstein. Can complex structures be generically stable in a noisy world? *IBM Journal of Research and Development*, 48(1):5–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/grinstein.pdf`.

Gross:1959:GFL

[Gro59] W. A. Gross. A gas film lubrication study. I. Some theoretical analyses of slider bearings. *IBM Journal of Research and Development*, 3(3): 237–255, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392562`.

Grossman:1976:PRT

[Gro76] David D. Grossman. Procedural representation of three-dimensional objects. *IBM Journal of Research and Development*, 20(6):582–589, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grohoski:1990:MOI

[Gro90] G. F. Grohoski. Machine organization of the IBM RISC System/6000 processor. *IBM Journal of Research and Development*, 34(1):37–58, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401F.pdf`.

Geffken:1987:CMD

[GRS87] Robert M. Geffken, James G. Ryan, and George J. Slusser. Contact metallurgy development for VLSI logic. *IBM Journal of Research and Development*, 31(6):608–616, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guerard:2013:EGP

[GRS13] J. B. Guerard, S. T. Rachev, and B. P. Shao. Efficient global portfolios: Big data and investment universes. *IBM Journal of Research and Development*, 57(5):11:1–11:11, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gazdag:1986:SMI

[GRSW86] J. Gazdag, G. Radicati, P. Sguazzero, and H. H. Wang. Seismic migration on the IBM 3090

Vector Facility. *IBM Journal of Research and Development*, 30 (2):172–183, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gruenberg:1974:SMC

[GRT74] E. L. Gruenberg, H. P. Raabe, and C. T. Tsitsera. Self-directional microwave communication system. *IBM Journal of Research and Development*, 18(2):149–163, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gruodis:1979:TAU

[Gru79] Algirdas J. Gruodis. Transient analysis of uniform resistive transmission lines in a homogeneous medium. *IBM Journal of Research and Development*, 23(6):675–681, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goodman:1970:SEF

[GS70] J. W. Goodman and A. M. Silvestri. Some effects of Fourier-domain phase quantization. *IBM Journal of Research and Development*, 14(5): 478–484, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guignard:1972:MNC

[GS72a] M. M. Guignard and K. Spielberg. Mixed-integer algorithms for the (0, 1) knapsack problem. *IBM Journal of Research and Development*, 16(??):424–430, 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Guignard:1972:MAK

[GS72b] M. M. Guignard and K. Spielberg. Mixed-integer algorithms for the (0,1) knapsack problems. *IBM Journal of Research and Development*, 16(4):424–430, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ghosh:1974:SPS

[GS74] S. P. Ghosh and M. E. Senko. String path search procedures for data base systems. *IBM Journal of Research and Development*, 18(5):408–422, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gay:1975:CPQ

[GS75] T. W. Gay and P. H. Seaman. Composite priority queue. *IBM Journal of Research and Development*, 19(1):78–81, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Geipel:1980:ISD

[GS80] Henry J. Geipel, Jr. and Richard B. Shasteen. Implanted source/drain junctions for polysilicon gate technologies. *IBM Journal of Research and Development*, 24(3):362–369, May 1980. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Getten:1982:IWS

[GS82a] J. R. Getten and R. C. Senger. Immersion wave soldering process. *IBM Journal of Research and Development*, 26 (3):379–382, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gustafson:1982:IPU

[GS82b] R. N. Gustafson and Frank J. Sparacio. IBM 3081 processor unit: Design considerations and design process. *IBM Journal of Research and Development*, 26 (1):12–21, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ginsburg:1984:HSP

[GS84] Rochelle Ginsburg and John R. Susko. High-temperature stability of a polyimide film. *IBM Journal of Research and Development*, 28(6):735–740, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Glimm:1987:NAS

[GS87] J. Glimm and D. H. Sharp. Numerical analysis and the scientific method. *IBM Journal of Research and Development*, 31 (2):169–177, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Grotzinger:1993:CPA

[GSAB93] S. J. Grotzinger, R. Srinivasan, R. Akella, and S. Bollapragada. Component procurement and allocation for products assembled to forecast: Risk-pooling effects. *IBM Journal of Research and Development*, 37 (4):523–536, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Guo:2017:IAC

[GSAP17] J. Guo, C. Shi, G. Azzopardi, and N. Petkov. Inhibition-augmented COSFIRE model of shape-selective neurons. *IBM Journal of Research and Development*, 61(2–3):10:1–10:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921700/`.

Grobman:1980:PCE

[GSC80] W. D. Grobman, A. J. Speth, and T. H. P. Chang. Proximity correction enhancements for $1-\mu m$ dense circuits. *IBM Journal of Research and Development*, 24(5):537–544, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gschwind:2009:IEP

[Gsc09] M. Gschwind. Integrated execution: a programming model for accelerators. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/gschwind.html`.

Gotz:2012:MVA

[GSC12] D. H. Gotz, J. Sun, and N. Cao. Multifaceted visual analytics for healthcare applications. *IBM Journal of Research and Development*, 56(5): 6:1–6:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261577`.

Gschwind:2016:WAI

[Gsc16] M. Gschwind. Workload acceleration with the IBM POWER vector-scalar architecture. *IBM Journal of Research and Development*, 60(2–3):14:1–14:18, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Giess:1990:LGP

[GSG+90] E. A. Giess, R. L. Sandstrom, W. J. Gallagher, A. Gupta, S. L. Shinde, R. F. Cook, E. I. Cooper, E. J. M. O'Sullivan, J. M. Roldan, A. P. Segmuller, and J. Angilello. Lanthanide gallate perovskite-type substrates for epitaxial, high-T_c superconducting $Ba_2YCu_3O_{7-\delta}$ films. *IBM Journal of Research and Development*, 34(6): 916–926, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Geiss:1983:PSD

[GSVE83] R. H. Geiss, G. B. Street, W. Volksen, and J. Economy. Polymer structure determination using electron diffraction techniques. *IBM Journal of Research and Development*, 27 (4):321–329, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Geipel:1980:RLI

[GT80] Henry J. Geipel, Jr. and Warren K. Tice. Reduction of leakage by implantation gettering in VLSI circuits. *IBM Journal of Research and Development*, 24 (3):310–317, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Goertzel:1987:DHI

[GT87] Gerald Goertzel and Gerhard R. Thompson. Digital halftoning on the IBM 4250 printer. *IBM Journal of Research and Development*, 31 (1):2–15, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gum:1983:SEA

[Gum83] P. H. Gum. System/370 extended architecture: Facilities for virtual machines. *IBM Journal of Research and Development*, 27(6):530–544, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gunn:1964:ICI

[Gun64] J. B. Gunn. Instabilities of current in III–V semiconductors. *IBM Journal of Research and Development*, 8 (2):141–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802G.pdf`.

Gunn:1966:EDC

[Gun66a] J. B. Gunn. Effect of domain and circuit properties on oscillations in GaAs. *IBM Journal of Research and Development*, 10(4):310–320, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392033`.

Gunn:1966:PFS

[Gun66b] J. B. Gunn. Properties of a free, steadily travelling electrical domain in GaAs. *IBM Journal of Research and Development*, 10(4):300–309, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392032`.

Gunn:1969:TTD

[Gun69] J. B. Gunn. Topological theory of domain velocity in semiconductors. *IBM Journal of Research and Development*, 13(5): 591–595, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See comment [Aas70].

Gupta:1997:FEA

[Gup97] A. Gupta. Fast and effective algorithms for graph partitioning and sparse-matrix ordering. *IBM Journal of Research and Development*, 41 (1/2):171–183, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/gupta.html`.

Gustavson:1976:ABL

[Gus76a] F. G. Gustavson. Analysis of the Berlekamp–Massey linear feedback shift-register synthesis algorithm. *IBM Journal of Research and Development*, 20(3):204–212, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gustavson:1976:ABM

[Gus76b] F. G. Gustavson. Analysis of the Berlekamp–Massey linear feedback shift-register synthesis algorithm. *IBM Journal of Research and Development*, 20(??):204–212, 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gustavson:1997:RLA

[Gus97] F. G. Gustavson. Recursion leads to automatic variable blocking for dense linear-algebra algorithms. *IBM Journal of Research and Development*, 41(6):737–755, November

1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/gustavson.html`.

Gustavson:2003:HPL

[Gus03] F. G. Gustavson. High-performance linear algebra algorithms using new generalized data structures for matrices. *IBM Journal of Research and Development*, 47(1):31–55, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/gustavson.pdf`.

Greenblatt:1957:DPM

[GW57a] B. J. Greenblatt and J. E. Wallace. Development of the permissive-make relay. *IBM Journal of Research and Development*, 1(3):198–??, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Greenblott:1957:DPM

[GW57b] B. J. Greenblott and J. E. Wallace. Development of the permissive-make relay. *IBM Journal of Research and Development*, 1(3):198–211, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392681`.

Gschwind:2018:RSE

[GW18] M. Gschwind and U. Weigand. Reengineering a server ecosystem for enhanced portability and performance. *IBM Journal of Research and Development*, 62(1):9:1–9:13, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269768/`.

Giurgiu:2017:AIP

[GWB+17] I. Giurgiu, D. Wiesmann, J. Bogojeska, D. Lanyi, G. Stark, R. B. Wallace, M. M. Pereira, and A. A. Hidalgo. On the adoption and impact of predictive analytics for server incident reduction. *IBM Journal of Research and Development*, 61(1):9:98–9:109, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877290/`.

Golladay:1990:ETO

[GWRS90] S. D. Golladay, N. A. Wagner, J. R. Rudert, and R. N. Schmidt. Electron-beam technology for open/short testing of multi-chip substrates. *IBM Journal of Research and Development*, 34(2/3):250–259, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Gerwig:2004:IEZ

[GWS+04] G. Gerwig, H. Wetter, E. M.

Schwarz, J. Haess, C. A. Krygowski, B. M. Fleischer, and M. Kroener. The IBM eServer z990 floating-point unit. *IBM Journal of Research and Development*, 48(3/4):311–322, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/gerwig.html`; `http://www.research.ibm.com/journal/rd/483/gerwig.pdf`.

Gygi:2008:AQS

[Gyg08] F. Gygi. Architecture of Qbox: a scalable first-principles molecular dynamics code. *IBM Journal of Research and Development*, 52(1/2):137–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/gygi.html`.

Gonzales:1999:RME

[GYK99] C. A. Gonzales, H. Yeo, and C. J. Kuo. Requirements for motion-estimation search range in MPEG-2 coded video. *IBM Journal of Research and Development*, 43(4):453–470, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/gonzales.html`.

Germain:2005:EPD

[GZE+05] R. S. Germain, Y. Zhestkov, M. Eleftheriou, A. Rayshubskiy, F. Suits, T. J. C. Ward, and B. G. Fitch. Early performance data on the Blue Matter molecular simulation framework. *IBM Journal of Research and Development*, 49 (2/3):447–455, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/germain.pdf`.

Goth:1992:DDM

[GZM92] G. F. Goth, M. L. Zumbrunnen, and K. P. Moran. Dual-tapered-piston (DTP) module cooling for IBM Enterprise System/9000 systems. *IBM Journal of Research and Development*, 36(4):805–816, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horton:1958:FBA

[HA58] J. W. Horton and A. G. Anderson. A full binary adder employing two negative-resistance diodes. *IBM Journal of Research and Development*, 2(3): 223–231, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392626`.

Huth:1971:DFR

[HA71] B. G. Huth and M. R. Agan. Dynamics of a flashlamp-pumped rhodamine 6G laser.

IBM Journal of Research and Development, 15(4):278–292, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hernandez:2000:SNP

[HA00] E. Hernández and Y. Arkun. Stability of nonlinear polynomial ARMA models and their inverse. *IBM Journal of Research and Development*, 44(5): 725–747, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/hernandez.pdf`.

Haas:1970:SSB

[Haa70] C. Haas. Spin-disorder scattering and band structure of the ferromagnetic chalcogenide spinels. *IBM Journal of Research and Development*, 14 (3):282–288, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hirzel:2013:ISP

[HAG+13] M. Hirzel, H. Andrade, B. Gedik, G. Jacques-Silva, R. Khandekar, V. Kumar, M. Mendell, H. Nasgaard, S. Schneider, R. Soule, and K.-L. Wu. IBM Streams Processing Language: Analyzing Big Data in motion. *IBM Journal of Research and Development*, 57(3/4):7:1–7:11, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haines:1985:ACR

[Hai85] Calvin L. Haines. Algorithm for carrier routing in a flexible material-handling system. *IBM Journal of Research and Development*, 29(4):356–362, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hajek:1991:IES

[Haj91] S. F. Hajek. The IBM Enterprise System/9000 Type 9121 air-cooled processor. *IBM Journal of Research and Development*, 35(3):307–312, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hall:1960:AST

[Hal60] Marshall Hall, Jr. Automorphisms of Steiner triple systems. *IBM Journal of Research and Development*, 4(5): 460–472, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392459`.

Hall:1976:OSE

[Hal76] P. A. V. Hall. Optimization of single expressions in a relational data base system. *IBM Journal of Research and Development*, 20(3):244–257, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hammer:1978:OGP

[Ham78] Robert Hammer. Obtaining gas panel metallization patterns by vacuum deposition through rib-supported mask structures. *IBM Journal of Research and Development*, 22(6):601–606, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hamaguchi:1999:MSM

[Ham99] S. Hamaguchi. Modeling and simulation methods for plasma processing. *IBM Journal of Research and Development*, 43 (1/2):199–215, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/hamaguchi.html`.

Hoppe:2004:FVF

[HAMC+04] B. Hoppe, B. Arthur-Mensah, E. W. Chencinski, S. Joseph, H. Kumar, and J. F. Silverio. Functional verification of a frequency-programmable switch chip with asynchronous clock sections. *IBM Journal of Research and Development*, 48 (3/4):461–474, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/hoppe.html; http://www.research.ibm.com/journal/rd/483/hoppe.pdf`.

Hanson:1957:MMT

[Han57] J. S. Hanson. Microsectioning: a metallographic technique for semiconductor devices. *IBM Journal of Research and Development*, 1(3): 279–288, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392688`.

Hansma:1986:STJ

[Han86] P. K. Hansma. Squeezable tunneling junctions. *IBM Journal of Research and Development*, 30(4):370–373, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hanson:2020:CSS

[Han20] W. A. Hanson. The CORAL supercomputer systems. *IBM Journal of Research and Development*, 64(3/4):1:1–1:10, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harris:1963:HSP

[Har63] T. J. Harris. High-speed photographs of laser-induced heating. *IBM Journal of Research and Development*, 7(4): 342–344, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392263`.

Hardy:1965:AIF

[Har65] W. A. Hardy. Active image formation in lasers. *IBM Journal of Research and Development*, 9 (1):31–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hartwell:1971:PIF

[Har71] J. W. Hartwell. A procedure for implementing the fast Fourier transform on small computers. *IBM Journal of Research and Development*, 15(5):355–363, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harding:1981:SMI

[Har81] William E. Harding. Semiconductor manufacturing in IBM, 1957 to the present: a perspective. *IBM Journal of Research and Development*, 25(5): 647–658, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harper:2001:P

[Har01] Richard E. Harper. Preface. *IBM Journal of Research and Development*, 45(2):187–190, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haskell:1962:PCC

[Has62] J. W. Haskell. Printed cards for the card capacitor memory [letter to the editor]. *IBM Journal of Research and Development*, 6(4):462–463, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392321`.

Haskell:1966:DPC

[Has66] J. W. Haskell. Design of a printed card capacitor read-only store. *IBM Journal of Research and Development*, 10 (2):142–157, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392063`.

Haskin:1998:TSS

[Has98] R. L. Haskin. Tiger Shark — a scalable file system for multimedia. *IBM Journal of Research and Development*, 42(2): 185–197, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/haskin.html`.

Hatfield:1972:EPS

[Hat72] D. J. Hatfield. Experiments on page size, program access patterns, and virtual memory performance. *IBM Journal of Research and Development*, 16 (1):58–66, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hatzakis:1988:MPM

[Hat88] Michael Hatzakis. Materials

and processes for microstructure fabrication. *IBM Journal of Research and Development*, 32(4):441–453, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haughton:1967:SMT

[Hau67] K. E. Haughton. Similar motion of two-degree-of-freedom nonlinear vibrating systems with nonsymmetric springs. *IBM Journal of Research and Development*, 11(6): 618–626, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391907`.

Hauge:1993:P

[Hau93] P. S. Hauge. Preface. *IBM Journal of Research and Development*, 37(6):678–??, November 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd37-6.html#one`.

Hauge:1996:PSA

[Hau96] P. Hauge. Papers on services, applications, and solutions: Preface. *IBM Journal of Research and Development*, 40(2):138, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hellwarth:1973:DCH

[HB73] G. A. Hellwarth and S. Boinodiris. Digital-to-analog converter having common-mode isolation and differential output. *IBM Journal of Research and Development*, 17(1):54–60, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ho:1974:IPD

[HB74] P. S. Ho and R. Benedek. Interatomic potentials and defect energetics in dilute alloys. *IBM Journal of Research and Development*, 18(5): 386–394, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hook:1999:NGO

[HBB99] T. B. Hook, J. S. Burnham, and R. J. Bolam. Nitrided gate oxides for 3.3-V logic application: Reliability and device design considerations. *IBM Journal of Research and Development*, 43(3):393–406, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/hook.html`.

Haring:2005:BGC

[HBB+05] R. A. Haring, R. Bellofatto, A. A. Bright, P. G. Crumley, M. B. Dombrowa, S. M. Douskey, M. R. Ellavsky, B. Gopalsamy, D. Hoenicke, T. A. Liebsch, J. A. Marcella, and M. Ohmacht. Blue Gene/L compute chip: Control, test, and bring-up infrastructure. *IBM Journal of Re-*

search and Development, 49 (2/3):289–301, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/haring.pdf`.

Helmich:2007:RI

[HBB+07] U. Helmich, M. Becht, M. J. Becht, J. R. Easton, R. K. Errickson, T. Gehrmann, S. G. Glassen, S. R. Greenspan, F. Koeble, H. Lehmann, C. Mayer, J. S. Nikfarjam, F. A. Schumacher, and W. Storz. Redundant I/O interconnect. *IBM Journal of Research and Development*, 51(1/2):173–184, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/helmich.html`.

Hsiao:1970:OLS

[HBC70] M. Y. Hsiao, D. C. Bossen, and R. T. Chien. Orthogonal Latin square codes. *IBM Journal of Research and Development*, 14 (4):390–394, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heyns:1999:CEC

[HBC+99] M. M. Heyns, T. Bearda, I. Cornelissen, S. De Gendt, R. Degraeve, G. Groeseneken, C. Kenens, D. M. Knotter, L. M. Loewenstein, P. W. Mertens, S. Mertens, M. Meuris, T. Nigam, M. Schaekers, I. Teerlinck, W. Vandervorst, R. Vos, and K. Wolke. Cost-effective cleaning and high-quality thin gate oxides. *IBM Journal of Research and Development*, 43 (3):339–350, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/heyns.html`.

Hake:1962:HFS

[HBL62] R. R. Hake, T. G. Berlincourt, and D. H. Leslie. High-field superconductivity in some bcc ti-mo and nb-zr alloys. *IBM Journal of Research and Development*, 6(1): 119–121, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392425`.

Hoke:1999:STI

[HBL+99] J. M. Hoke, P. W. Bond, T. Lo, F. S. Pidala, and G. Steinbrueck. Self-timed interface for S/390 I/O subsystem interconnection. *IBM Journal of Research and Development*, 43(5/6):829–846, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/hoke.html`.

Hoke:2002:STI

[HBL+02] J. M. Hoke, P. W. Bond, R. R.

Livolsi, T. C. Lo, F. S. Pidala, and G. Steinbrueck. Self-timed interface of the input/output subsystem of the IBM eServer z900. *IBM Journal of Research and Development*, 46 (4/5):447–460, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/hoke.html; http://www.research.ibm.com/journal/rd/464/hoke.pdf`.

Harker:1981:QCD

[HBP+81] J. M. Harker, D. W. Brede, R. E. Pattison, G. R. Santana, and L. G. Taft. A quarter century of disk file innovation. *IBM Journal of Research and Development*, 25(5):677–690 (or 677–689??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hosler:1985:DPS

[HBR85] W. Hösler, R. J. Behm, and E. Ritter. Defects on the Pt(100) surface and their influence on surface reactions — a scanning tunneling microscopy study. *IBM Journal of Research and Development*, 30(4):403–410, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hosler:1986:DPS

[HBR86] W. Hosler, R. J. Behm, and E. Ritter. Defects on the Pt(100) surface and their influence on surface reactions — a scanning tunneling microscopy study. *IBM Journal of Research and Development*, 30(4):403–410, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hwang:2016:AOF

[HBT+16] J. Hwang, K. Bai, M. Tacci, M. Vukovic, and N. Anerousis. Automation and orchestration framework for large-scale enterprise cloud migration. *IBM Journal of Research and Development*, 60(2–3):1:1–1:12, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Henderson:1970:PTE

[HBW70] D. J. Henderson, J. A. Barker, and R. O. Watts. The Percus–Yevick theory and the equation of state of the 6:12 fluid. *IBM Journal of Research and Development*, 14(6):668–676, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hagenlocher:1969:SCI

[HC69] A. K. Hagenlocher and W. T. Chen. Space-charge-limited current instabilities in $n^+ - \pi - n^+$ silicon diodes. *IBM Journal of Research and Development*, 13(5):533–536, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hastings:1970:OMN

[HC70] J. M. Hastings and L. M. Corliss. Ordered moment of NiS_2. *IBM Journal of Research and Development*, 14(3):227–228, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Halpern:1978:SRH

[HC78] P. Halpern and K. L. Coulson. Solar radiative heating in the presence of aerosols. *IBM Journal of Research and Development*, 22(2):122–133, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ho:1982:TMH

[HCBA82] C. W. Ho, D. A. Chance, C. H. Bajorek, and R. E. Acosta. Thin-film module as a high-performance semiconductor package. *IBM Journal of Research and Development*, 26 (3):286–296, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hofstee:2013:USD

[HCG+13] H. P. Hofstee, G. C. Chen, F. H. Gebara, K. Hall, J. Herring, D. Jamsek, J. Li, Y. Li, J. W. Shi, and P. W. Y. Wong. Understanding system design for Big Data workloads. *IBM Journal of Research and Development*, 57(3/4):3:1–3:10, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Holland:2005:BS

[HCK+05] W. G. Holland, P. L. Caporale, D. S. Keener, A. B. McNeill, and T. B. Vojnovich. BladeCenter storage. *IBM Journal of Research and Development*, 49(6):921–939, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/holland.html`.

Heller:1972:MCT

[HCL72] L. G. Heller, W. H. Chang, and A. W. Lo. A model of charge transfer in bucket brigade and charge-coupled devices. *IBM Journal of Research and Development*, 16(2):184–187, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hong:1974:MHA

[HCO74] S. J. Hong, R. G. Cain, and D. L. Ostapko. MINI: a heuristic approach for logic minimization. *IBM Journal of Research and Development*, 18(5): 443–458, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hatzakis:1980:SOL

[HCS80] Michael Hatzakis, Benjamin J. Canavello, and Jane M. Shaw. Single-step optical lift-off process. *IBM Journal of Research and Development*, 24(4):452–460, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hsiao:1981:RAS

[HCTS81] M. Y. Hsiao, W. C. Carter, J. W. Thomas, and W. R. Stringfellow. Reliability, availability, and serviceability of IBM computer systems: a quarter century of progress. *IBM Journal of Research and Development*, 25(5):453–465, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harris:1969:ODL

[HD69] E. P. Harris and M. L. Dakss. Optical damage to $LiNbO_3$ from GaAs laser radiation. *IBM Journal of Research and Development*, 13(6):722–723, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hauge:1973:DOE

[HD73] P. S. Hauge and F. H. Dill. Design and operation of ETA, an automated ellipsometer (f.e.t. gate insulator thickness measurement). *IBM Journal of Research and Development*, 17(6): 472–489, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hafner:2008:UDE

[HDBR08] James L. Hafner, Veera Deenadhayalan, Wendy Belluomini, and Krishnakumar Rao. Undetected disk errors in RAID arrays. *IBM Journal of Research and Development*, 52 (4/5):413–425, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/hafner.html`.

Hofer:2011:LEP

[HDK+11] A. Hofer, K. Duncker, M. Kiel, S. Forster, and W. Widdra. Laser-excited PEEM using a fully tunable fs-laser system. *IBM Journal of Research and Development*, 55(4):4:1–4:8, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hussan:2006:SDM

[HdTR06] J. Hussan, P. P. de Tombe, and J. J. Rice. A spatially detailed myofilament model as a basis for large-scale biological simulations. *IBM Journal of Research and Development*, 50(6): 583–600, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/hussan.html`.

Harrer:2007:HSI

[HDW+07] H. Harrer, D. M. Dreps, T.-M. Winkel, W. Scholz, B. G. Truong, A. Huber, T. Zhou, K. L. Christian, and G. F. Goth. High-speed interconnect and packaging design of the IBM System z9 processor cage. *IBM Journal of Research and Development*, 51(1/2):37–52, January/March 2007. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/harrer.html`.

Hubbard:2010:PSM

[HE10] D. Hubbard and D. Evans. Problems with scoring methods and ordinal scales in risk assessment. *IBM Journal of Research and Development*, 54(3): 2:1–2:10, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heath:1976:DSA

[Hea76] J. S. Heath. Design of a swinging arm actuator for a disk file. *IBM Journal of Research and Development*, 20(4):389–397, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hebel:1964:IRB

[Heb64] L. C. Hebel. Infrared reflectivity of bismuth in the quantum limit. *IBM Journal of Research and Development*, 8(3):284–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hefferon:2001:P

[Hef01] George J. Hefferon. Preface. *IBM Journal of Research and Development*, 45(5): 603–604, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/preface.html; http://www.research.ibm.com/journal/rd/455/preface.pdf`.

Harrison:2010:FSC

[HEH+10] C. Harrison, B. Eckman, R. Hamilton, P. Hartswick, J. Kalagnanam, J. Paraszczak, and P. Williams. Foundations for Smarter Cities. *IBM Journal of Research and Development*, 54(4):1–16, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heidorn:1976:APT

[Hei76] G. E. Heidorn. Automatic programming through natural language dialogue: a survey. *IBM Journal of Research and Development*, 20(4):302–313, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heidelberger:1980:VRT

[Hei80] Philip Heidelberger. Variance reduction techniques for the simulation of Markov processes. I. Multiple estimates. *IBM Journal of Research and Development*, 24(5):570–581, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heinrich:1990:PNO

[Hei90] H. K. Heinrich. Picosecond noninvasive optical detection of internal electrical signals in flip-chip-mounted silicon integrated circuits. *IBM Journal of Research and Develop-*

ment, 34(2/3):162–172, March/ May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heisch:1994:TPR

[Hei94] R. R. Heisch. Trace-directed program restructuring for AIX executables. *IBM Journal of Research and Development*, 38 (5):595–603, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#ten`.

Helinski:1979:HRS

[Hel79] E. F. Helinski. Harmonic-drive ribbon stuffer for impact printers. *IBM Journal of Research and Development*, 23(4):411–414, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hempstead:1974:TIP

[Hem74] R. D. Hempstead. Thermally induced pulses in magnetoresistive heads. *IBM Journal of Research and Development*, 18(6): 547–550, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hennis:1968:IOP

[Hen68] R. B. Hennis. The IBM 1975 optical page reader. I: System design. *IBM Journal of Research and Development*, 12(5): 346–353, September 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hendriks:1983:BCM

[Hen83] Ferdinand Hendriks. Bounce and chaotic motion in impact print hammers. *IBM Journal of Research and Development*, 27(3):273–280, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hertrich:1965:AMT

[Her65] F. R. Hertrich. Average motion times of positioners in random access devices. *IBM Journal of Research and Development*, 9(2):124–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Herrick:1966:SPD

[Her66] C. E. Herrick. Solution of the partial differential equations describing photodecomposition in a light-absorbing matrix having light-absorbing photoproducts. *IBM Journal of Research and Development*, 10(1):2–5, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392099`.

Herz:1972:RCP

[Her72] J. C. Herz. Recursive computational procedure for two-dimensional stock cutting. *IBM Journal of Research and Development*, 16(5):462–469, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Herzog:1975:OSS

[Her75] U. Herzog. Optimal scheduling strategies for real-time computers. *IBM Journal of Research and Development*, 19(5): 494–504, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hess:1999:PAO

[Hes99] D. W. Hess. Plasma-assisted oxidation, anodization, and nitridation of silicon. *IBM Journal of Research and Development*, 43(1/2):127–145, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/hess.html`.

Hernandez:1978:MPR

[HF78] V. M. Hernandez and M. A. Flores. Machine processing of remotely sensed data: Three applications in Mexico. *IBM Journal of Research and Development*, 22(5):455–463, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heiblum:1990:BHT

[HF90] M. Heiblum and M. V. Fischetti. Ballistic hot-electron transistors. *IBM Journal of Research and Development*, 34 (4):530–549, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Heidelberger:1991:TSU

[HF91] P. Heidelberger and P. A. Franaszek. Traffic studies of unbuffered Delta networks. *IBM Journal of Research and Development*, 35(1/2):288–299, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hester:1994:PPP

[HF94] P. D. Hester and W. J. Filip. Preface: Power2 and PowerPC architecture and implementation. *IBM Journal of Research and Development*, 38(5):490–491, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#one`.

Heller:2004:MIZ

[HF04] L. C. Heller and M. S. Farrell. Millicode in an IBM zSeries processor. *IBM Journal of Research and Development*, 48(3/4):425–434, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/heller.html`; `http://www.research.ibm.com/journal/rd/483/heller.pdf`.

Howard:1963:COG

[HFDN63] W. E. Howard, F. F. Fang, F. H. Dill, and M. I. Nathan. CW operation of a GaAs injection laser. *IBM Journal of*

Research and Development, 7 (1):74–75, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392344`.

Hicks:1994:PFU

[HFH94] T. N. Hicks, R. E. Fry, and P. E. Harvey. POWER2 floating-point unit: Architecture and implementation. *IBM Journal of Research and Development*, 38(5):525–536, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#four`.

Hanchett:1983:EMC

[HG83] V. E. Hanchett and R. H. Geiss. Electron microscopy of carbon-loaded polymers. *IBM Journal of Research and Development*, 27(4):348–355, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Himmel:2014:SDS

[HG14] M. A. Himmel and F. Grossman. Security on distributed systems: Cloud security versus traditional IT. *IBM Journal of Research and Development*, 58(1):31–313, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horkans:1993:RRS

[HHA93] J. Horkans, I. C. Hsu Chang, and P. C. Andricacos. A rotating ring-disk stripping technique used to study electroplating of Sn-Pb from methane sulfonic acid solutions. *IBM Journal of Research and Development*, 37(2):97–106, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hewat:1989:ODS

[HHB+89] Alan W. Hewat, Elizabeth A. Hewat, Pierre Bordet, Jean-Jacques Capponi, Catherine Chaillout, Jean Chenavas, Jean-Louis Hodeau, Massimo Marezio, Pierre Strobel, Michel François, Klaus Yvon, Peter Fischer, and J.-L. Tholence. Oxygen "disorder" and the structures of high-T_c superconductors by neutron powder diffraction. *IBM Journal of Research and Development*, 33 (3):220–227, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hu:2018:IHB

[HHC+18] X. Hu, P. Y. S. Hsueh, C. H. Chen, K. M. Diaz, F. E. Parsons, I. Ensari, M. Qian, and Y. K. K. Cheung. An interpretable health behavioral intervention policy for mobile device users. *IBM Journal of Research and Development*, 62 (1):4:1–4:6, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269770/`.

Hannon:1969:COS

[HHF69] D. M. Hannon, D. E. Horne, and K. L. Foster. Computer-controlled optical spectrometer. *IBM Journal of Research and Development*, 13(1):79–86, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huynh:1986:EAF

[HHH86] Tien Huynh, Brent Hailpern, and Lee W. Hoevel. An execution architecture for FP. *IBM Journal of Research and Development*, 30(6):609–616, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horodecki:2004:QII

[HHH04] R. Horodecki, M. Horodecki, and P. Horodecki. Quantum information isomorphism: Beyond the dilemma of the Scylla of ontology and the Charybdis of instrumentalism. *IBM Journal of Research and Development*, 48(1):139–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/horodecki.pdf`.

Held:1984:ATS

[HHJW84] M. Held, A. J. Hoffman, E. L. Johnson, and P. Wolfe. Aspects of the traveling salesman problem. *IBM Journal of Research and Development*, 28 (4):476–486, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Habegger:1966:DLW

[HHM66] M. A. Habegger, T. J. Harris, and E. Max. Dynamic laser wavelength selection. *IBM Journal of Research and Development*, 10(4): 346–350, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392037`.

Harrison:1970:ISP

[HHM70] T. J. Harrison, R. L. Homiak, and G. U. Merckal. IBM System/7 and plant automation. *IBM Journal of Research and Development*, 14(6): 652–661, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hilgendorf:1999:EBP

[HHR99] R. B. Hilgendorf, G. J. Heim, and W. Rosenstiel. Evaluation of branch-prediction methods on traces from commercial applications. *IBM Journal of Research and Development*, 43 (4):579–593, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/hilgendorf.html`.

Heidel:2008:P

[HHR08] D. F. Heidel, J. Hergenrother, and K. P. Rodbells. Pref-

ace. *IBM Journal of Research and Development*, 52(3):223–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/preface.html`.

Hathaway:1996:CPC

[HHSR96] D. J. Hathaway, R. R. Habra, E. C. Schanzenbach, and S. J. Rothman. Circuit placement, chip optimization, and wire routing for IBM IC technology. *IBM Journal of Research and Development*, 40 (4):453–460, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#six`.

Hinsberg:2001:CPA

[HHSW01] W. D. Hinsberg, F. A. Houle, M. I. Sanchez, and G. M. Wallraff. Chemical and physical aspects of the post-exposure baking process used for positive-tone chemically amplified resists. *IBM Journal of Research and Development*, 45(5): 667–682, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/hinsberg.html; http://www.research.ibm.com/journal/rd/455/hinsberg.pdf`.

Haensch:2006:P

[HI06] W. Haensch and M. Ieongs. Preface. *IBM Journal of Research and Development*, 50 (4/5):337–338, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/preface.html`.

Hippert:1970:IDT

[Hip70] R. O. Hippert, Jr. IBM 2790 digital transmission loop. *IBM Journal of Research and Development*, 14(6):662–667, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hiraoka:1977:RCP

[Hir77] Hiroyuki Hiraoka. Radiation chemistry of poly(methacrylates). *IBM Journal of Research and Development*, 21(2):121–130, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hanggi:1988:BAC

[HJ88] Peter Hanggi and Peter Jung. Bistability in active circuits: Application of a novel Fokker–Planck approach. *IBM Journal of Research and Development*, 32(1):119–126, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ho:1994:EHH

[HJ94] C.-T. Ho and S. L. Johnsson. Embedding hyperpyramids into hypercubes. *IBM Journal of Research and Development*, 38

(1):31–45, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html#three`.

Hu:2001:AFP

[HJK+01] E. C. Hu, P. A. Joubert, R. B. King, J. D. LaVoie, and J. M. Tracey. Adaptive Fast Path Architecture. *IBM Journal of Research and Development*, 45 (2):191–206, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/hu.html`.

Himpsel:1998:ESM

[HJS98] F. J. Himpsel, T. A. Jung, and P. F. Seidler. Electronic states in magnetic nanostructures. *IBM Journal of Research and Development*, 42 (1):33–42, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/himpsel.html`.

Hu:2016:SMC

[HJW+16] X. Hu, J. Jang, T. Wang, Z. Ashraf, M. Ph. Stoecklin, and D. Kirat. Scalable malware classification with multifaceted content features and threat intelligence. *IBM Journal of Research and Development*, 60(4):6:1–6:11, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523365/`.

Hall:1964:TPB

[HK64] J. J. Hall and S. H. Koenig. Transport properties and band structure in bismuth, antimony and their alloys. *IBM Journal of Research and Development*, 8(3):241–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hayes:2013:RTS

[HKA+13] J. P. Hayes, H. R. Kolar, A. Akhriev, M. G. Barry, M. E. Purcell, and E. P. McKeown. A real-time stream storage and analysis platform for underwater acoustic monitoring. *IBM Journal of Research and Development*, 57(3/4):15:1–15:10, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Holloway:2006:MLM

[HKD06] D. T. Holloway, M. A. Kon, and C. DeLisi. Machine learning methods for transcription data integration. *IBM Journal of Research and Development*, 50(6):631–643, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/holloway.html`.

Hallock:1997:SCP

[HKLM97] G. G. Hallock, E. J. Kaminski,

Jr., K. M. Lasko, and M. P. Mullen. SimAPI — a common programming interface for simulation. *IBM Journal of Research and Development*, 41 (4/5):601–610, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/hallock.html`.

Hirsch:1986:IKB

[HKM+86] P. Hirsch, W. Katke, M. Meier, S. Snyder, and R. Stillman. Interfaces for knowledge-base builders' control knowledge and application-specific procedures. *IBM Journal of Research and Development*, 30(1):29–38, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huott:1997:AMT

[HKR+97] W. V. Huott, T. J. Koprowski, B. J. Robbins, M. P. Kusko, S. V. Pateras, D. E. Hoffman, T. G. McNamara, and T. J. Snethen. Advanced microprocessor test strategy and methodology. *IBM Journal of Research and Development*, 41 (4/5):611–627, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/huott.html`.

Hlawacek:2011:DSG

[HKvG+11] G. Hlawacek, F. S. Khokar, R. van Gastel, C. Teichert, and B. Poelsema. Diffusion and submonolayer growth of para-sexiphenyl on Ir(111) and Ir(111)-supported graphene. *IBM Journal of Research and Development*, 55(4):15:1–15:7, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hassitt:1972:EEA

[HL72] A. Hassitt and L. E. Lyon. Efficient evaluation of array subscripts of arrays. *IBM Journal of Research and Development*, 16(1):45–57, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Herbst:1977:ASV

[HL77] Noel M. Herbst and Chao-Ning N. Liu. Automatic signature verification based on accelerometry. *IBM Journal of Research and Development*, 21 (3):245–253, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Houser:1983:ATW

[HL83] D. E. Houser and K. J. Lubert. Automated twisted-pair wire bonding. *IBM Journal of Research and Development*, 27(6):598–606, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harrison:1981:ESR

[HLS81] Thomas J. Harrison, Bruce W. Landeck, and Hal K. St. Clair. Evolution of small real-time

IBM computer systems. *IBM Journal of Research and Development*, 25(5):441–452 (or 441–451??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hennessy:2009:DCS

[HLZ+09] S. D. Hennessy, G. D. Lauer, N. Zunic, B. Gerber, and A. C. Nelson. Data-centric security: Integrating data privacy and data security. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/hennessy.html`.

Ham:1960:EPT

[HM60] F. S. Ham and D. C. Mattis. Electrical properties of thin-film semiconductors. *IBM Journal of Research and Development*, 4(2):143–151, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392543`.

Hoffman:1971:SMR

[HM71] R. L. Hoffman and J. W. McCullough. Segmentation methods for recognition of machine-printed characters. *IBM Journal of Research and Development*, 15(2):153–165, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hoffman:1987:MC

[HM87] Alan J. Hoffman and Willard L. Miranker, editors. *Mathematics and Computing*, volume 31(2) of *IBM Journal of Research and Development*. IBM Corporation, Armonk, NY, USA, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

He:1989:EQP

[HM89] Shanjin He and Julian D. Maynard. Effects of quasiperiodic (Penrose tile) symmetry on the eigenvalues and eigenfunctions of the wave equation. *IBM Journal of Research and Development*, 33(4):456–463, July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hokenek:1990:LZA

[HM90] E. Hokenek and R. K. Montoye. Leading-zero anticipator (LZA) in the IBM RISC System/6000 floating-point execution unit. *IBM Journal of Research and Development*, 34 (1):71–77, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401H.pdf`.

Holmes:1997:MDL

[HMH97] S. J. Holmes, P. H. Mitchell, and M. C. Hakey. Manufactur-

ing with DUV lithography. *IBM Journal of Research and Development*, 41(1/2):7–19, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/holmes.html`.

Huang:2001:QCD

[HMK01] L. Huang, L. Massa, and J. Karle. Quantum crystallography, a developing area of computational chemistry extending to macromolecules. *IBM Journal of Research and Development*, 45(3/4):409–416, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/huang.html; http://www.research.ibm.com/journal/rd/453/huang.pdf`.

Halverson:1982:MSL

[HMM82] R. M. Halverson, M. W. MacIntyre, and W. T. Motsiff. The mechanism of single-step liftoff with chlorobenzene in a diazotype resist. *IBM Journal of Research and Development*, 26(5): 590–595, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hachtel:1981:SAUb

[HMO81] G. D. Hachtel, M. H. Mack, and R. R. O'Brien. Semiconductor analysis using finite elements. II. IGFET and BJT case studies. *IBM Journal of Research and Development*, 25 (4):246–260, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hachtel:1981:SAUa

[HMOS81] G. D. Hachtel, M. H. Mack, R. R. O'Brien, and B. Speelpenning. Semiconductor analysis using finite elements. I. Computational aspects. *IBM Journal of Research and Development*, 25(4):232–245, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hortensius:1990:CAC

[HMP90] P. D. Hortensius, R. D. McLeod, and B. W. Podaima. Cellular automata circuits for built-in self-test. *IBM Journal of Research and Development*, 34(2/3):389–405, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hogan:2011:USE

[HMP+11] J. Hogan, J. Meegan, R. Parmar, V. Narayan, and R. J. Schloss. Using standards to enable the transformation to smarter cities. *IBM Journal of Research and Development*, 55 (1–2):4:1–4:10, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hodgson:1982:LAC

[HMR82] R. T. Hodgson, Andre B. Minn, and James D. Rockrohr. Laser-induced arcing in cathode ray tubes. *IBM Journal of Research and Development*, 26(2):

235–241, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hanan:1974:ITL

[HMW74] M. Hanan, A. Mennone, and P. K. Wolff, Sr. Iterative-interactive technique for logic partitioning. *IBM Journal of Research and Development*, 18 (4):328–337, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haensch:2006:SCD

[HND+06] W. Haensch, E. J. Nowak, R. H. Dennard, P. M. Solomon, A. Bryant, O. H. Dokumaci, A. Kumar, X. Wang, J. B. Johnson, and M. V. Fischetti. Silicon CMOS devices beyond scaling. *IBM Journal of Research and Development*, 50 (4/5):339–362, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/haensch.html`. See erratum [Ano06b].

Hofstee:2007:P

[HNRiC07] H. P. Hofstee, A. K. Nandas, J. J. Ritsko, and Editor in Chief. Preface. *IBM Journal of Research and Development*, 51(5):501–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/preface.html`.

Harame:2003:DAM

[HNS+03] D. L. Harame, K. M. Newton, R. Singh, S. L. Sweeney, S. E. Strang, J. B. Johnson, S. M. Parker, C. E. Dickey, M. Erturk, G. J. Schulberg, D. L. Jordan, D. C. Sheridan, M. P. Keene, J. Boquet, R. A. Groves, M. Kumar, D. A. Herman, Jr., and B. S. Meyerson. Design automation methodology and rf/analog modeling for rf CMOS and SiGe BiCMOS technologies. *IBM Journal of Research and Development*, 47 (2/3):139–175, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/harame.pdf`.

Ho:1966:TAS

[Ho66] C. Y. Ho. Tensor analysis of spatial mechanisms. *IBM Journal of Research and Development*, 10(3):207–212, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392072`.

Ho:1973:TCA

[Ho73] C. W. Ho. Theory and computer-aided analysis of lossless transmission lines. *IBM Journal of Research and Development*, 17(3):249–255, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ho:1975:MNA

[Ho75a] C. W. Ho. Modified nodal approach to DC network sensitivity computation. *IBM Journal of Research and Development*, 19(6):565–574, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hong:1975:CSA

[HO75b] S. J. Hong and D. L. Ostapko. Codes for self-clocking, AC-coupled transmission: Aspects of synthesis and analysis. *IBM Journal of Research and Development*, 19(4):358–365, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hsieh:1996:PIA

[HO96] E. P. Hsieh and M. D. O'Neill. Preface: IBM ASIC design and testing. *IBM Journal of Research and Development*, 40(4):376, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#one`.

Hoagland:1958:HRM

[Hoa58] A. S. Hoagland. High-resolution magnetic recording structures. *IBM Journal of Research and Development*, 2 (2):90–104, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392666`.

Hoagland:1961:HTD

[Hoa61] A. S. Hoagland. A high track-density servo-access system for magnetic recording disk storage. *IBM Journal of Research and Development*, 5(4): 287–296, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392390`.

Hoagland:2000:HTD

[Hoa00] A. S. Hoagland. A high track-density servo-access system for magnetic recording disk storage. *IBM Journal of Research and Development*, 44(1/2):175–185, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/hoagland.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Hoffman:1960:ECC

[Hof60] A. J. Hoffman. On the exceptional case in a characterization of the arcs of a complete graph. *IBM Journal of Research and Development*, 4 (5):487–496, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392462`.

Hohl:1978:VPS

[Hoh78] J. H. Hohl. Variational principles for semiconductor device modeling with finite elements. *IBM Journal of Research and Development*, 22(2): 159–167, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Holmes:1978:RCN

[Hol78] W. N. Holmes. Representation for complex numbers. *IBM Journal of Research and Development*, 22(4):429–430, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Honig:1970:LIE

[Hon70] J. M. Honig. Localized and itinerant electrons in oxides. *IBM Journal of Research and Development*, 14(3):232–244, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hopner:1959:EMD

[Hop59] E. Hopner. An experimental modulation-demodulation scheme for high-speed data transmission. *IBM Journal of Research and Development*, 3 (1):74–84, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392593`.

Hopner:1961:PRD

[Hop61] E. Hopner. Phase reversal data transmission system for switched and private telephone line applications. *IBM Journal of Research and Development*, 5(2):93–105, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392435`.

Horton:1957:GTM

[Hor57] J. W. Horton. A general theory of multiple spin echoes. *IBM Journal of Research and Development*, 1(1): 93–95, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392724`.

Horton:1962:ESE

[Hor62] J. W. Horton. Experimental study of electron-beam driven semiconductor devices for use in a digital memory. *IBM Journal of Research and Development*, 6(4):437–448, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392318`.

Horton:1976:WFD

[Hor76] John W. Horton. Walsh functions for digital impedance relaying of power lines. *IBM*

Journal of Research and Development, 20(6):530–541, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horkans:1993:PES

[Hor93] J. Horkans. Preface: Electrochemical science and technology. *IBM Journal of Research and Development*, 37(2):83–84, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horkans:1998:PMM

[Hor98] J. Horkans. Polarographic methods of monitoring addition agents in the electroplating of Sn-Pb solders. *IBM Journal of Research and Development*, 42 (5):621–628, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/horkans.html`.

Horn:2000:PDI

[Hor00] Paul M. Horn. Preface: Directions in information technology. *IBM Journal of Research and Development*, 44(3):310, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/preface.html`.

Hosking:1994:FKD

[Hos94] J. R. M. Hosking. The four-parameter kappa distribution. *IBM Journal of Research and Development*, 38(3): 251–258, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#three`.

Hovel:1978:NMD

[Hov78] H. J. Hovel. Novel materials and devices for sunlight concentrating systems. *IBM Journal of Research and Development*, 22(2):112–121, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Howard:1982:OIA

[How82] Robert T. Howard. Optimization of indium-lead alloys for controlled collapse chip connection application. *IBM Journal of Research and Development*, 26(3):372–378, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Howell:1984:ACE

[How84] Thomas D. Howell. Analysis of correctable errors in the IBM 3380 disk file. *IBM Journal of Research and Development*, 28 (2):206–211, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Howell:1989:SPS

[How89] Thomas D. Howell. Statistical properties of selected recording codes. *IBM Journal of Research and Development*, 33 (1):60–73 (or 15–32??), January 1989. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Howard:1992:TFT

[How92] W. E. Howard. Thin-film-transistor/liquid crystal display technology — an introduction. *IBM Journal of Research and Development*, 36(1):3–10, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Humenik:1992:LDC

[HOWP92] J. N. Humenik, J. M. Oberschmidt, L. L. Wu, and S. G. Paull. Low-inductance decoupling capacitor for the thermal conduction modules of the IBM Enterprise System/9000 processors. *IBM Journal of Research and Development*, 36(5): 935–942, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hanan:1963:ACT

[HP63] M. Hanan and F. P. Palermo. An application of coding theory to a file address problem. *IBM Journal of Research and Development*, 7(2): 127–129, April 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392288`.

Hasty:1966:ASP

[HP66] C. E. Hasty and J. F. Potts. Analysis and synthesis procedures for Geneva mechanism design. *IBM Journal of Research and Development*, 10(3): 186–197, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392070`.

Hall:1984:CNC

[HP84a] N. R. Hall and S. Preiser. Combined network complexity measures. *IBM Journal of Research and Development*, 28(1):15–27, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hopner:1984:DDE

[HP84b] E. Hopner and M. A. Patten. Digital data exchange — a space-division switching system. *IBM Journal of Research and Development*, 28(4):444–453, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Howard:2001:MBU

[HP01] W. E. Howard and O. F. Prache. Microdisplays based upon organic light-emitting diodes. *IBM Journal of Research and Development*, 45(1): 115–128, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/howard.html`.

Harrer:2002:FSL

[HPW+02] H. Harrer, H. Pross, T.-M. Winkel, W. D. Becker, H. I. Stoller, M. Yamamoto, S. Abe, B. J. Chamberlin, and G. A. Katopis. First- and second-level packaging for the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):397–420, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/harrer.html`; `http://www.research.ibm.com/journal/rd/464/harrer.pdf`.

Harrison:2011:PSC

[HPW11] C. Harrison, J. Paraszczak, and R. P. Williams. Preface: Smarter cities. *IBM Journal of Research and Development*, 55 (1–2):0:1–0:5, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harris:1981:IDM

[HPWW81] J. P. Harris, W. B. Phillips, J. F. Wells, and W. D. Winger. Innovations in the design of magnetic tape subsystems. *IBM Journal of Research and Development*, 25(5):691–699 (or 691–670??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hughes:2005:BMM

[HPZ+05] J. E. Hughes, P. S. Patel, I. R. Zapata, T. D. Pahel, Jr., J. P. Wong, D. M. Desai, and B. D. Herrman. BladeCenter midplane and media interface card. *IBM Journal of Research and Development*, 49(6): 823–836, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/patel.html`.

Heidel:2008:API

[HRC+08] D. F. Heidel, K. P. Rodbell, E. H. Cannon, C. Cabral, Jr., M. S. Gordon, P. Oldiges, and H. H. K. Tang. Alpha-particle-induced upsets in advanced CMOS circuits and technology. *IBM Journal of Research and Development*, 52(3):225–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/heidel.html`.

Herger:2017:EES

[HRF+17] L. M. Herger, W. J. Rippon, C. A. Fonseca, W. Pointer, B. M. Belgodere, W. H. Cornejo, and M. J. Frissora. End-to-end service data analysis: Efficiencies achieved across the enterprise. *IBM Journal of Research and Development*, 61 (1):1:5–1:16, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877285/`.

Ho:1980:CIT

[HRG80] Irving T. Ho, Jacob Riseman, and Herbert L. Greenhaus. A charge injection transistor memory cell. *IBM Journal of Research and Development*, 24(3):410–413, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hu:1995:ESV

[HRS+95] C.-K. Hu, K. P. Rodbell, T. D. Sullivan, K. Y. Lee, and D. P. Bouldin. Electromigration and stress-induced voiding in fine Al and Al-alloy thin-film lines. *IBM Journal of Research and Development*, 39 (4):465–497, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#seven`.

Hu:2007:SMA

[HRS07] J. Hu, B. K. Ray, and M. Singh. Statistical methods for automated generation of service engagement staffing plans. *IBM Journal of Research and Development*, 51(3/4):281–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/hu.html`.

Hill:1969:GMO

[HRW69] Y. M. Hill, N. O. Reckord, and D. R. Winner. A general method for obtaining impedance and coupling characteristics of practical microstrip and triplate transmission line configurations. *IBM Journal of Research and Development*, 13(3):314–322, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hood:1987:AAI

[HRWZ87] Sarah J. Hood, Ronald C. Rosenberg, David H. Wither, and Tong Zhou. An algorithm for automatic identification of R-fields in bond graphs. *IBM Journal of Research and Development*, 31(3):382–390, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

He:2014:IBR

[HRZ14] M. He, C. Ren, and H. Zhang. Intent-based recommendation for B2C e-commerce platforms. *IBM Journal of Research and Development*, 58(5/6):5:1–5:10, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hoffman:1960:MGD

[HS60] A. J. Hoffman and R. R. Singleton. On Moore graphs with diameters 2 and 3. *IBM Journal of Research and Development*, 4(5):497–504, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392463.

Hellerman:1961:MAC

[HS61] L. Hellerman and E. J. Skiko. Methods of analysis of circuit transient performance. *IBM Journal of Research and Development*, 5(1): 33–43, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392475.

Howard:1971:ADD

[HS71] J. K. Howard and P. J. Smith. Analysis of defect distribution in transistor structures with reflection and transmission X-ray topography. *IBM Journal of Research and Development*, 15 (2):123–131, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hamacher:1981:CLA

[HS81a] V. Carl Hamacher and Gerald S. Shedler. Collision-free local area bus network performance analysis. *IBM Journal of Research and Development*, 25(6):904–914, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huon:1981:NPA

[HS81b] Simon Huon and Robert Smith. Network problem-determination aids in microprocessor-based modems. *IBM Journal of Research and Development*, 25(1):3–16, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hofmann:1982:PAS

[HS82] J. Hofmann and H. Schmutz. Performance analysis of suspend locks in operating systems. *IBM Journal of Research and Development*, 26(2): 242–259, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haas:1985:RSM

[HS85] Peter J. Haas and Gerald S. Shedler. Regenerative simulation methods for local area computer networks. *IBM Journal of Research and Development*, 29 (2):194–205, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hummel:1991:LSN

[HS91] S. F. Hummel and E. Schonberg. Low-overhead scheduling of nested parallelism. *IBM Journal of Research and Development*, 35(5/6):743–765, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hsu:2004:PIO

[HS04] W. W. Hsu and A. J. Smith. The performance impact of I/O optimizations and disk improvements. *IBM Journal of Research and Development*, 48

(2):255–289, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/hsu.html`; `http://www.research.ibm.com/journal/rd/482/hsu.pdf`.

Huestis:2011:CLC

[HS11] E. M. Huestis and J. L. Snowdon. Complexity of legacy city resource management and value modeling of interagency response. *IBM Journal of Research and Development*, 55(1–2):1:1–1:12, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horrall:2014:ERI

[HS14] D. Horrall and Y. Siddiqui. Evaluating risk: IBM's country financial risk and treasury risk scorecards. *IBM Journal of Research and Development*, 58(4):2:1–2:9, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Hitchcock:1982:TAC

[HSC82] Robert B. Hitchcock, Sr., Gordon L. Smith, and David D. Cheng. Timing analysis of computer hardware. *IBM Journal of Research and Development*, 26(1):100–105, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hunter:2005:BN

[HSCG05] S. W. Hunter, N. C. Strole, D. W. Cosby, and D. M. Green. BladeCenter networking. *IBM Journal of Research and Development*, 49(6):905–919, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/hunter.html`.

Ho:1988:DBA

[HSH+88] P. S. Ho, B. D. Silverman, R. A. Haight, R. C. White, P. N. Sanda, and A. R. Rossi. Delocalized bonding at the metal-polymer interface. *IBM Journal of Research and Development*, 32(5):658–668, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hsiao:1970:COM

[Hsi70] M. Y. Hsiao. Class of optimal minimum odd-weight-column SEC-DED codes. *IBM Journal of Research and Development*, 14(4):395–401, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hsiao:1999:FMR

[Hsi99] R. Hsiao. Fabrication of magnetic recording heads and dry etching of head materials. *IBM Journal of Research and Development*, 43(1/2):89–102, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/hsiao.html`.

Hughes:2005:BPB

[HSL+05] J. E. Hughes, M. L. Scollard, R. Land, J. Parsonese, C. C. West, V. A. Stankevich, C. L. Purrington, D. Q. Hoang, G. R. Shippy, M. L. Loeb, M. W. Williams, B. A. Smith, and D. M. Desai. BladeCenter processor blades, I/O expansion adapters, and units. *IBM Journal of Research and Development*, 49(6):837–859, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/hughes.html`.

He:2010:MIS

[HSL+10] G. He, Y. Sun, Q. Lu, T. Li, H. Lv, W. Yin, and J. Dong. Multi-index and self-approximate-optimal operation for a smart electrical power grid. *IBM Journal of Research and Development*, 54(6):2:1–2:14, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Horkans:1984:IEC

[HSM84] Jean Horkans, Carlos Sambucetti, and Voya Markovich. Initiation of electroless Cu plating on nonmetallic surfaces. *IBM Journal of Research and Development*, 28(6):690–696, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huang:2010:FBL

[HSS+10] Y. Huang, H. Su, W. Sun, J. M. Zhang, C. J. Guo, J. M. Xu, Z. B. Jiang, S. X. Yang, and J. Zhu. Framework for building a low-cost, scalable, and secured platform for Web-delivered business services. *IBM Journal of Research and Development*, 54(6): 4:1–4:14, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hiramoto:2006:ENS

[HST06] T. Hiramoto, M. Saitoh, and G. Tsutsui. Emerging nanoscale silicon devices taking advantage of nanostructure physics. *IBM Journal of Research and Development*, 50(4/5):411–418, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/hiramoto.html`.

Hu:1969:SDA

[HT69] T. C. Hu and W. T. Torres. Shortcut in the decomposition algorithm for shortest paths in a network. *IBM Journal of Research and Development*, 13 (4):387–390, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Helander:2016:PFS

[HT16] M. Helander and A. Topol. Preface: Food safety, security, and defense. *IBM Jour-*

nal of Research and Development, 60(5–6):0:1–0:3, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haynie:2009:ISZ

[HTH+09] H. M. Haynie, J. M. Turner, J. C. Hanscom, M. Cadigan, Jr., N. Hadzic, D. Di Genova, J. Aylward, S. W. Salisbury, P. Sciuto, T. D. Needham, C. E. Bubb, and R. B. Tremaine. IBM System z10 open systems adapter Ethernet data router. *IBM Journal of Research and Development*, 53 (1):8:1–8:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/haynie.pdf`.

Huang:1979:RPM

[Hua79] Ting C. Huang. Rapid and precise method for analysis of energy dispersive X-ray spectra. *IBM Journal of Research and Development*, 23(2):206–213, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hudson:1963:STA

[Hud63] F. J. Hudson. Synthesis of transfer admittance functions using active components. *IBM Journal of Research and Development*, 7(1): 40–43, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392335`.

Hudson:1976:LST

[Hud76] Frederick J. Hudson. Large Space Telescope. *IBM Journal of Research and Development*, 20(1):67–74, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huisman:1990:SEM

[Hui90] Leendert M. Huisman. Simulation of embedded memories by defective hashing. *IBM Journal of Research and Development*, 34(2/3):289–298, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hunter:1959:DMA

[Hun59] L. P. Hunter. Direct measurement of the angular dependence of the imaginary part of the atomic scattering factor of germanium. *IBM Journal of Research and Development*, 3 (2):106–113, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392600`.

Hunziker:1971:NTG

[Hun71] H. E. Hunziker. A new technique for gas-phase kinetic spectroscopy of molecules in the triplet state. *IBM Journal of Research and Development*, 15

(1):10–26, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huth:1974:CSD

[Hut74] B. G. Huth. Calculations of stable domain radii produced by thermomagnetic writing. *IBM Journal of Research and Development*, 18(2):100–109, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Harder:1990:HGA

[HVK+90] Ch. S. Harder, B. J. Van Zeghbroeck, M. P. Kesler, H. P. Meier, P. Vettiger, D. J. Webb, and P. Wolf. High-speed GaAs/AlGaAs optoelectronic devices for computer applications. *IBM Journal of Research and Development*, 34(4):568–584, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hamann:2009:UEE

[HvKI+09] H. F. Hamann, T. G. van Kessel, M. Iyengar, J.-Y. Chung, W. Hirt, M. A. Schappert, A. Claassen, J. M. Cook, W. Min, Y. Amemiya, V. López, J. A. Lacey, and M. O'Boyle. Uncovering energy-efficiency opportunities in data centers. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/hamann.html`.

Hoffman:1972:FAS

[HW72] A. J. Hoffman and S. Winograd. Finding all shortest distances in a directed network. *IBM Journal of Research and Development*, 16(4):412–414, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Heidelberger:1981:ASM

[HW81] Philip Heidelberger and Peter D. Welch. Adaptive spectral methods for simulation output analysis. *IBM Journal of Research and Development*, 25(6):860–876, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Huang:1987:SDT

[HW87] Ching-Chao Huang and Leon L. Wu. Signal degradation through module pins in VLSI packaging. *IBM Journal of Research and Development*, 31(4):489–498, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Haas:2012:IIZ

[HW12] J. Haas and R. Wallner. Introduction: IBM zEnterprise systems and technology. *IBM Journal of Research and Development*, 56(1–2):0:1–0:6, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Herzog:1975:SQP

[HWC75] U. Herzog, L. Woo, and K. M. Chandy. Solution of queueing problems by a recursive technique. *IBM Journal of Research and Development*, 19(3):295–300, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Papers on system performance evaluation.

Hohn:1988:AEL

[HWC88] F. J. Hohn, Alan D. Wilson, and Philip Coane. Advanced electron-beam lithography for 0.5-μm to 0.25-μm device fabrication. *IBM Journal of Research and Development*, 32(4):514–522, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hauge:1984:ASC

[HY84] Peter S. Hauge and Ellen J. Yoffa. ACORN: a system for CVS macro design by tree placement and tree customization. *IBM Journal of Research and Development*, 28(5):596–602, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Hellman:2003:ITS

[HYA03] D. J. Hellman, R. Yardy, and P. E. Abbott. Innovations in tape storage automation at IBM. *IBM Journal of Research and Development*, 47(4):445–452, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/hellman.pdf`.

Hanson:2006:UVM

[HZB+06] S. Hanson, B. Zhai, K. Bernstein, D. Blaauw, A. Bryant, L. Chang, K. K. Das, W. Haensch, E. J. Nowak, and D. M. Sylvester. Ultralow-voltage, minimum-energy CMOS. *IBM Journal of Research and Development*, 50(4/5):469–490, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/hanson.html`.

Heng:2016:IAS

[HZG+16] F. Heng, K. Zhang, A. Goyal, H. Chaudhary, S. Hirsch, Y. Kim, M. A. Lavin, and A. Raman. Integrated analytics system for electric industry asset management. *IBM Journal of Research and Development*, 60(1):2:1–2:12, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Im:1964:GPG

[IBC64] S. S. Im, J. H. Butler, and D. A. Chance. Glass-passivated GaAs chip tunnel diode. *IBM Journal of Research and Development*, 8(5):527–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Iben:2003:HRA

[Ibe03] I. E. T. Iben. Head reliability of AMR sensors based on thermal stress tests. *IBM Journal of Research and Development*, 47 (4):415–428, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/iben.pdf`.

IBGT:2008:OIB

[IBM08] IBM Blue Gene team. Overview of the IBM Blue Gene/P Project. *IBM Journal of Research and Development*, 52 (1/2):199–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/team.html`.

Team:2013:DIB

[IBM13a] IBM Blue Gene Team. Design of the IBM Blue Gene/Q compute chip. *IBM Journal of Research and Development*, 57 (1/2):1:1–1:13, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Team:2013:IBG

[IBM13b] IBM Blue Gene Team. The IBM Blue Gene project. *IBM Journal of Research and Development*, 57(1/2):0:1–0:6, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Team:2013:MVC

[IBM13c] IBM Blue Gene Team. Modeling, validation, and co-design of IBM Blue Gene/Q: Tools and examples. *IBM Journal of Research and Development*, 57 (1/2):6:1–6:12, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Iyer:2005:EDT

[IBP+05] S. S. Iyer, J. E. Barth, Jr., P. C. Parries, J. P. Norum, J. P. Rice, L. R. Logan, and D. Hoyniak. Embedded DRAM: Technology platform for the Blue Gene/L chip. *IBM Journal of Research and Development*, 49 (2/3):333–350, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/iyer.pdf`.

Irwin:1971:IMT

[ICO71] J. W. Irwin, J. V. Cassie, and H. C. Oppeboen. The IBM 3803/3420 magnetic tape subsystem. *IBM Journal of Research and Development*, 15(5): 391–400, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Iyer:2011:NSI

[IFB+11] S. S. Iyer, G. Freeman, C. Brodsky, A. I. Chou, D. Corliss, S. H. Jain, N. Lustig, V. McGahay, S. Narasimha, J. Norum, K. A. Nummy, P. Parries, S. Sankaran, C. D. Sheraw,

P. R. Varanasi, G. Wang, M. E. Weybright, X. Yu, E. Crabbe, and P. Agnello. 45-nm silicon-on-insulator CMOS technology integrating embedded DRAM for high-performance server and ASIC applications. *IBM Journal of Research and Development*, 55(3):5:1–5:14, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Iyer:2019:SIF

[IJV19] S. S. Iyer, S. Jangam, and B. Vaisband. Silicon interconnect fabric: a versatile heterogeneous integration platform for AI systems. *IBM Journal of Research and Development*, 63(6):5:1–5:16, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Isaac:2000:PEI

[IK00] R. D. Isaac and J. A. Kash. Preface: Evolution of information technology 1957–1999. *IBM Journal of Research and Development*, 44(1/2):3–5, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/preface.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Iben:2003:SST

[ILH03] I. E. T. Iben, Y.-M. Lee, and W. D. Hsiao. Steady-state thermal characteristics of AMR read/write heads used in tape storage drives. *IBM Journal of Research and Development*, 47 (4):401–414, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/lee.pdf`.

Ittner:1957:SCR

[IM57] W. B. Ittner III and P. J. Magill. A survey of contact resistance theory for nominally clean surfaces. *IBM Journal of Research and Development*, 1(1):44–48, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392716`.

Ingham:1960:DCE

[IM60] H. S. Ingham and P. J. McDade. Dislocation content in epitaxially vapor-grown Ge crystals [letter to the editor]. *IBM Journal of Research and Development*, 4(3): 302–304, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392499`.

Iorio:2010:AFC

[IMC+10] F. Iorio, K. Müller, A. Castelfranco, O. Callanan, and T. Sanuki. Asymmetric flow control for data trans-

fer in hybrid computing systems. *IBM Journal of Research and Development*, 54(1): ??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/iorio-callanan.html`.

Isom:2010:IEA

[IMSV10] P. K. Isom, S. L. Miller-Sylvia, and S. Vaidya. Intelligent Enterprise Architecture. *IBM Journal of Research and Development*, 54(4):1–2, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Inselberg:1976:CSI

[Ins76] A. Inselberg. Cubic splines with infinite derivatives at some knots. *IBM Journal of Research and Development*, 20(5): 430–436, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Inselberg:1977:VGC

[Ins77] Alfred Inselberg. Variable geometry cochlear model at low input frequencies: a basis for compensating morphological disorders. *IBM Journal of Research and Development*, 21(5):461–478, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Irvin:1989:PIC

[Irv89] D. R. Irvin. Preserving the integrity of cyclic-redundancy checks when protected text is intentionally altered. *IBM Journal of Research and Development*, 33(6):618–626, November 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Irvin:1991:MPC

[Irv91] D. R. Irvin. Monitoring the performance of commercial T1-rate transmission service. *IBM Journal of Research and Development*, 35(5/6): 805–814, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Irvin:1993:MCD

[Irv93] D. R. Irvin. Modeling the cost of data communication for multi-node computer networks operating in the United States. *IBM Journal of Research and Development*, 37 (4):537–546, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Irvin:2001:ESC

[Irv01] D. R. Irvin. Embedding a secondary communication channel transparently within a cyclic redundancy check (CRC). *IBM Journal of Research and Development*, 45(6):789–796, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/456/irvin.html`; `http:`

//www.research.ibm.com/journal/rd/456/irvin.pdf.

Iglehart:1983:SNM

[IS83a] Donald L. Iglehart and Gerald S. Shedler. Simulation of non-Markovian systems. *IBM Journal of Research and Development*, 27(??):472–480, 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Iglehart:1983:SNS

[IS83b] Donald L. Iglehart and Gerald S. Shedler. Simulation of non-Markovian systems. *IBM Journal of Research and Development*, 27(5):472–480, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Islam:2020:BHP

[IS20] R. Islam and G. Shah. Building a high-performance resilient scalable storage cluster for CORAL using IBM ESS. *IBM Journal of Research and Development*, 64(3/4):4:1–4:9, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Isaac:2000:FCT

[Isa00] R. D. Isaac. The future of CMOS technology. *IBM Journal of Research and Development*, 44(3):369–378, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/443/isaac.html.

Ismail:2000:BPH

[Ism00] I. A. Saroit Ismail. Bandwidth problems in high-speed networks. *IBM Journal of Research and Development*, 44(6):919–938, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/446/ismail.html.

Isci:2016:PMC

[ISV16] C. Isci, V. Salapura, and M. Vukovic. Preface: Managed cloud services. *IBM Journal of Research and Development*, 60(2–3):0:1–0:4, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ito:1997:CAR

[Ito97] H. Ito. Chemical amplification resists: History and development within IBM. *IBM Journal of Research and Development*, 41(1/2):69–80, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/411/ito.html.

Ito:2000:CAR

[Ito00] H. Ito. Chemical amplification resists: History and development within IBM. *IBM Journal of Research and Development*, 44(1/2):119–130,

January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/ito.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Ito:2001:DBC

[Ito01] H. Ito. Dissolution behavior of chemically amplified resist polymers for 248-, 193-, and 157-nm lithography. *IBM Journal of Research and Development*, 45(5):683–695, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/ito.html; http://www.research.ibm.com/journal/rd/455/ito.pdf`.

Ikbal:2015:EPR

[ITS+15] S. Ikbal, A. Tamhane, B. Sengupta, M. Chetlur, S. Ghosh, and J. Appleton. On early prediction of risks in academic performance for students. *IBM Journal of Research and Development*, 59(6):5:1–5:14, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jain:2019:NNA

[JAC+19] S. Jain, A. Ankit, I. Chakraborty, T. Gokmen, M. Rasch, W. Haensch, K. Roy, and A. Raghunathan. Neural network accelerator design with resistive crossbars: Opportunities and challenges. *IBM Journal of Research and Development*, 63 (6):10:1–10:13, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

James:1981:ERT

[Jam81] S. E. James. Evolution of real-time computer systems for manned spaceflight. *IBM Journal of Research and Development*, 25(5):417–428, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jamieson:1989:SNR

[Jam89] M. J. Jamieson. Short notes: Rapidly converging iterative formulae for finding square roots and their computational efficiencies. *The Computer Journal*, 32(1):93–94, February 1989. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL `http://comjnl.oxfordjournals.org/content/32/1/93.full.pdf+html; http://www3.oup.co.uk/computer_journal/hdb/Volume_32/Issue_01/tiff/93.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_32/Issue_01/tiff/94.tif`.

Janak:1969:TEC

[Jan69] J. F. Janak. Thermal expansion in a constrained elastic cylinder. *IBM Journal of Research and Development*, 13 (3):323–330, May 1969. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jaquette:2003:LBF

[Jaq03] G. A. Jaquette. LTO: a better format for mid-range tape. *IBM Journal of Research and Development*, 47(4):429–444, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/jaquette.pdf`.

Johns:2007:ICB

[JB07] C. R. Johns and D. A. Brokenshire. Introduction to the Cell Broadband Engine architecture. *IBM Journal of Research and Development*, 51(5): 503–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/johns.html`.

Jeppesen:1963:PLF

[JC63] R. H. Jeppesen and H. L. Caswell. Prenucleation of lead films with copper, gold, and silver. *IBM Journal of Research and Development*, 7(4): 297–302, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392256`.

Jones:2000:FRS

[JC00] C. T. Jones and R. Celi. Frequency response sensitivity functions for helicopter frequency domain system identification. *IBM Journal of Research and Development*, 44(5): 748–757, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/jones.pdf`.

Joshi:1966:DID

[JD66] M. L. Joshi and S. Dash. Dislocation-induced deviation of phosphorus-diffusion profiles in silicon. *IBM Journal of Research and Development*, 10 (6):446–454, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392004`.

Joshi:1967:PPA

[JD67] M. L. Joshi and S. Dash. Precipitation of phosphorus, arsenic, and boron in thin silicon foils. *IBM Journal of Research and Development*, 11(3): 271–283, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391992`.

Jann:2010:ASE

[JDBP10] J. Jann, N. Dubey, R. S. Burugula, and P. Pattnaik. AHAFS subsystem for enhancing operating system health in the cloud computing era. *IBM*

Journal of Research and Development, 54(5):6:1–6:11, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jeenel:1958:PTR

[Jee58] J. Jeenel. Programs as a tool for research in systems organization. *IBM Journal of Research and Development*, 2(2): 105–122, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392667`.

Jelinek:1969:FSD

[Jel69] F. Jelinek. Fast sequential decoding algorithm using a stack. *IBM Journal of Research and Development*, 13(6): 675–685, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jennings:2010:MRS

[Jen10] P. Jennings. Managing the risks of Smarter Planet solutions. *IBM Journal of Research and Development*, 54(4): 1–9, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Joseph:2008:TSV

[JGD+08] Alvin J. Joseph, John D. Gillis, Mark Doherty, Peter J. Lindgren, Rosemary A. Previti-Kelly, Ramana M. Malladi, Ping-Chuan Wang, Mete Erturk, Hanyi Ding, Ephrem G. Gebreselasie, Michael J. McPartlin, and James Dunn. Through-silicon vias enable next-generation SiGe power amplifiers for wireless communications. *IBM Journal of Research and Development*, 52(6): 635–648, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/joseph.html`.

Jones:1980:CCS

[JH80] H. C. Jones and D. J. Herrell. The characteristics of chip-to-chip signal propagation in a package suitable for superconducting circuits. *IBM Journal of Research and Development*, 24(2):172–177, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ju:1981:PMM

[JHH+81] K. Ju, H. L. Hu, R. G. Hirko, E. B. Moore, D. Y. Saiki, and R. O. Schwenker. Propagation of $1 - \mu m$ bubbles in contiguous disk devices. *IBM Journal of Research and Development*, 25(4):295–302, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jain:1964:PRP

[JJ64] A. L. Jain and R. Jaggi. Piezoresistance and piezo-hall effect in bismuth. *IBM Journal of Research and Development*, 8(3): 233–??, July 1964. CODEN IB-

MJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jagannathan:1993:EPC

[JK93] R. Jagannathan and M. Krishnan. Electroless plating of copper at a low pH level. *IBM Journal of Research and Development*, 37(2):117–123, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jaramillo:2013:CSB

[JKB+13] D. Jaramillo, N. Katz, B. Bodin, W. Tworek, R. Smart, and T. Cook. Cooperative solutions for bring your own device (BYOD). *IBM Journal of Research and Development*, 57(6): 5:1–5:11, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Johnson:1969:CS

[JKG69] B. Johnson, T. Kuga, and H. M. Gladney. Computer-assisted spectroscopy. *IBM Journal of Research and Development*, 13 (1):36–45, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jones:1990:SFE

[JL90] F. Jones and J. S. Logan. A simple finite element model for reactive sputter-deposition systems. *IBM Journal of Research and Development*, 34(5): 680–692, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jackson:1999:ISH

[JL99] K. M. Jackson and K. N. Langston. IBM S/390 storage hierarchy G5 and G6 performance considerations. *IBM Journal of Research and Development*, 43(5/6):847–854, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/jackson.html`.

Johnson:1964:ORA

[JM64] L. R. Johnson and M. H. McAndrew. On ordered retrieval from an associative memory. *IBM Journal of Research and Development*, 8(2):189–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802N.pdf`.

Jann:2018:IPS

[JML+18] J. Jann, P. Mackerras, J. Ludden, M. Gschwind, W. Ouren, S. Jacobs, B. F. Veale, and D. Edelsohn. IBM POWER9 system software. *IBM Journal of Research and Development*, 62(4–5):6:1–6:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8392671/`.

Johnson:1994:CDM

[JMLW94] D. B. Johnson, S. M. Matyas, A. V. Le, and J. D. Wilkins. The Commercial Data Masking Facility (CDMF) data privacy algorithm. *IBM Journal of Research and Development*, 38(2):217–226, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#eight`.

Johnson:1996:TMF

[JMM+96] K. E. Johnson, C. M. Mate, J. A. Merz, R. L. White, and A. W. Wu. Thin-film media — current and future technology. *IBM Journal of Research and Development*, 40(5):511–536, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-5.html#one`.

Judd:1996:SSA

[JMP96] I. D. Judd, P. J. Murfet, and M. J. Palmer. Serial Storage Architecture. *IBM Journal of Research and Development*, 40 (6):591–602, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-6.html#one`.

Jimenez:1982:SEI

[JN82] J. Jimenez and J. L. Navalon. Some experiments in image vectorization. *IBM Journal of Research and Development*, 26(6): 724–734, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jessani:1996:FPU

[JO96] R. M. Jessani and C. H. Olson. The floating point unit of the PowerPC 603e microprocessor. *IBM Journal of Research and Development*, 40(5): 559–566, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-5.html#four`.

Johnson:1987:GPI

[Joh87] Ellis L. Johnson. The group problem and integer programming duality. *IBM Journal of Research and Development*, 31 (2):206–212, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jones:1960:TTD

[Jon60] R. E. Jones. A thermodynamic treatment of dilute superconducting alloys. *IBM Journal of Research and Development*, 4(1):23–27, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392527`.

Jona:1965:OCS

[Jon65] F. Jona. Observations of "clean" surfaces of Si, Ge,

and GaAs by low-energy electron diffraction. *IBM Journal of Research and Development*, 9(5/6):375–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jona:1970:LEE

[Jon70] F. Jona. Low energy electron diffraction (leed) spectra aluminum. *IBM Journal of Research and Development*, 14 (4):444–452, folding sheet, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jones:1972:TDD

[Jon72] R. E. Jones, Jr. Theories of the distribution of deposit from sputtered disk and rectangular electrodes. *IBM Journal of Research and Development*, 16 (1):27–34, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jones:1975:ALM

[Jon75] J. W. Jones. Array logic macros. *IBM Journal of Research and Development*, 19(2): 120–126, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jones:1998:TEC

[Jon98] B. A. Jones. Theory of exchange coupling in magnetic multilayers. *IBM Journal of Research and Development*, 42 (1):25–31, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/jones.html`.

Jordan:2004:P

[Jor04] Kirk E. Jordan. Preface. *IBM Journal of Research and Development*, 48(2):151–152, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/preface.html`.

Jozsa:2004:ICQ

[Joz04] R. Jozsa. Illustrating the concept of quantum information. *IBM Journal of Research and Development*, 48(1):79–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/jozsa.pdf`.

Jensen:1994:CMB

[JP94] D. L. Jensen and R. A. Polyak. The convergence of a modified barrier method for convex programming. *IBM Journal of Research and Development*, 38 (3):307–321, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#nine`.

Jenkins:1992:FTT

[JPTW92] L. C. Jenkins, R. J. Polastre, R. R. Troutman, and R. L. Wisnieff. Functional testing

of TFT/LCD arrays. *IBM Journal of Research and Development*, 36(1):59–68, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jamjoom:2009:CSD

[JQB+09] H. Jamjoom, H. Qu, M. J. Buco, M. Hernandez, D. Saha, and M. Naghshineh. Crowdsourcing and service delivery. *IBM Journal of Research and Development*, 53(6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/jamjoom.html`.

Jutzi:1972:CTS

[JS72] W. Jutzi and C. H. Schuenemann. Cross-coupled thyristor storage cell. *IBM Journal of Research and Development*, 16 (1):35–44, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jarema:1981:IDC

[JS81] David R. Jarema and Edward W. Sussenguth. IBM data communications: a quarter century of evolution and progress. *IBM Journal of Research and Development*, 25(5): 391–404, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jayaraman:1989:GTV

[JS89] Rangarajan Jayaraman and Vijay Srinivasan. Geometric tolerancing. I. Virtual boundary requirements. *IBM Journal of Research and Development*, 33 (2):90–104, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jordan-Sweet:2000:SXR

[JS00] J. L. Jordan-Sweet. Synchrotron X-ray scattering techniques for microelectronics-related materials studies. *IBM Journal of Research and Development*, 44(4):457–476, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/jordansweet.html`.

Jamison:2014:ACE

[JS14] J. Jamison and C. Snow. An architecture for customer experience management based on the Internet of Things. *IBM Journal of Research and Development*, 58(5/6):15:1–15:11, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jordan:2018:EPE

[JSM+18] M. Jordan, N. Sardino, M. McGrath, C. Zoellin, T. E. Morris, C. Carranza Lewis, G. Vance, B. Naylor, J. Pickel, M. S. Almeida, D. Wierbowski, C. Meyer, R. Buendgen, M. Zagorski, H. Schoone, and K. Voss. Enabling pervasive encryption through IBM Z stack innovations. *IBM Journal of*

Research and Development, 62 (2–3):2:1–2:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8270590/`.

Jacobi:2018:DIZ

[JSR+18] C. Jacobi, A. Saporito, M. Recktenwald, A. Tsai, U. Mayer, M. Helms, A. B. Collura, P. K. Mak, R. J. Sonnelitter, M. A. Blake, T. C. Bronson, A. J. O'Neill, and V. K. Papazova. Design of the IBM z14 microprocessor. *IBM Journal of Research and Development*, 62(2–3):8:1–8:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8270679/`.

Jain:2013:GSE

[JSS13] R. Jain, P. Sarkar, and D. Subhraveti. GPFS–SNC: An enterprise cluster file system for Big Data. *IBM Journal of Research and Development*, 57 (3/4):5:1–5:10, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Johnson:1966:LFP

[JT66] C. Johnson and R. C. Turnbull. Localized-field permanent magnet array for the thick-film read only store. *IBM Journal of Research and Development*, 10(4):343–345, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392036`.

Jurovics:1978:OAD

[Jur78] Steve A. Jurovics. Optimization applied to the design of an energy-efficient building. *IBM Journal of Research and Development*, 22(4):378–385, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jackson:1990:SGM

[JVP+90] T. N. Jackson, B. J. Van Zeghbroeck, G. Pepper, J. F. DeGelormo, T. Keuch, H. Meier, and P. Wolf. Submicron-gate-length GaAs MESFETs. *IBM Journal of Research and Development*, 34(4):495–505, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jain:1982:UHC

[JWL82] K. Jain, C. G. Willson, and B. J. Lin. Ultrafast high-resolution contact lithography with excimer lasers. *IBM Journal of Research and Development*, 26(2):151–159, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jackson:2009:ISZ

[JWS+09] K. M. Jackson, M. A. Wisniewski, D. Schmidt, U. Hild, S. Heisig, P. C. Yeh, and W. Gellerich. IBM System

z10 performance improvements with software and hardware synergy. *IBM Journal of Research and Development*, 53(1): 16:1–16:8, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/jackson.pdf`.

Jiang:2006:HER

[JWSP06] X. Jiang, R. Wang, R. M. Shelby, and S. S. P. Parkin. Highly efficient room-temperature tunnel spin injector using CoFe/MgO(001). *IBM Journal of Research and Development*, 50(1):111–120, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/jiang.html`.

Juan:2011:DSS

[JWW+11] Y.-K. Juan, L. Wang, J. Wang, J. O. Leckie, and K.-M. Li. A decision-support system for smarter city planning and management. *IBM Journal of Research and Development*, 55(1–2):3:1–3:12, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Jin:2009:RVA

[JWZ+09] X. Jin, R. Willenborg, Y. Zhao, C. Sun, L. He, Z. Chen, Y. Chen, and Q. Wang. Reinventing virtual appliances. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/jin.html`.

Johnson:1991:WBC

[JZ91] T. A. Johnson and D. J. Zukowski. Waveform-relaxation based circuit simulation on the Victor V256 parallel processor. *IBM Journal of Research and Development*, 35(5/6): 707–720, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kloeckner:2018:BCP

[KAA+18] K. Kloeckner, C. M. Adam, N. Anerousis, N. Ayachitula, M. F. Bulut, G. Dasgupta, Y. Deng, Y. Diao, N. Fuller, S. Gopisetty, M. Hernandez, J. Hwang, P. Iannucci, A. K. Kalia, G. Lanfranchi, D. Lanyi, H. Ludwig, A. Mahamuni, R. Mahindru, F. J. Meng, H. R. Motahari Nezhad, K. Murthy, T. Nakamura, A. Paradkar, D. Perpetua, B. Pfitzmann, D. Rosu, L. Shwartz, Z. Su, M. Surendra, S. Tao, H. Völzer, M. Vukovic, D. Wiesmann, S. Wozniak, G. Wright, J. Xiao, and S. Zeng. Building a cognitive platform for the managed IT services lifecycle. *IBM Journal of Research and Development*, 62(1): 8:1–8:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/document/8269344/.

Knickerbocker:2005:DNG

[KAB+05] J. U. Knickerbocker, P. S. Andry, L. P. Buchwalter, A. Deutsch, R. R. Horton, K. A. Jenkins, Y. H. Kwark, G. McVicker, C. S. Patel, R. J. Polastre, C. Schuster, A. Sharma, S. M. Sri-Jayantha, C. W. Surovic, C. K. Tsang, B. C. Webb, S. L. Wright, S. R. McKnight, E. J. Sprogis, and B. Dang. Development of next-generation system-on-package (SOP) technology based on silicon carriers with fine-pitch chip interconnection. *IBM Journal of Research and Development*, 49(4/5):725–753, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/494/knickerbocker.html.

Krygowski:2012:KAP

[KAB+12] C. A. Krygowski, E. Almog, D. G. Bair, R. Breil, G. Dittmann, R. M. Gott, W. J. Lewis, A. D. Shah, and B. W. Thompto. Key advances in the presilicon functional verification of the IBM zEnterprise microprocessor and storage hierarchy. *IBM Journal of Research and Development*, 56(1–2):13:1–13:16, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuchta:1995:PFD

[KACS95] D. M. Kuchta, H. A. Ainspan, F. J. Canora, and R. P. Schneider, Jr. Performance of fiber-optic data links using 670-nm cw VCSELs and a monolithic Si photodetector and CMOS preamplifier. *IBM Journal of Research and Development*, 39(1/2):63–72, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-1.html#seven.

Knickerbocker:2008:TDS

[KAD+08] John U. Knickerbocker, Paul S. Andry, Bing Dang, Raymond R. Horton, Mario J. Interrante, Chirag S. Patel, Robert J. Polastre, Katsuyuki Sakuma, Ranjani Sirdeshmukh, Edmund J. Sprogis, Sri M. Sri-Jayantha, Antonio M. Stephens, Anna W. Topol, Cornelia K. Tsang, Bucknell C. Webb, and Steven L. Wright. Three-dimensional silicon integration. *IBM Journal of Research and Development*, 52(6):553–569, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/526/knickerbocker.html.

Katz:2016:SEP

[KAD+16] J. S. Katz, P. G. Allor, S. A. Dougherty, S. P. Duffy, S. Riccetti, H. D. Chantz, M. Kisch, B. S. Oxford, and J. L. Snow-

don. Securing the electric power infrastructure. *IBM Journal of Research and Development*, 60 (1):9:1–9:13, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kim:2016:AUC

[KAF+16] Y. Kim, A. Aravkin, H. Fei, A. Zondervan, and M. Wolf. Analytics for understanding customer behavior in the energy and utility industry. *IBM Journal of Research and Development*, 60(1):11:1–11:13, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kahan:1971:ECC

[Kah71] G. J. Kahan. Equivalent circuit for conductivity-temperature characteristics of the PdO/Ag-Pd glaze resistor. *IBM Journal of Research and Development*, 15(4):313–317, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kampf:1998:PFC

[Kam98] F. A. Kampf. Performance as a function of compression. *IBM Journal of Research and Development*, 42(6):759–766, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/kampf.html`.

Kaneko:1974:OTS

[Kan74] T. Kaneko. Optimal task switching policy for a multilevel storage system. *IBM Journal of Research and Development*, 18 (4):310–315, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kaneko:1978:CCP

[Kan78] Toyohisa Kaneko. Color composite pictures from principal axis components of multispectral scanner data. *IBM Journal of Research and Development*, 22(4):386–392, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kandogan:2015:JTI

[Kan15] E. Kandogan. Just-in-time interactive analytics: Guiding visual exploration of data. *IBM Journal of Research and Development*, 59(2–3):12:1–12:10, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Karnaugh:1973:AEH

[Kar73] M. Karnaugh. Automatic equalizers having minimum adjustment time. *IBM Journal of Research and Development*, 17 (2):176–179, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Karnaugh:1974:LPT

[Kar74] M. Karnaugh. Loss of point-to-point traffic in three-stage circuit switches. *IBM Journal of*

Research and Development, 18 (3):204–216, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kasuya:1970:EME

[Kas70] T. Kasuya. Exchange mechanisms in europium chalcogenides. *IBM Journal of Research and Development*, 14 (3):214–223, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kataoka:1989:IHS

[Kat89] Mitsuo Kataoka. Instability and high-T_c superconductivity. *IBM Journal of Research and Development*, 33(3):356–364, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kaufman:1981:PIP

[Kau81] Frank B. Kaufman. Pi-Donor intercalate polymers: Synthesis, charge-transfer interactions, and applications. *IBM Journal of Research and Development*, 25(4):303–314, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kobayashi:1974:IDC

[KB74] H. Kobayashi and L. R. Bahl. Image data compression by predictive coding. I. prediction algorithms. *IBM Journal of Research and Development*, 18(2): 164–171, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ketchen:2006:PRS

[KB06] M. B. Ketchen and M. Bhushan. Product-representative "at speed" test structures for CMOS characterization. *IBM Journal of Research and Development*, 50 (4/5):451–468, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/ketchen.html`.

Katircioglu:2007:SBC

[KBA07] K. Katircioglu, T. M. Brown, and M. Asghar. An SQL-based cost-effective inventory optimization solution. *IBM Journal of Research and Development*, 51(3/4):433–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/katircioglu.html`.

Kosonocky:2003:LPC

[KBC+03] S. V. Kosonocky, A. J. Bhavnagarwala, K. Chin, G. D. Gristede, A.-M. Haen, W. Hwang, M. B. Ketchen, S. Kim, D. R. Knebel, K. W. Warren, and V. Zyuban. Low-power circuits and technology for wireless digital systems. *IBM Journal of Research and Development*, 47 (2/3):283–298, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/kosonocky.pdf`.

Kuan:1992:AEI

[KBF+92] T. S. Kuan, P. E. Batson, R. M. Feenstra, A. J. Slavin, and R. M. Tromp. Application of electron and ion beam analysis techniques to microelectronics. *IBM Journal of Research and Development*, 36 (2):183–207, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koerner:2004:ZFE

[KBF+04] S. Koerner, R. Bawidamann, W. Fischer, U. Helmich, D. Klodt, B. K. Tolan, and P. Wojciak. The z990 first error data capture concept. *IBM Journal of Research and Development*, 48(3/4):557–568, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/koerner.html; http://www.research.ibm.com/journal/rd/483/koerner.pdf`.

Krygowski:2009:FVI

[KBG+09] C. A. Krygowski, D. G. Bair, R. M. Gott, M. H. Decker, A. V. Giri, C. Habermann, M. Heizmann, S. Letz, W. J. Lewis, S. M. Licker, H. Mallar, E. C. McCain, W. Roesner, N. Siddique, A. E. Seigler, B. W. Thompto, K. Weber, and R. Winkelmann. Functional verification of the IBM System z10 processor chipset. *IBM Journal of Research and Development*, 53(1):3:1–3:11, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/krygowski.pdf`.

Kakkanatt:2018:CIU

[KBJ+18] C. Kakkanatt, M. Benigno, V. M. Jackson, P. L. Huang, and K. Ng. Curating and integrating user-generated health data from multiple sources to support healthcare analytics. *IBM Journal of Research and Development*, 62(1):2:1–2:7, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269772/`.

Kick:1997:SCB

[KBK+97] B. Kick, U. Baur, J. Koehl, T. Ludwig, and T. Pflueger. Standard-cell-based design methodology for high-performance support chips. *IBM Journal of Research and Development*, 41 (4/5):505–514, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/kick.html`.

Katopis:1999:MTD

[KBM+99] G. A. Katopis, W. D. Becker, T. R. Mazzawy, H. H. Smith, C. K. Vakirtzis, S. A. Kuppinger, B. Singh, P. C. Lin, J. Bartells, Jr., G. V. Kihlmire,

P. N. Venkatachalam, H. I. Stoller, and J. L. Frankel. MCM technology and design for the S/390 G5 systems. *IBM Journal of Research and Development*, 43(5/6):621–650, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/katopis.html`.

Kalyanpur:2012:SDI

[KBP+12] A. Kalyanpur, B. K. Boguraev, S. Patwardhan, J. W. Murdock, A. Lally, C. Welty, J. M. Prager, B. Coppola, A. Fokoue-Nkoutche, L. Zhang, Y. Pan, and Z. M. Qiu. Structured data and inference in DeepQA. *IBM Journal of Research and Development*, 56(3–4):10:1–10:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kotecki:1999:BST

[KBS+99] D. E. Kotecki, J. D. Baniecki, H. Shen, R. B. Laibowitz, K. L. Saenger, J. J. Lian, T. M. Shaw, S. D. Athavale, C. Cabral, Jr., P. R. Duncombe, M. Gutsche, G. Kunkel, Y.-J. Park, Y.-Y. Wang, and R. Wise. (Ba,Sr)TiO_3 dielectrics for future stacked-capacitor DRAM. *IBM Journal of Research and Development*, 43(3):367–380, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/kotecki.html`.

Kirkpatrick:1966:PAL

[KC66a] T. I. Kirkpatrick and N. R. Clark. Pert as an aid to logic design. *IBM Journal of Research and Development*, 10(2): 135–141, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392062`.

Kump:1966:TRP

[KC66b] H. J. Kump and P. T. Chang. Thermostrictive recording on permalloy films. *IBM Journal of Research and Development*, 10(3):255–260, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392078`.

Kapitulnik:1989:MTH

[KC89] Aharon Kapitulnik and Kookrin Char. Measurements on thin-film high-T_c superconductors. *IBM Journal of Research and Development*, 33(3):252–261, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koburger:1995:HCL

[KCA+95] C. W. Koburger III, W. F. Clark, J. W. Adkisson, E. Adler, P. E. Bakeman, A. S. Bergendahl, A. B. Botula, W. Chang, B. Davari, J. H. Givens, H. H.

Hansen, S. J. Holmes, D. V. Horak, C. H. Lam, J. B. Lasky, S. E. Luce, R. W. Mann, G. L. Miles, J. S. Nakos, E. J. Nowak, G. Shahidi, Y. Taur, F. R. White, and M. R. Wordeman. A half-micron CMOS logic generation. *IBM Journal of Research and Development*, 39 (1/2):215–227, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#eighteen`.

Kolar:2009:CRT

[KCH+09] H. R. Kolar, J. Cronin, P. Hartswick, A. C. Sanderson, J. S. Bonner, L. Hotaling, R. F. Ambrosio, Z. Liu, M. L. Passow, and M. L. Reath. Complex real-time environmental monitoring of the Hudson River and estuary system. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/kolar.html`.

Kasiviswanathan:2013:NDD

[KCML13] S. P. Kasiviswanathan, G. Cong, P. Melville, and R. D. Lawrence. Novel document detection for massive data streams using distributed dictionary learning. *IBM Journal of Research and Development*, 57(3/4):9:1–9:15, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

KleinOsowski:2008:CDM

[KCOW08] A. KleinOsowski, E. H. Cannon, P. Oldiges, and L. Wissel. Circuit design and modeling for soft errors. *IBM Journal of Research and Development*, 52(3):255–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/kleinosowski.html`.

Koch:2015:AAC

[KdAC+15] F. L. Koch, M. D. de Assuncao, C. H. Cardonha, M. A. S. Netto, and T. T. Primo. An architecture and algorithm for context-aware resource allocation for digital teaching platforms. *IBM Journal of Research and Development*, 59(6):1:1–1:9, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kahan:1960:STF

[KDBT60] G. J. Kahan, R. B. DeLano, A. E. Brennemann, and R. T. C. Tsui. Superconducting tin films of low residual resistivity. *IBM Journal of Research and Development*, 4(2): 173–183, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392547`.

Kostenko:2015:IZE

[KDG15] W. P. Kostenko, D. W. Demetriou, and G. F. Goth. IBM z13: Energy efficiency, increased environmental range, and flexible data center characteristics. *IBM Journal of Research and Development*, 59(4–5):10:1–10:9, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kahle:2005:ICM

[KDH+05] J. A. Kahle, M. N. Day, H. P. Hofstee, C. R. Johns, T. R. Maeurer, and D. Shippy. Introduction to the Cell multiprocessor. *IBM Journal of Research and Development*, 49 (4/5):589–604, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/kahle.html`.

Kostenko:2018:IZI

[KDT18] W. P. Kostenko, D. W. Demetriou, and J. G. Torok. IBM z14: Improved datacenter characteristics, energy efficiency, and packaging innovation. *IBM Journal of Research and Development*, 62(2–3):16:1–16:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8283825/`.

Kehr:1965:FSC

[Keh65] W. D. Kehr. Fatigue strength of case hardened steel specimens containing through-the-case cracks. *IBM Journal of Research and Development*, 9(4): 336–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Krusin-Elbaum:1987:OSC

[KEJ87] L. Krusin-Elbaum and R. V. Joshi. Oxidation of Si-Rich chemical-vapor-deposited films of tungsten silicide. *IBM Journal of Research and Development*, 31(6):634–640, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Klima:2020:CWR

[KEKP20] K. Klima, L. El Gammal, W. Kong, and D. Prosdocimi. Creating a water risk index to improve community resilience. *IBM Journal of Research and Development*, 64(1/2):16:1–16:11, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kelley:1973:AES

[Kel73] R. A. Kelley. APLGOL, an experimental structured programming language. *IBM Journal of Research and Development*, 17 (1):69–73, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keller:1989:MRE

[Kel89] Hugo Keller. Muon-spin rotation experiments in high-T_c superconductors and related materials. *IBM Journal of Research and Development*, 33 (3):314–323, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kunkel:2000:PMC

[KEL+00] S. R. Kunkel, R. J. Eickemeyer, M. H. Lipasti, T. J. Mullins, B. O'Krafka, H. Rosenberg, S. P. VanderWiel, P. L. Vitale, and L. D. Whitley. A performance methodology for commercial servers. *IBM Journal of Research and Development*, 44(6):851–872, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/kunkel.html`.

Kennedy:1961:MCA

[Ken61a] D. P. Kennedy. Monte Carlo analysis of transistor diffusion techniques [letter to the editor]. *IBM Journal of Research and Development*, 5(4): 331–334, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392396`.

Kennedy:1961:TCM

[Ken61b] D. P. Kennedy. Theoretical current multiplication of a cylindrical hook collector. *IBM Journal of Research and Development*, 5(1):25–32, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392474`.

Keppel:1975:ACS

[Kep75] E. Keppel. Approximating complex surfaces by triangulation of contour lines. *IBM Journal of Research and Development*, 19(1):2–11, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kerr:1964:ETB

[Ker64] D. R. Kerr. Effect of temperature and bias on glass–silicon interfaces. *IBM Journal of Research and Development*, 8(4): 385–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:1961:ECE

[Key61a] R. W. Keyes. The electronic contribution to the elastic properties of germanium. *IBM Journal of Research and Development*, 5(4): 266–278, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392388`.

Keyes:1961:HLI

[Key61b] R. W. Keyes. Hydrogen-like impurity states in axially sym-

metric crystals [letter to the editor]. *IBM Journal of Research and Development*, 5(1): 65–66, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392480`.

Keyes:1963:NAL

[Key63] R. W. Keyes. Nonlinear absorbers of light. *IBM Journal of Research and Development*, 7(4):334–336, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392260`.

Keyes:1965:TPI

[Key65] R. W. Keyes. Thermal problems of the injection laser. *IBM Journal of Research and Development*, 9(4):303–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:1970:TPP

[Key70] R. W. Keyes. Thermal problems of the pulsed injection laser. *IBM Journal of Research and Development*, 14(2): 158–167, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:1971:TPC

[Key71] R. W. Keyes. Thermal problems of the CW injection laser. *IBM Journal of Research and Development*, 15(5):401–404, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:1988:MEL

[Key88] R. W. Keyes. Miniaturization of electronics and its limits. *IBM Journal of Research and Development*, 32(1):24–28, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:2000:MEL

[Key00] R. W. Keyes. Miniaturization of electronics and its limits. *IBM Journal of Research and Development*, 44(1/2):84–88, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/keyes.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Kaeli:1997:PAC

[KFB+97] D. R. Kaeli, L. L. Fong, R. C. Booth, K. C. Imming, and J. P. Weigel. Performance analysis on a CC-NUMA prototype. *IBM Journal of Research and Development*, 41(3): 205–214, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/kaeli.html`.

Kandaswamy:2006:BWS

[KFH+06] G. Kandaswamy, L. Fang, Y. Huang, S. Shirasuna, S. Marru, and D. Gannon. Building Web services for scientific grid applications. *IBM Journal of Research and Development*, 50(2/3):249–260, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/kandaswamy.html`.

Kranik:1992:EAF

[KFSZ92] J. R. Kranik, J. J. Fulton, L. Su, and S. M. Zimmerman. Equipment-related advances in the fabrication of glass-ceramic/copper/polyimide substrates. *IBM Journal of Research and Development*, 36(5): 905–920, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kandiraju:2014:SDI

[KFW+14] G. Kandiraju, H. Franke, M. D. Williams, M. Steinder, and S. M. Black. Software defined infrastructures. *IBM Journal of Research and Development*, 58(2–3):2:1–2:13, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koseki:1992:CFT

[KFYU92] T. Koseki, T. Fukunaga, H. Yamanaka, and T. Ueki. Color filter for 10.4-in.-diagonal 4096-color thin-film-transistor liquid crystal displays. *IBM Journal of Research and Development*, 36(1):43–50, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kump:1963:MUC

[KG63] H. J. Kump and T. G. Greene. Magnetization of uniaxial cylindrical thin films. *IBM Journal of Research and Development*, 7(2):130–134, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392289`.

Kasprzak:1980:NIS

[KG80] Lucian A. Kasprzak and Arun K. Gaind. Near-ideal Si-SiO_2 interfaces. *IBM Journal of Research and Development*, 24(3):348–352, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kistler:2009:PLB

[KGBB09] M. Kistler, J. Gunnels, D. Brokenshire, and B. Benton. Programming the Linpack benchmark for Roadrunner. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/kistler.html`.

Knepper:1985:ABT

[KGCS85] Ronald W. Knepper, Santosh P. Gaur, Fung-Yuel Chang, and

G. R. Srinivasan. Advanced bipolar transistor modeling: Process and device simulation tools for today's technology. *IBM Journal of Research and Development*, 29(3):218–228, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kiwimagi:1977:WPE

[KGF77] R. Kiwimagi, L. Griffiths, and R. Furtney. Worst-case pattern evaluation of baseband channels. *IBM Journal of Research and Development*, 21(4):340–349, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kienzle:1988:APS

[KGT88] M. G. Kienzle, Juan A. Garay, and William H. Tetzlaff. Analysis of page-reference strings of an interactive system. *IBM Journal of Research and Development*, 32(4):523–535, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kasprzak:1975:PDP

[KH75] L. Kasprzak and A. Hornung. Polarization and depolarization in PSG films. *IBM Journal of Research and Development*, 19 (2):127–132, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kaplan:1988:MCP

[KH88] S. B. Kaplan and Allan M. Hartstein. Mesoscopic coherence phenomena in semiconductor devices. *IBM Journal of Research and Development*, 32 (3):347–358, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kump:1966:DLM

[KHBC66] H. J. Kump, H. G. Hottenrott, B. I. Bertelsen, and P. T. Chang. The dispersion locked memory mode for magnetic films. *IBM Journal of Research and Development*, 10 (1):89–94, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392107`.

Kumar:2018:IPC

[KHK+18] M. Kumar, W. P. Horn, J. Kepner, J. E. Moreira, and P. Pattnaik. IBM POWER9 and cognitive computing. *IBM Journal of Research and Development*, 62(4–5):10:1–10:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8392693/`.

Kulcke:1964:FDI

[KHKM64] W. Kulcke, T. J. Harris, K. Kosanke, and E. Max. A fast, digital-indexed light deflector. *IBM Journal of Research and Development*, 8(1): 64–67, January 1964. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801H.pdf`.

Kumar:2008:SMD

[KHZ+08] S. Kumar, C. Huang, G. Zheng, E. Bohm, A. Bhatele, J. C. Phillips, H. Yu, and L. V. Kalé. Scalable molecular dynamics with NAMD on the IBM Blue Gene/L system. *IBM Journal of Research and Development*, 52(1/2):177–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/kumar.html`.

Kitaoka:1989:NSM

[KIF+89] Y. Kitaoka, K. Ishida, K. Fujiwara, K. Asayama, H. Yoshida Katayama, Y. Okabe, and T. Takahashi. NMR study of magnetism and superconductivity in high-T_c oxides. *IBM Journal of Research and Development*, 33(3):277–285, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

King:1961:TLP

[Kin61] Gilbert W. King. Table look-up procedures in language processing — Part I: The raw text. *IBM Journal of Research and Development*, 5(2): 86–92, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392434`.

Kishi:1996:IRV

[Kis96] G. T. Kishi. The IBM 3495 robotics and vision system. *IBM Journal of Research and Development*, 40 (3):301–310, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-3.html#two`.

Kishi:2003:IVT

[Kis03] G. T. Kishi. The IBM Virtual Tape Server: Making tape controllers more autonomic. *IBM Journal of Research and Development*, 47(4):459–469, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/kishi.pdf`.

Kitazawa:1989:CUE

[Kit89] Koichi Kitazawa. Current understanding of electronic structure and some difficulties with cuprate semiconductors. *IBM Journal of Research and Development*, 33(3):201–207, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kaiser:1986:SES

[KJ86] W. J. Kaiser and R. C. Jaklevic. Spectroscopy of electronic states of metals with a scanning

tunneling microscope. *IBM Journal of Research and Development*, 30(4):411–416, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kohn:1967:VHS

[KJMS67] G. Kohn, W. Jutzi, Th. Mohr, and D. Seitzer. A very-high-speed, nondestructive-read magnetic film memory. *IBM Journal of Research and Development*, 11(2):162–168, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391976`.

Kennedy:2011:LCI

[KJP11] S. M. Kennedy, D. E. Jesson, and D. M. Paganin. Laplacian and caustic imaging theories of MEM work-function contrast. *IBM Journal of Research and Development*, 55(4): 3:1–3:8, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Khan:2009:AHF

[KJS09] A. Khan, H. Jamjoom, and J. Sun. AIM-HI: a framework for request routing in large-scale IT global service delivery. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/khan-jamjoom.html`.

Kovac:1988:CAI

[KJSG+88] C. A. Kovac, J. L. Jordan-Sweet, M. J. Goldberg, J. G. Clabes, A. Viehbeck, and R. A. Pollak. Chemistry at interfaces: Electropositive metals on polymer surfaces. *IBM Journal of Research and Development*, 32 (5):603–615, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Klein:1959:GPT

[KK59] M. Klein and A. P. Kordalewski. Germanium PNPN thyratron. *IBM Journal of Research and Development*, 3(4): 377–379, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392579`.

Karat:2009:PFS

[KKB+09a] J. Karat, C.-M. Karat, E. Bertino, N. Li, Q. Ni, C. Brodie, J. Lobo, S. B. Calo, L. F. Cranor, P. Kumaraguru, and R. W. Reeder. Policy framework for security and privacy management. *IBM Journal of Research and Development*, 53 (2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/karat.html`.

Koerner:2009:ISZ

[KKB+09b] S. Koerner, A. Kohler, J. Babinsky, H. Pape, F. Eickhoff, S. Kriese, and H. Elfering. IBM System z10 firmware simulation. *IBM Journal of Research and Development*, 53(1):12:1–12:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/koerner.pdf`.

Koehler:1961:NHP

[KKK61] H. Koehler, B. Kostyshyn, and T. C. Ku. A note on Hall probe resolution [letter to the editor]. *IBM Journal of Research and Development*, 5(4):326–327, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392394`.

Kawas:2014:UFT

[KKL+14] B. Kawas, A. Koc, M. Laumanns, C. Lee, R. Marinescu, M. Mevissen, N. Taheri, S. A. van den Heever, and R. Verago. Unified framework and toolkit for commerce optimization under uncertainty. *IBM Journal of Research and Development*, 58(5/6):12:1–12:13, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koerner:2002:IEZ

[KKM02] S. Koerner, M. Kuenzel, and E. C. McCain. IBM eServer z900 system microcode verification by simulation: The virtual power-on process. *IBM Journal of Research and Development*, 46(4/5):587–596, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/koerner.html`; `http://www.research.ibm.com/journal/rd/464/koerner.pdf`.

Kallmeyer:1973:RPC

[KKS+73] M. Kallmeyer, K. Kosanke, F. Schedewie, B. Solf, and D. Wagner. Rapid, precise, computer-controlled measurement of X-Y coordinates. *IBM Journal of Research and Development*, 17(6):490–499, November 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kayser:2002:HAH

[KKS02] J. Kayser, S. Koerner, and K.-D. Schubert. Hyper-acceleration and HW/SW co-verification as an essential part of IBM eServer z900 verification. *IBM Journal of Research and Development*, 46(4/5):597–605, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/kayser.html`; `http://www.research.`

ibm.com/journal/rd/464/kayser.pdf.

Kirtley:1995:DAS

[KKT+95] J. R. Kirtley, M. B. Ketchen, C. C. Tsuei, J. Z. Sun, W. J. Gallagher, Lock See Yu-Jahnes, A. Gupta, K. G. Stawiasz, and S. J. Wind. Design and applications of a scanning SQUID microscope. *IBM Journal of Research and Development*, 39(6): 655–668, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-6.html#six.

Karger:2009:PES

[KKT09] P. A. Karger, G. S. Kc, and D. C. Toll. Privacy is essential for secure mobile devices. *IBM Journal of Research and Development*, 53 (2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/532/karger.html.

Kamentsky:1963:CAD

[KL63] L. A. Kamentsky and C. N. Liu. Computer-automated design of multifont print recognition logic. *IBM Journal of Research and Development*, 7 (1):2–13, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392331.

Keyes:1970:MED

[KL70a] R. W. Keyes and R. Landauer. Minimal energy dissipation in logic. *IBM Journal of Research and Development*, 14(2): 152–157, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kinberg:1970:IMS

[KL70b] C. Kinberg and B. W. Landeck. Integrated manufacturing systems: architectural considerations. *IBM Journal of Research and Development*, 14(6): 589–604, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kircher:1980:PAR

[KL80] C. J. Kircher and S. K. Lahiri. Properties of $AuIn_2$ resistors for Josephson integrated circuits. *IBM Journal of Research and Development*, 24(2): 235–242, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kurtzberg:1994:ABC

[KL94] Jerome M. Kurtzberg and Menachem Levanoni. ABC: a better control for manufacturing. *IBM Journal of Research and Development*, 38(1):11–30, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd38-1.html#two.

Koerner:1997:RCS

[KL97] S. Koerner and S. M. Licker. Run-control and service element code simulation for the S/390 microprocessor. *IBM Journal of Research and Development*, 41(4/5):577–580, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/koerner.html`.

Kerr:1964:SSP

[KLBP64] D. R. Kerr, J. S. Logan, P. J. Burkhardt, and W. A. Pliskin. Stabilization of SiO_2 passivation layers with P_2O_5. *IBM Journal of Research and Development*, 8(4):376–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kelly:1984:OIB

[KLC84] John H. Kelly, Chun K. Lim, and William T. Chen. Optimization of interconnections between packaging levels. *IBM Journal of Research and Development*, 28(6):719–725, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Klein:1964:SMT

[Kle64] C. A. Klein. STB model and transport properties of pyrolytic graphites. *IBM Journal of Research and Development*, 8(3):274–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kwok:1971:DSG

[KLE71] H. C. W. Kwok, W. E. Langlois, and R. A. Ellefsen. Digital simulation of the global transport of carbon monoxide. *IBM Journal of Research and Development*, 15(1):3–9, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kleinfelder:1991:PPP

[Kle91] W. Kleinfelder. Preface: Papers on parallel processing. *IBM Journal of Research and Development*, 35(5/6):571–572, September 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Khabibrakhmanov:2016:USE

[KLHW16] I. Khabibrakhmanov, S. Lu, H. F. Hamann, and K. Warren. On the usefulness of solar energy forecasting in the presence of asymmetric costs of errors. *IBM Journal of Research and Development*, 60 (1):7:1–7:6, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Knickerbocker:1991:ISA

[KLM+91] J. U. Knickerbocker, G. B. Leung, W. R. Miller, S. P. Young, S. A. Sands, and R. F. Indyk. IBM System/390 air-cooled alumina thermal conduction module. *IBM Journal of Research and Development*, 35 (3):330–341, May 1991. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Khabiri:2019:CCP

[KLMV19] E. Khabiri, Y. Li, P. Mazzoleni, and D. Vadgama. Cognitive color palette creation using client message and color psychology. *IBM Journal of Research and Development*, 63 (1):4:1–4:10, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Klokholm:1987:DFT

[Klo87] Erik Klokholm. Delamination and fracture of thin films. *IBM Journal of Research and Development*, 31(5):585–591, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kan:1996:PPR

[KLRS96] T. Kan, D. B. Lawson, O. J. Ruiz, and C. F. Sermon. The past and present roles of computer-aided engineering in DASD design. *IBM Journal of Research and Development*, 40(6):615–621, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-6.html#three`.

Knauft:1966:SNM

[KLS66] G. Knauft, H. Lamparter, and W. G. Spruth. Some new methods for digital encoding of voice signals and for voice code translation. *IBM Journal of Research and Development*, 10(3): 244–254, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392077`.

Kang:2005:MMP

[KLS+05] S. K. Kang, P. A. Lauro, D.-Y. Shih, D. W. Henderson, and K. J. Puttlitz. Microstructure and mechanical properties of lead-free solders and solder joints used in microelectronic applications. *IBM Journal of Research and Development*, 49 (4/5):607–620, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/kang.html`.

Kennedy:1966:CIA

[KM66] D. P. Kennedy and P. C. Murley. Calculations of impurity atom diffusion through a narrow diffusion mask opening. *IBM Journal of Research and Development*, 10 (1):6–12, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392100`.

Kennedy:1968:TDM

[KM68] D. P. Kennedy and P. C. Murley. A two-dimensional mathe-

matical analysis of the diffused semiconductor resistor. *IBM Journal of Research and Development*, 12(??):242–250, 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koenig:1970:ARD

[KM70] H. R. Koenig and L. I. Maissel. Application of RF discharges to sputtering. *IBM Journal of Research and Development*, 14 (2):168–171, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1973:SSM

[KM73] D. P. Kennedy and P. C. Murley. Steady state mathematical theory for the insulated gate field effect transistor. *IBM Journal of Research and Development*, 17(1):2–12, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kyser:1974:QEM

[KM74] D. F. Kyser and K. Murata. Quantitative electron microprobe analysis of thin films on substrates. *IBM Journal of Research and Development*, 18 (4):352–363, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kou:1977:MBP

[KM77] Lawrence T. Kou and George Markowsky. Multidimensional bin packing algorithms. *IBM Journal of Research and Development*, 21(5):443–448, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kanazawa:1993:QRE

[KM93] K. K. Kanazawa and O. R. Melroy. The quartz resonator: Electrochemical applications. *IBM Journal of Research and Development*, 37(2):157–171, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koenig:2000:ARD

[KM00] H. R. Koenig and L. I. Maissel. Application of rf discharges to sputtering. *IBM Journal of Research and Development*, 44 (1/2):106–110, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/koenig.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Krook:2020:CCD

[KM20] D. Krook and S. Malaika. Call for code: Developers tackle natural disasters with software. *IBM Journal of Research and Development*, 64(1/2):4:1–4:8, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Klein:2020:DVD

[KMA+20] M. Klein, A. Misra, B. Abali, P. Sethia, S. Weishaupt, B. Gi-

amei, M. Farrell, and T. J. Slegel. Design and verification of DEFLATE acceleration as an architected instruction in z15. *IBM Journal of Research and Development*, 64(5/6):9:1–9:10, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Karg:2008:TMO

[KMB+08] Siegfried F. Karg, G. Ingmar Meijer, J. Georg Bednorz, Charles T. Rettner, Alejandro G. Schrott, Eric A. Joseph, Chung H. Lam, Markus Janousch, Urs Staub, Fabio La Mattina, Santos F. Alvarado, Daniel Widmer, Richard Stutz, Ute Drechsler, and Daniele Caimi. Transition-metal-oxide-based resistance-change memories. *IBM Journal of Research and Development*, 52 (4/5):481–492, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/karg.html`.

Kano:2011:UCM

[KMC+11] Y. Kano, M. Miwa, K. B. Cohen, L. E. Hunter, S. Ananiadou, and J. Tsujii. U-compare: a modular NLP workflow construction and evaluation system. *IBM Journal of Research and Development*, 55(3):11:1–11:10, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kiang:1982:MSD

[KMCY82] Ying C. Kiang, J. Randal Moulic, Wei-Kan Chu, and Andrew C. Yen. Modification of semiconductor device characteristics by lasers. *IBM Journal of Research and Development*, 26(2):171–176, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Karimi:2019:CMV

[KMGD19] P. Karimi, M. L. Maher, K. Grace, and N. Davis. A computational model for visual conceptual blends. *IBM Journal of Research and Development*, 63(1):5:1–5:10, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koch:1982:ILP

[KMH82] J. H. Koch III, W. F. Mikhail, and W. R. Heller. Influence on LSI package wireability of via availability and wiring track accessibility. *IBM Journal of Research and Development*, 26 (3):328–341, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kemp:1998:DCP

[KMH+98] T. M. Kemp, R. K. Montoye, J. D. Harper, J. D. Palmer, and D. J. Auerbach. A decompression core for PowerPC. *IBM Journal of Research and Development*, 42(6):807–812, ???? 1998. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/kemp.html`.

Kennedy:1968:MIA

[KMK68] D. P. Kennedy, P. C. Murley, and W. Kleinfelder. On the measurement of impurity atom distributions in silicon by the differential capacitance technique. *IBM Journal of Research and Development*, 12(5): 399–409, September 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kim:2016:BSS

[KMM+16] M. Kim, A. Mohindra, V. Muthusamy, R. Ranchal, V. Salapura, A. Slominski, and R. Khalaf. Building scalable, secure, multi-tenant cloud services on IBM Bluemix. *IBM Journal of Research and Development*, 60(2–3):8:1–8:12, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1964:SAD

[KMO64] D. P. Kennedy, P. C. Murley, and R. R. O'Brien. A statistical approach to the design of diffused junction transistors. *IBM Journal of Research and Development*, 8(5): 482–495, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/085/ibmrd0805B.pdf`.

Kitayama:2014:ASP

[KMO+14] H. Kitayama, S. Munetoh, K. Ohnishi, N. Uramoto, and Y. Watanabe. Advanced security and privacy in connected vehicles. *IBM Journal of Research and Development*, 58 (1):7:1–7:9, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keyes:1981:SIP

[KN81] R. W. Keyes and M. I. Nathan. Semiconductors at IBM: Physics, novel devices, and materials science. *IBM Journal of Research and Development*, 25(5):779–792, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kimelman:1991:RPV

[KN91a] D. N. Kimelman and T. A. Ngo. The RP3 program visualization environment. *IBM Journal of Research and Development*, 35(5/6):635–651, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koyamada:1991:VVF

[KN91b] K. Koyamada and T. Nishio. Volume visualization of 3D finite element method results. *IBM Journal of Research and Development*, 35(1/2):12–25, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kandlur:2008:P

[KN08] Dilip D. Kandlur and Chandrasekhar (Spike) Narayan. Preface. *IBM Journal of Research and Development*, 52 (4/5):317–318, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/preface.html`.

Knickerbocker:2008:P

[Kni08] John U. Knickerbocker. Preface. *IBM Journal of Research and Development*, 52(6): 539–540, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/preface.html`.

Knuth:1990:SPW

[Knu90] Donald E. Knuth. A simple program whose proof isn't. In Feijen et al. [FvGGM90], chapter 27, pages 233–242. ISBN 0-387-97299-4, 3-540-97299-4, 1-4612-8792-8 (print), 1-4612-4476-5 (online). ISSN 0172-603X. LCCN QA76 .B326 1990. URL `http://www.zentralblatt-math.org/zmath/en/search/?an=0718.68004`. This paper discusses the algorithm used in TEX for converting between decimal and scaled fixed-point binary values, and for guaranteeing a minimum number of digits in the decimal representation. See also [Cli90] for decimal to binary conversion, [SW90] for binary to decimal conversion, and [Gri90] for an alternate proof of Knuth's algorithm.

Kennedy:1965:AIA

[KO65a] D. P. Kennedy and R. R. O'Brien. Analysis of the impurity atom distribution near the diffusion mask for a planar p–n junction. *IBM Journal of Research and Development*, 9(3): 179–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1965:ECI

[KO65b] D. P. Kennedy and R. R. O'Brien. The effective carrier ionization rate in a p–n junction at avalanche breakdown. *IBM Journal of Research and Development*, 9(5/6):422–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1966:ABC

[KO66] D. P. Kennedy and R. R. O'Brien. Avalanche breakdown calculations for a planar p-n junction. *IBM Journal of Research and Development*, 10(3): 213–219, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392073`.

Kennedy:1967:MTL

[KO67] D. P. Kennedy and R. R. O'Brien. On the mathematical theory of the linearly-graded P-N junction. *IBM Journal of Research and Development*, 11 (3):252–270, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391991`.

Kennedy:1969:MIA

[KO69a] D. P. Kennedy and R. R. O'Brien. On the measurement of impurity atom distributions by the differential capacitance technique. *IBM Journal of Research and Development*, 13(2): 212–214, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1969:TMA

[KO69b] D. P. Kennedy and R. R. O'Brien. Two-dimensional mathematical analysis of a planar type junction field-effect transistor. *IBM Journal of Research and Development*, 13(6): 662–674, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kennedy:1970:CAT

[KO70] D. P. Kennedy and R. R. O'Brien. Computer aided two-dimensional analysis of the junction field-effect transistor. *IBM Journal of Research and Development*, 14(2):95–116, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kobayashi:1970:CSR

[Kob70] H. Kobayashi. Coding schemes for reduction of intersymbol interference in data transmission systems. *IBM Journal of Research and Development*, 14 (4):343–353, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kobayashi:1971:APD

[Kob71] H. Kobayashi. Application of probabilistic decoding to digital magnetic recording systems. *IBM Journal of Research and Development*, 15(1):64–74, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kochen:1959:EMS

[Koc59] M. Kochen. Extension of Moore-Shannon model for relay circuits. *IBM Journal of Research and Development*, 3 (2):169–186, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392608`.

Koes:2018:PBC

[Koe18] D. R. Koes. The Pharmit backend: A computer systems approach to enabling interactive online drug discovery. *IBM Journal of Research and Development*, 62(6):3:1–3:6, Novem-

ber/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kogbetliantz:1957:CUE

[Kog57] E. G. Kogbetliantz. Computation of e^N for $-\infty < N < +\infty$ using an electronic computer. *IBM Journal of Research and Development*, 1(2): 110–115, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392731`.

Kogbetliantz:1958:CAUb

[Kog58a] E. G. Kogbetliantz. Computation of arcsin N for $0 < N < 1$ using an electronic computer. *IBM Journal of Research and Development*, 2 (3):218–222, July 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392625`.

Kogbetliantz:1958:CAUa

[Kog58b] E. G. Kogbetliantz. Computation of arctan N for $-\infty < N < +\infty$ using an electronic computer. *IBM Journal of Research and Development*, 2 (1):43–53, January 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392657`.

Kogbetliantz:1959:CSC

[Kog59] E. G. Kogbetliantz. Computation of $\sin N$, $\cos N$, and Mth root of N using an electronic computer. *IBM Journal of Research and Development*, 3 (2):147–152, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392605`.

Kogge:1974:PSR

[Kog74] P. M. Kogge. Parallel solution of recurrence problems. *IBM Journal of Research and Development*, 18(2):138–148, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kogge:1994:P

[Kog94] P. M. Kogge. Preface. *IBM Journal of Research and Development*, 38(2):115, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#one`.

Kohl:1998:PES

[Koh98] P. A. Kohl. Photoelectrochemical etching of semiconductors. *IBM Journal of Research and Development*, 42(5): 629–637, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/kohl.html`.

Kolsky:1967:SCA

[Kol67] H. G. Kolsky. Some computer aspects of meteorology. *IBM Journal of Research and Development*, 11(6): 584–600, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391905`.

Konnerth:1969:UTS

[Kon69] K. L. Konnerth. Use of a terminal system for data acquisition. *IBM Journal of Research and Development*, 13(1): 132–138, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

King:2014:MFR

[KOP14] A. J. King, A. Orani, and F. N. Parr. Middleware for financial risk data aggregation. *IBM Journal of Research and Development*, 58(4):4:1–4:10, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Kostenko:2015:PIZ

[Kos15] W. P. Kostenko. Preface: IBM z13 technology and design. *IBM Journal of Research and Development*, 59(4–5):1–4, July/ September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuo:1999:PPF

[KOT99] Y. Kuo, M. Okajima, and M. Takeichi. Plasma processing in the fabrication of amorphous silicon thin-film-transistor arrays. *IBM Journal of Research and Development*, 43 (1/2):73–88, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/kuo.html`.

Koves:1959:APC

[Kov59] G. Koves. Application of phase-contrast metallography in a production laboratory. *IBM Journal of Research and Development*, 3(1):85–92, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392594`.

Kovac:2006:MGM

[Kov06] Caroline A. Kovac. Message from the General Manager, Healthcare and Life Sciences Industry, IBM Public Sector. *IBM Journal of Research and Development*, 50 (6):??, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/message.html`.

Kozen:1981:PFL

[Koz81a] Dexter Kozen. Positive first-order logic is NP-Complete. *IBM Journal of Research and Development*, 25(4):327–332,

July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kozen:1981:PFO

[Koz81b] Dexter Kozen. Positive first-order logic is NP-complete. *IBM Journal of Research and Development*, 25(??):327–332, 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kroll:1959:TFS

[KP59] N. M. Kroll and I. Palocz. Theory of a fast-switching electron-beam frequency divider. *IBM Journal of Research and Development*, 3(4): 345–354, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392574`.

Koves:1963:DOS

[KP63] G. Koves and J. Pesch. On the direct observation of the substructure network in iron [letter to the editor]. *IBM Journal of Research and Development*, 7(2):160–162, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392296`.

Keller:1979:EPR

[KP79] John H. Keller and William B. Pennebaker. Electrical properties of RF sputtering systems. *IBM Journal of Research and Development*, 23(1):3–15, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kyser:1980:CSE

[KP80] David F. Kyser and Richard Pyle. Computer simulation of electron-beam resist profiles. *IBM Journal of Research and Development*, 24(4):426–437, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kalyanpur:2012:FBQ

[KPB+12] A. Kalyanpur, S. Patwardhan, B. K. Boguraev, A. Lally, and J. Chu-Carroll. Fact-based question decomposition in DeepQA. *IBM Journal of Research and Development*, 56 (3–4):13:1–13:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kiseda:1961:MAM

[KPST61] J. R. Kiseda, H. E. Petersen, W. C. Seelbach, and M. Teig. A magnetic associative memory. *IBM Journal of Research and Development*, 5(2): 106–121, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392436`.

Knickerbocker:2002:AMM

[KPT+02] J. U. Knickerbocker, F. L. Pompeo, A. F. Tai, D. L. Thomas, R. D. Weekly, M. G. Nealon, H. C. Hamel, A. Haridass, J. N. Humenik, R. A. Shelleman, S. N. Reddy, K. M. Prettyman, B. V. Fasano, S. K. Ray, T. E. Lombardi, K. C. Marston, P. A. Coico, P. J. Brofman, L. S. Goldmann, D. L. Edwards, J. A. Zitz, S. Iruvanti, S. L. Shinde, and H. P. Longworth. An advanced multichip module (MCM) for high-performance UNIX servers. *IBM Journal of Research and Development*, 46 (6):779–804, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/knickerbocker.pdf`.

Karp:1987:ERP

[KR87] Richard M. Karp and Michael O. Rabin. Efficient randomized pattern-matching algorithms. *IBM Journal of Research and Development*, 31(2):249–260, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Krakow:1981:CSH

[Kra81] William Krakow. Computer simulation of high-resolution electron micrographs using dynamical electron scattering. *IBM Journal of Research and Development*, 25(1):58–70, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ku:1968:CLD

[KRC68] T. C. Ku, J. H. Ramsey, and W. C. Clinton. Calculation of liquid droplet profiles from closed-form solution of Young-Laplace equation. *IBM Journal of Research and Development*, 12(6):441–447, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kalantar:2014:WLR

[KRD+14] M. H. Kalantar, F. Rosenberg, J. Doran, T. Eilam, M. D. Elder, F. Oliveira, E. C. Snible, and T. Roth. Weaver: Language and runtime for software defined environments. *IBM Journal of Research and Development*, 58(2–3):10:1–10:12, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kriz:1982:RDR

[Kri82] T. A. Kriz. Reduced data reorder complexity properties of polynomial transform 2D convolution and Fourier Transform methods. *IBM Journal of Research and Development*, 26(6): 708–714, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kronick:1958:MFP

[Kro58] H. E. Kronick. Magnetic field plotter for superconducting films. *IBM Journal of Re-*

search and Development, 2(3): 252–254, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392629`.

Kuhlman:2017:HFI

[KRS+17] C. Kuhlman, K. N. Ramamurthy, P. Sattigeri, A. C. Lozano, L. Cao, C. Reddy, A. Mojsilovi, and K. R. Varshney. How to foster innovation: A data-driven approach to measuring economic competitiveness. *IBM Journal of Research and Development*, 61 (6):11:1–11:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Krongelb:1998:EPA

[KRT98] S. Krongelb, L. T. Romankiw, and J. A. Tornello. Electrochemical process for advanced package fabrication. *IBM Journal of Research and Development*, 42(5):575–585, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/krongelb.html`.

Kapoor:2012:ETA

[KRTN+12] S. Kapoor, B. K. Ray, C. Toft-Nielsen, K. Dobrindt, K. Anikeev, D. Subramanian, Y. Drissi, C. Jiang, and J. Fu. Enterprise transformation: An analytics-based approach to strategic planning. *IBM Journal of Research and Development*, 56(6): 9:1–9:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353948`.

Kruskal:1984:MMP

[Kru84] Vincent Kruskal. Managing multi-version programs with an editor. *IBM Journal of Research and Development*, 28(1): 74–81, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kehr:1966:SAC

[KS66] W. D. Kehr and H. E. Seese. Surface attack in chromium-iron alloys. *IBM Journal of Research and Development*, 10 (5):420–421, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392054`.

Keller:1979:SPM

[KS79] John H. Keller and Royce G. Simmons. Sputtering process model of deposition rate. *IBM Journal of Research and Development*, 23(1):24–32, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Keller:1990:BSS

[KS90] B. L. Keller and T. J. Snethen. Built-in self-test support in the

IBM Engineering Design System. *IBM Journal of Research and Development*, 34(2/3):406–415, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuczynski:2001:SMN

[KS01] J. Kuczynski and A. K. Sinha. Strain measurement and numerical analysis of an epoxy adhesive subjected to thermal loads. *IBM Journal of Research and Development*, 45(6): 783–788, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/456/kuczynski.html; http://www.research.ibm.com/journal/rd/456/kuczynski.pdf`.

Kramer:2004:DSC

[KSA+04] W. T. C. Kramer, A. Shoshani, D. A. Agarwal, B. R. Draney, G. Jin, G. F. Butler, and J. A. Hules. Deep scientific computing requires deep data. *IBM Journal of Research and Development*, 48(2):209–232, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/kramer.html; http://www.research.ibm.com/journal/rd/482/kramer.pdf`.

Korevaar:2007:IBO

[KSB07] P. Korevaar, U. Schimpel, and R. Boedi. Inventory budget optimization: Meeting system-wide service levels in practice. *IBM Journal of Research and Development*, 51(3/4):447–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/korevaar.html`.

Keihl:1990:HFI

[KSF90] R. A. Keihl, P. M. Solomon, and D. J. Frank. Heterojunction FETs in III-V compounds. *IBM Journal of Research and Development*, 34 (4):506–529, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kozloski:2008:ITA

[KSH+08] J. Kozloski, K. Sfyrakis, S. Hill, F. Schürmann, C. Peck, and H. Markram. Identifying, tabulating, and analyzing contacts between branched neuron morphologies. *IBM Journal of Research and Development*, 52(1/2):43–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/kozloski.html`.

Kusafuka:1998:DMG

[KSK98] K. Kusafuka, H. Shimizu, and S. Kimura. Driving method for gate-delay compensation of TFT/LCD. *IBM Journal of Research and Development*, 42

(3/4):459–466, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/kusafuka.html`.

Kuehlmann:1995:VFV

[KSL95] A. Kuehlmann, A. Srinivasan, and D. P. LaPotin. Verity — a formal verification program for custom CMOS circuits. *IBM Journal of Research and Development*, 39(1/2):149–165, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#fourteen`.

Konopnicki:2013:SAM

[KSSC+13] D. Konopnicki, M. Shmueli-Scheuer, D. Cohen, B. Sznajder, J. Herzig, A. Raviv, N. Zwerling, H. Roitman, and Y. Mass. A statistical approach to mining customers' conversational data from social media. *IBM Journal of Research and Development*, 57(3/4):14:1–14:13, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Knapp:1958:ESS

[KST58] C. H. Knapp, E. Shapiro, and R. A. Thorpe. An error-sampled sweep-position control system. *IBM Journal of Research and Development*, 2 (1):14–35, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392655`.

King:1974:ESP

[KSW74] W. F. King III, S. E. Smith, and I. Wladawsky. Effects of serial programs in multiprocessing systems. *IBM Journal of Research and Development*, 18 (4):303–309, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

King:1966:SES

[KT66] J. H. King and C. J. Tunis. Some experiments in spoken word recognition. *IBM Journal of Research and Development*, 10(1):65–79, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392105`.

Kobayashi:1970:APC

[KT70] H. Kobayashi and D. T. Tang. Application of partial-response channel coding to magnetic recording systems. *IBM Journal of Research and Development*, 14(4):368–375, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kobayashi:1973:DRC

[KT73] H. Kobayashi and D. T. Tang. Decision-feedback receiver for channels with strong intersymbol interference. *IBM Journal*

of Research and Development, 17(5):413–419, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kovac:1984:ITC

[KT84] Zlata Kovac and King-Ning N. Tu. Immersion tin: its chemistry, metallurgy, and application in electronic packaging technology. *IBM Journal of Research and Development*, 28(6): 726–734, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kostenko:2020:IZI

[KTD20] W. P. Kostenko, J. G. Torok, and D. W. Demetriou. IBM z15: Improved data center density and energy efficiency, new system packaging, and modeling. *IBM Journal of Research and Development*, 64 (5/6):16:1–16:10, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ku:1963:ATS

[Ku63] T. C. Ku. An amendment to "A Theoretical Solution for the Magnetic Field in the Vicinity of a Recording Head Air Gap" [letter to the editor]. *IBM Journal of Research and Development*, 7(4):355, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392267`.

Kuan:1995:PCI

[Kua95] T. S. Kuan. Preface: On-chip interconnection technology. *IBM Journal of Research and Development*, 39 (4):370, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#one`.

Kuehler:1960:NEM

[Kue60] J. D. Kuehler. A new electron mirror design [letter to the editor]. *IBM Journal of Research and Development*, 4 (2):202–204, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392552`.

Kuech:1990:PTL

[Kue90] T. F. Kuech. Preface: Thin-layer formation. *IBM Journal of Research and Development*, 34(6):794, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuhn:1960:SCL

[Kuh60] H. W. Kuhn. Some combinatorial lemmas in topology. *IBM Journal of Research and Development*, 4(5): 518–524, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392466`.

Kuhn:1988:OLP

[Kuh88] Hans Kuhn. Origin of life and physics: Diversified microstructure — inducement to form information-carrying and knowledge-accumulating systems. *IBM Journal of Research and Development*, 32(1):37–46, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kump:1965:DFU

[Kum65] H. J. Kump. Demagnetization of flat uniaxial thin films under hard direction drive. *IBM Journal of Research and Development*, 9(2):118–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kumar:1992:UDC

[Kum92] M. Kumar. Unique design concepts in GF11 and their impact on performance. *IBM Journal of Research and Development*, 36(6):990–1000, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kumar:1998:VSD

[Kum98] M. Kumar. Video-server designs for supporting very large numbers of concurrent users. *IBM Journal of Research and Development*, 42(2): 219–232, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/kumar.html`.

Kuo:1992:RIE

[Kuo92] Y. Kuo. Reactive ion etching technology in thin-film-transistor processing. *IBM Journal of Research and Development*, 36(1):69–75, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuo:1999:PPP

[Kuo99] Y. Kuo. Preface: Papers on plasma processing. *IBM Journal of Research and Development*, 43(1/2):3–4, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/preface.html`.

Kurtz:1957:SCF

[Kur57] J. A. Kurtz. Superconducting connections to films. *IBM Journal of Research and Development*, 1(4):373, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392704`.

Kurtzberg:1987:FAS

[Kur87] Jerome M. Kurtzberg. Feature analysis for symbol recognition by elastic matching. *IBM Journal of Research and Development*, 31(1):91–95, January 1987. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuse:1970:IMO

[Kus70] D. Kuse. Influence of magnetic ordering on the Faraday effect in $CdCr_2Se_4$. *IBM Journal of Research and Development*, 14 (3):315–317, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kuznietz:1970:LMI

[Kuz70] M. Kuznietz. Long-range magnetic interactions (RKKY-type) in the UP-US solid solutions. *IBM Journal of Research and Development*, 14(3):224–226, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kreutzer:2020:IHN

[KVP+20] T. Kreutzer, P. Vinck, P. N. Pham, A. An, L. Appel, E. DeLuca, G. Tang, M. Alzghool, K. Hachhethu, B. Morris, S. L. Walton-Ellery, J. Crowley, and J. Orbinski. Improving humanitarian needs assessments through natural language processing. *IBM Journal of Research and Development*, 64 (1/2):9:1–9:14, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kochen:1962:CPC

[KW62] M. Kochen and E. Wong. Concerning the possibility of a cooperative information exchange [letter to the editor]. *IBM Journal of Research and Development*, 6(2): 270–271, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392367`.

Kidd:1976:PME

[KW76] Robert H. Kidd III and Robert H. Wolfe, Jr. Performance modeling of Earth resources remote sensors. *IBM Journal of Research and Development*, 20(1):29–39, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koppelman:1983:OSI

[KW83] George M. Koppelman and Michael A. Wesley. Oyster: a study of integrated circuits as three-dimensional structures. *IBM Journal of Research and Development*, 27(2): 149–163, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kirtley:1988:STM

[KWB88] J. R. Kirtley, S. Washburn, and M. J. Brady. Scanning tunneling measurements of potential steps at grain boundaries in the presence of current flow. *IBM Journal of Research and Development*, 32 (3):414–418, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kisilev:2015:MIA

[KWB+15] P. Kisilev, E. Walach, E. Barkan, B. Ophir, S. Alpert, and S. Y. Hashoul. From medical image to automatic medical report generation. *IBM Journal of Research and Development*, 59(2–3):2:1–2:7, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koerner:2012:FVS

[KWH+12] S. Koerner, C. Werner, T. Hess, P. Schulz, M. Strasser, S. Wagner, H. Böhm, M. Troester, D. Bolte, H. Elfering, T. Pohl, K. Theurich, W. H. Miller, and P. Szwed. Firmware verification and simulation in IBM zEnterprise 196. *IBM Journal of Research and Development*, 56(1–2):14:1–14:17, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kim:1984:MED

[KWJJ84] Jungihl Kim, Sheree H. Wen, Dae Young Jung, and Robert W. Johnson. Microstructure evolution during electroless copper deposition. *IBM Journal of Research and Development*, 28(6):697–710, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Kumar:2001:PFE

[KWN01] S. Kumar, H. J. Wolfson, and R. Nussinov. Protein flexibility and electrostatic interactions. *IBM Journal of Research and Development*, 45 (3/4):499–512, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/kumar.html`; `http://www.research.ibm.com/journal/rd/453/kumar.pdf`.

Kotsugi:2011:DMA

[KWT+11] M. Kotsugi, T. Wakita, T. Taniuchi, H. Maruyama, C. Mitsumata, K. Ono, M. Suzuki, N. Kawamura, N. Ishimatsu, M. Oshima, Y. Watanabe, and M. Taniguchi. Direct metallographic analysis of an iron meteorite using hard X-ray photoelectron emission microscopy. *IBM Journal of Research and Development*, 55(4):13:1–13:5, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Koester:2008:WLI

[KYY+08] Steven J. Koester, Albert M. Young, Roy R. Yu, Sampath Purushothaman, Kuan-Neng Chen, Douglas C. La Tulipe, Jr., Narender Rana, Leathen Shi, Matthew R. Wordeman, and Edmund J. Sprogis. Wafer-level 3D integration technology. *IBM Journal of Research and Development*, 52(6):583–597, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/koester.html`.

Kim:2003:FGR

[KZP03] S. Kim, C. H. Ziesler, and M. C. Papaefthymiou. Fine-grain real-time reconfigurable pipelining. *IBM Journal of Research and Development*, 47 (5/6):599–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/kim.pdf`.

Lafuente:1980:STC

[Laf80] J. M. Lafuente. Some techniques for compile-time analysis of user-computer interactions. *IBM Journal of Research and Development*, 24(6): 716–731, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1984:TTE

[LAG+84] M. H. Lee, J. E. Ayala, B. D. Grant, W. Imaino, A. Jaffe, M. R. Latta, and S. L. Rice. Technology trends in electrophotography. *IBM Journal of Research and Development*, 28(3):241–251, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lai:2008:FMS

[Lai08] Stefan K. Lai. Flash memories: Successes and challenges. *IBM Journal of Research and Development*, 52(4/5):529–435, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/lai.html`.

Lam:1977:EMR

[Lam77a] S. S. Lam. An extension of Moore's result for closed queuing networks. *IBM Journal of Research and Development*, 21 (4):384–387, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lam:1977:QNP

[Lam77b] S. S. Lam. Queueing networks with population size constraints. *IBM Journal of Research and Development*, 21 (4):370–378, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Landauer:1957:SVC

[Lan57] R. Landauer. Spatial variation of currents and fields due to localized scatterers in metallic conduction. *IBM Journal of Research and Development*, 1 (3):223–231, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392683`.

Landauer:1960:SWN

[Lan60] R. Landauer. Shock waves in nonlinear transmission lines and their effect on parametric amplification. *IBM Journal of Research and Development*, 4 (4):391–401, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392514.

Landauer:1961:IHG

[Lan61] R. Landauer. Irreversibility and heat generation in the computing process. *IBM Journal of Research and Development*, 5 (3):183–191, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392446.

Langlois:1963:LLF

[Lan63] W. E. Langlois. The lightly loaded foil bearing at zero angle of wrap. *IBM Journal of Research and Development*, 7 (2):112–116, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392285.

Langlois:1966:CTM

[Lan66] W. E. Langlois. Conditions for termination of the method of steepest descent after a finite number of iterations. *IBM Journal of Research and Development*, 10 (1):98–99, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392109.

Lanza:1974:AAG

[Lan74] C. Lanza. Analysis of an AC gas display panel. *IBM Journal of Research and Development*, 18(3):232–243, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Langdon:1984:EIA

[Lan84a] Glen G. Langdon, Jr. Erratum: "An introduction to arithmetic coding". *IBM Journal of Research and Development*, 28(4):498, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [Lan84b].

Langdon:1984:IAC

[Lan84b] Glen G. Langdon, Jr. An introduction to arithmetic coding. *IBM Journal of Research and Development*, 28(2): 135–149, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See comment [Lan84a].

Langlois:1985:DEG

[Lan85] W. E. Langlois. Dynamical equations governing a lubricating film consisting of a gas film overlying a liquid film. *IBM Journal of Research and Development*, 29(1):2–10, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lang:1986:EST

[Lan86] Norton D. Lang. Electronic structure and tunneling current

for chemisorbed atoms. *IBM Journal of Research and Development*, 30(4):374–379, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Landauer:1988:SVC

[Lan88] R. Landauer. Spatial variation of currents and fields due to localized scatterers in metallic conduction. *IBM Journal of Research and Development*, 32 (3):306–316, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Landauer:1996:CSV

[Lan96] R. Landauer. Comment: "Spatial variation of currents and fields due to localized scatterers in metallic conduction" [IBM J. Res. Develop. **1** (1957), 223–231; MR **19**, 805g]. With a reprint of the 1957 original. *Journal of Mathematical Physics*, 37(10):5259–5268, October 1996. CODEN JMAPAQ. ISSN 0022-2488 (print), 1089-7658 (electronic), 1527-2427. See [Lan00b].

Landauer:2000:IHG

[Lan00a] R. Landauer. Irreversibility and heat generation in the computing process. *IBM Journal of Research and Development*, 44 (1/2):261–269, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/landauerii.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Landauer:2000:SVC

[Lan00b] R. Landauer. Spatial variation of currents and fields due to localized scatterers in metallic conduction. *IBM Journal of Research and Development*, 44 (1/2):251–259, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/landaueri.pdf`. Special issue: reprints on Evolution of information technology 1957–1999. See comment [Lan96].

Larsen:1980:SAD

[Lar80] Richard A. Larsen. A silicon and aluminum dynamic memory technology. *IBM Journal of Research and Development*, 24(3):268–282, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lasher:1961:DSO

[Las61] G. J. Lasher. The dynamics of a subharmonic oscillator with linear dissipation. *IBM Journal of Research and Development*, 5(2):157–161, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392440`.

Lasher:1963:TRD

[Las63] G. J. Lasher. Threshold relations and diffraction loss for injection lasers. *IBM Journal of Research and Development*, 7(1):58–61, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392337`.

Lathwell:1973:SFA

[Lat73] R. H. Lathwell. System formulation and APL shared variables. *IBM Journal of Research and Development*, 17(4):353–359, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Law:2002:PMF

[Law02] M. E. Law. Process modeling for future technologies. *IBM Journal of Research and Development*, 46(2/3):339–346, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/law.html`; `http://www.research.ibm.com/journal/rd/462/law.pdf`.

Lax:1967:HDE

[Lax67] Peter D. Lax. Hyperbolic difference equations: a review of the Courant-Friedrichs-Lewy paper in the light of recent developments. *IBM Journal of Research and Development*, 11(2):235–238, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391986`.

Laux:1985:SDS

[LB85] Steven E. Laux and Robert G. Byrnes. Semiconductor device simulation using generalized mobility models. *IBM Journal of Research and Development*, 29(3):289–301, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Labbi:2007:OMP

[LB07] A. Labbi and C. Berrospi. Optimizing marketing planning and budgeting using Markov decision processes: an airline case study. *IBM Journal of Research and Development*, 51 (3/4):421–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/labbi.html`.

Liberty:2013:THR

[ABB+13] John S. Liberty, Adrian Barrera, David W. Boerstler, Thomas B. Chadwick, Scott R. Cottier, H. Peter Hofstee, Julie A. Rosser, and Marty L. Tsai. True hardware random number generation implemented in the 32-nm SOI POWER7+ processor. *IBM Journal of Research and Development*, 57(6):4:1–4:7, November–December 2013. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Li:2014:SDE

[LBC+14] C. Li, B. L. Brech, S. Crowder, D. M. Dias, H. Franke, M. Hogstrom, D. Lindquist, G. Pacifici, S. Pappe, B. Rajaraman, J. Rao, R. P. Ratnaparkhi, R. A. Smith, and M. D. Williams. Software defined environments: An introduction. *IBM Journal of Research and Development*, 58(2–3):1:1–1:11, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Logue:1975:HIS

[LBH+75] J. C. Logue, N. F. Brickman, F. Howley, J. W. Jones, and W. W. Wu. Hardware implementation of a small system in programmable logic arrays. *IBM Journal of Research and Development*, 19(2): 110–119, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lo:1999:MCQ

[LBT99] S.-H. Lo, D. A. Buchanan, and Y. Taur. Modeling and characterization of quantization, polysilicon depletion, and direct tunneling effects in MOSFETs with ultrathin oxides. *IBM Journal of Research and Development*, 43(3):327–337, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/lo.html`.

Lee:1980:IPM

[LC80] Ho Chong Lee and Hi Dong Chai. Integral point-matching method for two-dimensional Laplace field problems with periodic boundaries. *IBM Journal of Research and Development*, 24(5):622–630, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Levenson:1982:IPN

[LC82] M. D. Levenson and K. Chiang. Image projection with nonlinear optics. *IBM Journal of Research and Development*, 26 (2):160–170, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1983:BSE

[LC83] H. C. Lee and H. D. Conway. Bending and stretching an elastic strip around a narrow cylindrical drum. *IBM Journal of Research and Development*, 27(6):590–597, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lim:1993:PSB

[LCB93] C. K. Lim, T. Caulfield, and J. A. Benenati. Preface: Solder ball connect technology. *IBM Journal of Research and Development*, 37(5):582–583, September 1993. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lay:1974:SCO

[LCH74] F. M. Lay, C. K. Chu, and P. H. Haberland. Simulation of cyclic operation of a gas panel device. *IBM Journal of Research and Development*, 18 (3):244–249, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Licata:1995:IFP

[LCHL95] T. J. Licata, E. G. Colgan, J. M. E. Harper, and S. E. Luce. Interconnect fabrication processes and the development of low-cost wiring for CMOS products. *IBM Journal of Research and Development*, 39(4):419–435, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#five`.

Lien:1998:AMD

[LCL+98] S.-C. A. Lien, P. Chaudhari, J. A. Lacey, R. A. John, and J. L. Speidell. Active-matrix display using ion-beam-processed polyimide film for liquid crystal alignment. *IBM Journal of Research and Development*, 42(3/4):537–542, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/lien.html`.

Lindsted:1972:AET

[LD72] R. D. Lindsted and D. A. DiCicco. Analytical and experimental thermal analysis of multiple heat sources in integrated semiconductor chips. *IBM Journal of Research and Development*, 16(3):303–306, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lever:1974:WVO

[LD74] R. F. Lever and H. M. Demsky. Water vapor as an oxidant in BBr_3 open-tube silicon diffusion systems. *IBM Journal of Research and Development*, 18 (1):40–46, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Laff:1963:DEG

[LDDB63] R. A. Laff, W. P. Dumke, F. H. Dill, and G. Burns. Directionality effects of GaAs light-emitting diodes: Part II [letter to the editor]. *IBM Journal of Research and Development*, 7(1):63–65, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392339`.

LaPotin:2010:WNO

[LDJ+10] D. P. LaPotin, S. Daijavad, C. L. Johnson, S. W. Hunter, K. Ishizaki, H. Franke, H. D. Achilles, D. P. Dumarot, N. A. Greco, and B. Davari. Workload and network-optimized

computing systems. *IBM Journal of Research and Development*, 54(1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/lapotin.html`.

Lee:1984:MMP

[LDL84] L. C. Lee, V. S. Darekar, and C. K. Lim. Micromechanics of multilayer printed circuit boards. *IBM Journal of Research and Development*, 28(6): 711–718, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lochtefeld:2002:NIC

[LDSA02] A. Lochtefeld, I. J. Djomehri, G. Samudra, and D. A. Antoniadis. New insights into carrier transport in n-MOSFETs. *IBM Journal of Research and Development*, 46(2/3):347–357, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/lochtefeld.html`; `http://www.research.ibm.com/journal/rd/462/lochtefeld.pdf`.

Lorie:1991:EDP

[LDSY91] R. A. Lorie, J.-J. Daudenarde, J. W. Stamos, and H. C. Young. Exploiting database parallelism in a message-passing multiprocessor. *IBM Journal of Research and Development*, 35(5/6):681–695, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

LeMehaute:1962:ADI

[Le 62] C. Le Mehaute. Application of differential interferometry with two polarized beams [letter to the editor]. *IBM Journal of Research and Development*, 6 (2):263–267, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392365`.

LeBlanc:1962:ART

[LeB62] M. A. R. LeBlanc. Anomalous resistive transitions and new phenomena in hard superconductors. *IBM Journal of Research and Development*, 6 (1):122–125, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392426`.

Lederle:1971:HCA

[Led71] G. M. Lederle. Heat-transfer calculations at the tape-head interface of a computer tape drive. *IBM Journal of Research and Development*, 15(3):236–241, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1974:DFL

[Lee74] H. C. Lee. Drop formation in a liquid jet. *IBM Journal of*

Research and Development, 18 (4):364–369, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1977:BLA

[Lee77a] H. C. Lee. Boundary layer around a liquid jet. *IBM Journal of Research and Development*, 21(1):48–51, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1977:AMC

[Lee77b] Hsing-San S. Lee. Analysis of the merged charge memory (MCM) cell. *IBM Journal of Research and Development*, 21 (5):402–414, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:2007:MIN

[Lee07] J. Lee. Mixed-integer nonlinear programming: Some modeling and solution issues. *IBM Journal of Research and Development*, 51 (3/4):489–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/lee.html`.

Lehman:1964:CAE

[Leh64] H. S. Lehman. Chemical and ambient effects on surface conduction in passivated silicon semiconductors. *IBM Journal of Research and Development*, 8(4):422–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lehmann:1978:INL

[Leh78] H. Lehmann. Interpretation of natural language in an information system. *IBM Journal of Research and Development*, 22(5):560–572, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Leibowitz:1961:AMT

[Lei61] M. A. Leibowitz. An approximate method for treating a class of multiqueue problems. *IBM Journal of Research and Development*, 5(3): 204–209, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392448`.

Leibowitz:1962:NSF

[Lei62] M. A. Leibowitz. A note on some fundamental parameters of multiqueue systems [letter to the editor]. *IBM Journal of Research and Development*, 6 (4):470–471, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392324`.

Lentz:1958:NAS

[Len58] J. J. Lentz. A new approach to small-computer programming and control. *IBM Journal of Research and Development*, 2 (1):72–83, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392659`.

Lennemann:1974:AAD

[Len74] E. Lennemann. Aerodynamic aspects of disk files. *IBM Journal of Research and Development*, 18(6):480–488, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lester:1971:IPB

[Les71] W. A. Lester, Jr. Interaction potential between Li^+ and HD: region for rotational excitation cross sections. *IBM Journal of Research and Development*, 15 (3):222–229, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lever:1964:EBS

[Lev64] R. F. Lever. The equilibrium behavior of the silicon–hydrogen–chlorine system. *IBM Journal of Research and Development*, 8(4):460–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lever:1966:CIT

[Lev66] R. F. Lever. Computation of ion trajectories in the monopole mass spectrometer by numerical integration of Mathieu's equation. *IBM Journal of Research and Development*, 10 (1):26–40, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392102`.

Levanoni:1977:SFF

[Lev77] M. Levanoni. Study of fluid flow through scaled-up ink jet nozzles. *IBM Journal of Research and Development*, 21(1):56–68, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lew:1973:AES

[Lew73] J. S. Lew. Asymptotic expansion for small magnetic fields of acoustoelectric attenuation in nondegenerate semiconductors. *IBM Journal of Research and Development*, 17(3):270–272, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lew:1975:SRB

[Lew75] J. S. Lew. On some relations between the Laplace and Mellin transforms. *IBM Journal of Research and Development*, 19(6): 582–586, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lewis:1978:RML

[Lew78a] S. J. Lewis. Regression model for LPE film property control. *IBM Journal of Research and Development*, 22(4):422–428, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lewis:1978:OPM

[Lew78b] Sanford J. Lewis. Organic photovoltaic materials: Squarylium and cyanine-TCNQ dyes. *IBM Journal of Research and Development*, 22(4):422–428, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lew:1980:OAL

[Lew80] John S. Lew. Optimal accelerometer layouts for data recovery in signature verification. *IBM Journal of Research and Development*, 24(4):496–511, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lew:1983:IRC

[Lew83] John S. Lew. Improved regional correlation algorithm for signature verification which permits small speed changes between handwriting segments. *IBM Journal of Research and Development*, 27(2):181–185, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lewis:2012:GIB

[Lew12] B. L. Lewis. In the game: The interface between Watson and Jeopardy! *IBM Journal of Research and Development*, 56(3–4):17:1–17:6, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lasher:1964:MQI

[LF64] G. J. Lasher and A. B. Fowler. Mutually quenched injection lasers as bistable devices. *IBM Journal of Research and Development*, 8(4):471–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lang:1977:ICL

[LF77] Tomas Lang and Eduardo B. Fernández. Improving the computation of lower bounds for optimal schedules. *IBM Journal of Research and Development*, 21(3):273–280, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lutz:1995:AFM

[LFC95] M. A. Lutz, R. M. Feenstra, and J. O. Chu. Atomic force microscopy studies of SiGe films and Si/SiGe heterostructures. *IBM Journal of Research and Development*, 39(6):629–637, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#four`.

Laux:1990:MCA

[LFF90] S. E. Laux, M. V. Fischetti, and D. J. Frank. Monte Carlo analysis of semiconductor devices: The DAMOCLES program. *IBM Journal of Research and Development*, 34(4):466–494, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lanzerotti:2005:MPI

[LFR05] M. Y. Lanzerotti, G. Fiorenza, and R. A. Rand. Microminiature packaging and integrated circuitry: The work of E. F. Rent, with an application to on-chip interconnection requirements. *IBM Journal of Research and Development*, 49 (4/5):777–803, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/lanzerotti.html`.

Lafuente:1978:LFP

[LG78] J. M. Lafuente and D. Gries. Language facilities for programming user-computer dialogues. *IBM Journal of Research and Development*, 22(2):145–158, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Leidheiser:1988:ITT

[LG88] Henry Leidheiser, Jr. and Richard D. Granata. Ion transport through protective polymeric coatings exposed to an aqueous phase. *IBM Journal of Research and Development*, 32(5):582–590, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Llobet:2017:MNS

[LGBV17] J. Y. Puigbò Llobet, M. A. Gonzalez-Ballester, and P. F. M. J. Verschure. Modeling the neural substrates of learning through conditioning: A two-phased model. *IBM Journal of Research and Development*, 61 (2–3):9:1–9:11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7922648/`.

Liu:2003:DIA

[LGF+03] D. Liu, B. P. Gaucher, E. B. Flint, T. W. Studwell, H. Usui, and T. J. Beukema. Developing integrated antenna subsystems for laptop computers. *IBM Journal of Research and Development*, 47(2/3):355–367, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/liu.pdf`.

Le:2015:TMS

[LGW+15] H. Q. Le, G. L. Guthrie, D. E. Williams, M. M. Michael, B. G. Frey, W. J. Starke, C. May, R. Odaira, and T. Nakaike. Transactional memory support in the IBM POWER8 processor. *IBM Journal of Research*

and Development, 59(1):8:1–8:14, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lesser:1957:RAM

[LH57] M. L. Lesser and J. W. Haanstra. The random-access memory accounting machine — I. system organization of the IBM 305. *IBM Journal of Research and Development*, 1 (1):62–71, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392719`.

Libson:1984:GMR

[LH84] M. R. Libson and H. E. Harvey. A general-purpose memory reliability simulator. *IBM Journal of Research and Development*, 28(2):196–205, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lesser:2000:RAM

[LH00] M. L. Lesser and J. W. Haanstra. The Random-access Memory Accounting Machine. I. system organization of the IBM 305. *IBM Journal of Research and Development*, 44(1/2):6–15, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/lesser.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Lougee-Heimer:2003:COI

[LH03] R. Lougee-Heimer. The Common Optimization INterface for Operations Research: Promoting open-source software in the operations research community. *IBM Journal of Research and Development*, 47(1): 57–66, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.coin-or.org/`; `http://www.research.ibm.com/journal/rd/471/lougee.pdf`.

Lesem:1969:KNW

[LHJ69] L. B. Lesem, P. M. Hirsch, and J. A. Jordan, Jr. The kinoform: a new wavefront reconstruction device. *IBM Journal of Research and Development*, 13(2): 150–155, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lamba:2017:UEP

[LHS+17] H. Lamba, M. E. Helander, M. Singh, N. Lethif, A. Bhamidipaty, S. A. Baset, A. Mojsilovi, and K. R. Varshney. Understanding the ecospace of philanthropic projects. *IBM Journal of Research and Development*, 61(6):6:1–6:10, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1981:NVC

[LHW81] D. T. Lee, S. J. Hong, and C. K. Wong. Number of vias: a control parameter for global wiring of high-density chips. *IBM Journal of Research and Development*, 25(4):261–271, July 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Liebsch:2020:CIA

[Lie20] T. Liebsch. Concurrent installation and acceptance of Summit and Sierra supercomputers. *IBM Journal of Research and Development*, 64(3/4):6:1–6:8, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Likharev:1988:CDT

[Lik88] K. K. Likharev. Correlated discrete transfer of single electrons in ultrasmall tunnel junctions. *IBM Journal of Research and Development*, 32(1): 144–158, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lin:1967:ETR

[Lin67] Tung-Po Lin. Estimation of temperature rise in electron beam heating of thin films. *IBM Journal of Research and Development*, 11(5): 527–536, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391961`.

Lin:1976:DCP

[Lin76] B. J. Lin. Deep-UV conformable-contact photolithography for bubble circuits. *IBM Journal of Research and Development*, 20(3):213–221, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ling:1981:HSB

[Lin81] Huey Ling. High-speed binary adder. *IBM Journal of Research and Development*, 25 (2/3):156–166, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Linsker:1984:IPW

[Lin84] Ralph Linsker. Iterative-improvement penalty-function-driven wire routing system. *IBM Journal of Research and Development*, 28(5):613–624, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lipari:1992:PMS

[Lip92a] N. O. Lipari. Preface: Materials science for silicon technology. *IBM Journal of Research and Development*, 36(2): 138–139, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Liptay:1992:DIE

[Lip92b] J. S. Liptay. Design of the IBM Enterprise System/9000 high-end processor. *IBM Journal of Research and Development*, 36

(4):713–731, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Little:1962:KRM

[Lit62] W. A. Little. The Kapitza resistance of metals in the normal and superconducting states. *IBM Journal of Research and Development*, 6(1): 31–33, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392408`.

Lien:1992:LFE

[LJ92] A. Lien and R. A. John. Lateral field effect in twisted nematic cells. *IBM Journal of Research and Development*, 36(1):51–58, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Liu:2007:SRS

[LJV+07] Y. Liu, H. Jones, S. Vaidya, M. Perrone, B. Tydlitát, and A. K. Nanda. Speech recognition systems on the Cell Broadband Engine processor. *IBM Journal of Research and Development*, 51(5):583–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/liu.html`.

Lorenz:2005:VTB

[LKFU05] J. Lorenz, S. Kral, F. Franchetti, and C. W. Ueberhuber. Vectorization techniques for the Blue Gene/L double FPU. *IBM Journal of Research and Development*, 49(2/3):437–446, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/lorenz.pdf`.

Logue:1981:TIE

[LKL+81] Joseph C. Logue, Walter J. Kleinfelder, Paul Lowy, J. Randal Moulic, and Wei Wha Wu. Techniques for improving engineering productivity of VLSI designs. *IBM Journal of Research and Development*, 25 (2/3):107–115, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lin:1980:EGD

[LKY80] Shu Lin, Tadao Kasami, and Saburo Yamamura. Existence of good delta-decodable codes for the two-user multiple-access adder channel. *IBM Journal of Research and Development*, 24 (4):486–495, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Langlois:1983:DSM

[LL83] William E. Langlois and Ki-Jun Lee. Digital simulation of magnetic Czochralski flow under various laboratory conditions

for silicon growth. *IBM Journal of Research and Development*, 27(3):281–284, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Leavey:1993:DCI

[LL93] J. A. Leavey and L. G. Lesoine. Design considerations for the IBM X-ray lithography facility. *IBM Journal of Research and Development*, 37(3):385–393, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Libsch:1998:UCH

[LL98] F. R. Libsch and S.-C. A. Lien. Understanding crosstalk in high-resolution color thin-film-transistor liquid crystal displays. *IBM Journal of Research and Development*, 42 (3/4):467–479, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/libsch.html`.

Lam:1999:MRH

[LL99] W.-M. Lam and L. Lu. Memory reduction for HDTV decoders. *IBM Journal of Research and Development*, 43 (4):545–553, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/lam.html`.

Lee:1992:NMA

[LLF+92] W. Lee, S. E. Laux, M. V. Fischetti, G. Baccarani, A. Gnudi, J. M. C. Stork, J. A. Mandelman, E. F. Crabbe, M. R. Wordeman, and F. Odeh. Numerical modeling of advanced semiconductor devices. *IBM Journal of Research and Development*, 36(2):208–232, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lloyd:1967:AEH

[Llo67] R. H. F. Lloyd. ASLT: An extension of hybrid miniaturization techniques. *IBM Journal of Research and Development*, 11(1):86–92, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392020`.

Lin:1980:COS

[LM80] Shu Lin and George Markowsky. On a class of one-step majority-logic decodable cyclic codes. *IBM Journal of Research and Development*, 24(1):56–63, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Laff:1985:TBR

[LM85] Robert A. Laff and Claus D. Makowka. Thermal behavior of resistive ribbon for single-stylus excitation. *IBM Journal of Research and Development*, 29(5):

527–537, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Logan:1970:MEC

[LMD70] J. S. Logan, F. S. Maddocks, and P. D. Davidse. Metal edge coverage and control of charge accumulation in RF sputtered insulators. *IBM Journal of Research and Development*, 14(2): 182–191, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1996:PPS

[LMHM96] H. S. Lee, S. S. Murthy, S. W. Haider, and D. V. Morse. Primary production scheduling at steelmaking industries. *IBM Journal of Research and Development*, 40(2):231–252, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-2.html#six`.

Lorenz:1969:LCB

[LMPP69] M. R. Lorenz, J. C. McGroddy, T. S. Plaskett, and S. Porowski. Location of the (111) conduction band minima in the $Ga_x/In_{1-x}/Sb$ alloy system. *IBM Journal of Research and Development*, 13(5): 583–586, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1984:ADI

[LMT84] F. C. Lee, R. N. Mills, and F. E. Talke. Application of drop-on-demand ink jet technology to color printing. *IBM Journal of Research and Development*, 28 (3):307–313, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Liebmann:2001:TDL

[LMW+01] L. W. Liebmann, S. M. Mansfield, A. K. Wong, M. A. Lavin, W. C. Leipold, and T. G. Dunham. TCAD development for lithography resolution enhancement. *IBM Journal of Research and Development*, 45(5): 651–665, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/liebmann.html; http://www.research.ibm.com/journal/rd/455/liebmann.pdf`.

Lorie:1979:ASL

[LN79] Raymond A. Lorie and Jorgen F. Nilsson. Access specification language for a relational data base system. *IBM Journal of Research and Development*, 23(3):286–298, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lanjewar:2008:GAF

[LNT08] Ujjwal Lanjewar, Manoj Naik, and Renu Tewari. Glamor: An architecture for file system federation. *IBM Journal of Research and Development*, 52 (4/5):329–339, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/524/lanjewar.html.

Liniger:1972:SAA

[LO72] W. Liniger and F. Odeh. *A*-stable, accurate averaging of multistep methods for stiff differential equations. *IBM Journal of Research and Development*, 16(4):335–348, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Logan:1970:CRS

[Log70] J. S. Logan. Control of RF sputtered film properties through substrate tuning. *IBM Journal of Research and Development*, 14(2):172–175, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lomet:1975:SIR

[Lom75] D. B. Lomet. Scheme for invalidating references to freed storage. *IBM Journal of Research and Development*, 19(1):26–35, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lomet:1976:OVB

[Lom76] D. B. Lomet. Objects and values: the basis of a storage model for procedural languages. *IBM Journal of Research and Development*, 20(2): 157–167, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lomet:1977:DFA

[Lom77] D. B. Lomet. Data flow analysis in the presence of procedure calls. *IBM Journal of Research and Development*, 21(6): 559–571, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lomet:1980:DDF

[Lom80] David B. Lomet. Data definition facility based on a value-oriented storage model. *IBM Journal of Research and Development*, 24(6):764–782, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lorber:1970:TGB

[Lor70] H. W. Lorber. Theory of granularity and bleaching for holographic information recording. *IBM Journal of Research and Development*, 14(5):515–520, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Low:1974:OPU

[Low74] D. W. Low. Optimal pricing for an unbounded queue. *IBM Journal of Research and Development*, 18(4):290–302, June 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Low:1978:DWD

[Low78] D. W. Low. A directed weather data filter. *IBM Journal of Research and Development*, 22(5):

487–497, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Loy:1979:TCT

[Loy79] M. M. T. Loy. Two-photon coherent transients. *IBM Journal of Research and Development*, 23(5):504–516, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ling:1975:BIC

[LP75] H. Ling and F. P. Palermo. Block-oriented information compression. *IBM Journal of Research and Development*, 19(2): 141–145, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lin:2015:MCA

[LPA+15] C. Lin, S. Pankanti, G. Ashour, D. Porat, and J. R. Smith. Moving camera analytics: Emerging scenarios, challenges, and applications. *IBM Journal of Research and Development*, 59(2–3):5:1–5:10, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lally:2012:QAH

[LPM+12] A. Lally, J. M. Prager, M. C. McCord, B. K. Boguraev, S. Patwardhan, J. Fan, P. Fodor, and J. Chu-Carroll. Question analysis: How Watson reads a clue. *IBM Journal of Research and Development*, 56 (3–4):2:1–2:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lotlikar:2014:RTC

[LPMDG14] R. M. Lotlikar, P. N. Pachigolla, D. Miller-Davie, and S. Godbole. Real-time customer probing and decision support in a call center. *IBM Journal of Research and Development*, 58(5/6):14:1–14:11, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

LAbbate:1986:CAT

[LPPT86] A. L'Abbate, C. Paoli, R. Porinelli, and M. G. Trivella. A computerized autoradiographic technique for the simultaneous high-resolution mapping of myocardial blood flow and metabolism. *IBM Journal of Research and Development*, 30 (6):627–634, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lake:2004:PWN

[LQRS04] G. Lake, T. Quinn, D. C. Richardson, and J. Stadel. The pursuit of the whole NChilada: Virtual petaflops using multiadaptive algorithms for gravitational systems. *IBM Journal of Research and Development*, 48 (2):183–198, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/`

rd/482/lake.html; http://www.research.ibm.com/journal/rd/482/lake.pdf.

LeMehaute:1965:ESI

[LR65a] C. LeMéhauté and E. Rocher. Electrodeposition of stress-insensitive Ni–Fe and Ni–Fe–Cu magnetic alloys. *IBM Journal of Research and Development*, 9(2):141–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Luttmann:1965:SNE

[LR65b] F. W. Luttmann and T. J. Rivlin. Some numerical experiments in the theory of polynomial interpolation. *IBM Journal of Research and Development*, 9(3):187–191, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lee:1979:ABD

[LR79] H. C. Lee and J. W. Raider. An application of beam dynamics to a damper design. *IBM Journal of Research and Development*, 23(4):386–391, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Levine:1997:PVP

[LR97] F. E. Levine and C. P. Roth. A programmer's view of performance monitoring in the PowerPC microprocessor. *IBM Journal of Research and Development*, 41(3):345–356, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/413/levine.html.

Ludden:2002:FVP

[LRH+02] J. M. Ludden, W. Roesner, G. M. Heiling, J. R. Reysa, J. R. Jackson, B.-L. Chu, M. L. Behm, J. R. Baumgartner, R. D. Peterson, J. Abdulhafiz, W. E. Bucy, J. H. Klaus, D. J. Klema, T. N. Le, F. D. Lewis, P. E. Milling, L. A. McConville, B. S. Nelson, V. Paruthi, T. W. Pouarz, A. D. Romonosky, J. Stuecheli, K. D. Thompson, D. W. Victor, and B. Wile. Functional verification of the POWER4 microprocessor and POWER4 multiprocessor systems. *IBM Journal of Research and Development*, 46(1):53–76, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/461/ludden.html; http://www.research.ibm.com/journal/rd/461/ludden.pdf.

Leonovich:1995:ICP

[LRMT95] G. A. Leonovich, A. P. Ranchino, W. J. Miller, and U. E. Tsou. Integrated cost and productivity learning in CMOS semiconductor manufacturing. *IBM Journal of Research and Development*, 39 (1/2):201–213, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#seventeen`.

Lungu:2017:PVM

[LRNS17] I. A. Lungu, A. Riehle, M. P. Nawrot, and M. Schmuker. Predicting voluntary movements from motor cortical activity with neuromorphic hardware. *IBM Journal of Research and Development*, 61(2–3):5:1–5:12, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921644/`.

Lenchner:2009:SDP

[LRV+09] J. Lenchner, D. Rosu, N. F. Velasquez, S. Guo, K. Christiance, D. DeFelice, P. M. Deshpande, K. Kummamuru, N. Kraus, L. Z. Luan, D. Majumdar, M. McLaughlin, S. Ofek-Koifman, Deepak P., C.-S. Perng, H. Roitman, C. Ward, and J. Young. A service delivery platform for server management services. *IBM Journal of Research and Development*, 53(6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/lenchner-rosu.html`.

Lasher:1964:TLE

[LS64] G. J. Lasher and W. V. Smith. Thermal limitations on the energy of a single injection laser light pulse. *IBM Journal of Research and Development*, 8(5):532–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lusebrink:1969:CFL

[LS69] T. R. Lusebrink and C. H. Sederholm. Computer facilities for the laboratory. *IBM Journal of Research and Development*, 13(1):65–74, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lin:1972:AWL

[LS72] C. Lin and R. F. Sullivan. An application of white light interferometry in thin film measurements. *IBM Journal of Research and Development*, 16 (3):269–276, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lewis:1973:EDM

[LS73] P. A. W. Lewis and G. S. Shedler. Empirically derived micromodels for sequences of page exceptions. *IBM Journal of Research and Development*, 17(2):86–100, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lavenberg:1975:IRS

[LS75a] S. S. Lavenberg and D. R. Slutz. Introduction to regenerative simulation. *IBM Journal of Research and Development*, 19(5):458–462, September 1975. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic).

Lavenberg:1975:RSQ

[LS75b] S. S. Lavenberg and D. R. Slutz. Regenerative simulation of a queueing model of an automated tape library. *IBM Journal of Research and Development*, 19(5):463–475, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lavenberg:1976:SMP

[LS76a] S. S. Lavenberg and G. S. Shedler. Stochastic modeling of processor scheduling with application to data base management systems. *IBM Journal of Research and Development*, 20(5):437–448, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lewis:1976:SAN

[LS76b] P. A. W. Lewis and G. S. Shedler. Statistical analysis of non-stationary series of events in a data base system. *IBM Journal of Research and Development*, 20(5): 465–482, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lavenberg:1977:SSR

[LS77] S. S. Lavenberg and C. H. Sauer. Sequential stopping rules for the regenerative method of simulation. *IBM Journal of Research and Development*, 21(6):545–558, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lanza:1978:NCC

[LS78] C. Lanza and O. Sahni. Numerical calculation of the characteristics of an isolated AC gas discharge display panel cell. *IBM Journal of Research and Development*, 22(6):641–646, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Leet:1984:CLT

[LSF84] D. Leet, P. Shearon, and R. France. A CMOS LSSD test generation system. *IBM Journal of Research and Development*, 28(5):625–635, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Le:2007:IPM

[LSF+07] H. Q. Le, W. J. Starke, J. S. Fields, F. P. O'Connell, D. Q. Nguyen, B. J. Ronchetti, W. M. Sauer, E. M. Schwarz, and M. T. Vaden. IBM POWER6 microarchitecture. *IBM Journal of Research and Development*, 51(6):639–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/le.html`.

Lum:1976:GMD

[LSH76] V. Y. Lum, N. C. Shu, and B. C. Housel. A general methodology for data conversion and restructuring. *IBM Journal of Research and Development*, 20(5):483–497, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lynch:1979:GLT

[LSH79] R. T. Lynch, Jr., M. B. Small, and R. Y. Hung. GaAs/(GaAl)As laser technology. *IBM Journal of Research and Development*, 23(5):585–595, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lu:2014:WMR

[LSS14] Y. Lu, M. Sharma, and M. S. Squillante. Workforce management: Risk-based financial planning and capacity provisioning. *IBM Journal of Research and Development*, 58(4): 8:1–8:10, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Luo:2020:PEA

[LSS+20] L. Luo, T. P. Straatsma, L. E. A. Suarez, R. Broer, D. Bykov, E. F. D'Azevedo, S. S. Faraji, K. C. Gottiparthi, C. De Graaf, J. A. Harris, R. W. A. Havenith, H. J. A. Jensen, W. Joubert, R. K. Kathir, J. Larkin, Y. W. Li, D. I. Lyakh, O. E. B. Messer, M. R. Norman, J. C. Oefelein, R. Sankaran, A. F. Tillack, A. L. Barnes, L. Visscher, J. C. Wells, and M. Wibowo. Pre-exascale accelerated application development: The ORNL Summit experience. *IBM Journal of Research and Development*, 64(3/4):11:1–11:21, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lo:1980:FDR

[LST80] T. C. Lo, Roy E. Scheuerlein, and Robert Tamlyn. 64K FET dynamic random access memory: Design considerations and description. *IBM Journal of Research and Development*, 24 (3):318–327, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Liao:2013:VAL

[LSW13] Q. Liao, L. Shi, and C. Wang. Visual analysis of large-scale network anomalies. *IBM Journal of Research and Development*, 57(3/4):13:1–13:12, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lin:2010:WNC

[LSZ+10] Y. Lin, L. Shao, Z. Zhu, Q. Wang, and R. K. Sabhikhi. Wireless network cloud: Architecture and system requirements. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.`

ibm.com/journal/abstracts/rd/541/lin.html.

Langdon:1970:CED

[LT70] G. G. Langdon, Jr. and C. K. Tang. Concurrent error detection for group look-ahead binary adders. *IBM Journal of Research and Development*, 14 (5):563–573, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lagarias:1995:WAB

[LT95] J. C. Lagarias and C. P. Tresser. A walk along the branches of the extended Farey tree. *IBM Journal of Research and Development*, 39(3):283–294, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-3.html#one.

Lucas:1981:FSP

[Luc81] P. Lucas. Formal semantics of programming languages: VDL. *IBM Journal of Research and Development*, 25(5): 549–561, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lucovsky:1999:UNG

[Luc99] G. Lucovsky. Ultrathin nitrided gate dielectrics: Plasma processing, chemical characterization, performance, and reliability. *IBM Journal of Research and Development*, 43 (3):301–326, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/433/lucovsky.html.

Ludeke:1978:EPS

[Lud78] Rudolf Ludeke. Electronic properties of (100) surfaces of GaSb and InAs and their alloys with GaAs. *IBM Journal of Research and Development*, 22(3):304–314, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ludeke:2000:HEE

[Lud00] R. Ludeke. Hot-electron effects and oxide degradation in MOS structures studied with ballistic electron emission microscopy. *IBM Journal of Research and Development*, 44 (4):517–534, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/444/ludeke.html.

Luhn:1957:SAM

[Luh57] Hans Peter Luhn. A statistical approach to mechanized encoding and searching of literary information. *IBM Journal of Research and Development*, 1(4): 309–317, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392697.

Luhn:1958:ACL

[Luh58a] Hans Peter Luhn. The automatic creation of literature abstracts. *IBM Journal of Research and Development*, 2(2): 159–165, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392672`.

Luhn:1958:BIS

[Luh58b] Hans Peter Luhn. A business intelligence system. *IBM Journal of Research and Development*, 2(4):314–319, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392644`.

Lukes:1974:EAP

[Luk74] J. A. Lukes. Efficient algorithm for the partitioning of trees. *IBM Journal of Research and Development*, 18(3):217–224, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lukes:1975:CSP

[Luk75] J. A. Lukes. Combinatorial solution to the partitioning of general graphs. *IBM Journal of Research and Development*, 19 (2):170–180, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Luntz:1979:MBL

[Lun79] A. C. Luntz. Molecular beam laser-induced fluorescence studies of chemical reactions. *IBM Journal of Research and Development*, 23(5): 596–603, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lund:2002:P

[Lun02] Vijay T. Lund. Preface. *IBM Journal of Research and Development*, 46(1):3–4, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/461/preface.html`; `http://www.research.ibm.com/journal/rd/461/preface.pdf`.

Lyons:1962:UTM

[LV62] R. E. Lyons and W. Vanderkulk. The use of triple-modular redundancy to improve computer reliability. *IBM Journal of Research and Development*, 6(2):200–209, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392355`.

Langdon:1967:DHS

[LV67] J. Langdon and E. J. Van Derveer. Design of a high-speed transistor for the ASLT current switch. *IBM Journal of Research and Development*, 11

(1):69–73, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392018`.

Lee:1994:WPS

[LV94] K. W. Lee and A. Viehbeck. Wet-process surface modification of dielectric polymers: Adhesion enhancement and metallization. *IBM Journal of Research and Development*, 38 (4):457–474, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#nine`.

Le:2018:IPP

[LVT+18] H. Q. Le, J. A. Van Norstrand, B. W. Thompto, J. E. Moreira, D. Q. Nguyen, D. Hrusecky, M. J. Genden, and M. Kroener. IBM POWER9 processor core. *IBM Journal of Research and Development*, 62(4–5):2:1–2:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8409955/`.

Lieberman:1977:AAP

[LW77] L. I. Lieberman and M. A. Wesley. Autopass: an automatic programming system for computer controlled mechanical assembly. *IBM Journal of Research and Development*, 21 (4):321–333, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lyerla:1983:HCN

[LY83] J. R. Lyerla and C. S. Yannoni. High-resolution carbon-13 NMR of polymers in the solid state. *IBM Journal of Research and Development*, 27 (4):302–312, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Lyerla:1977:NSC

[Lye77] James R. Lyerla, Jr. NMR study of the chain microstructure of p(MMA-Co-MAA). *IBM Journal of Research and Development*, 21(2):111–120, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Li:2016:FTF

[LZZ+16] H. Li, B. Zhang, L. Zhang, Y. Xue, M. He, and C. Ren. A food traceability framework for dairy and other low-margin products. *IBM Journal of Research and Development*, 60 (5–6):10:1–10:8, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580662/`.

McDaniel:1996:ODS

[MA96] T. W. McDaniel and P. C. Arnett. Optical data storage

media. *IBM Journal of Research and Development*, 40 (3):311–330, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-3.html#three`.

Moreira:2005:BGP

[MAA+05] J. E. Moreira, G. Almási, C. Archer, R. Bellofatto, P. Bergner, J. R. Brunheroto, M. Brutman, J. G. Castaños, P. G. Crumley, M. Gupta, T. Inglett, D. Lieber, D. Limpert, P. McCarthy, M. Megerian, M. Mendell, M. Mundy, D. Reed, R. K. Sahoo, A. Sanomiya, R. Shok, B. Smith, and G. G. Stewart. Blue Gene/L programming and operating environment. *IBM Journal of Research and Development*, 49(2/3):367–376, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/moreira.pdf`.

Mann:2003:UPS

[MAB+03] R. W. Mann, W. W. Abadeer, M. J. Breitwisch, O. Bula, J. S. Brown, B. C. Colwill, P. E. Cottrell, W. T. Crocco, S. S. Furkay, M. J. Hauser, T. B. Hook, D. Hoyniak, J. M. Johnson, C. M. Lam, R. D. Mih, J. Rivard, A. Moriwaki, E. Phipps, C. S. Putnam, B. A. Rainey, J. J. Toomey, and M. I. Younus. Ultralow-power SRAM technology. *IBM Journal of Research and Development*, 47 (5/6):553–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/mann.pdf`.

MacDonald:1960:DMM

[Mac60] J. E. MacDonald. Design methods for maximum minimum-distance error-correcting codes. *IBM Journal of Research and Development*, 4(1):43–57, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392530`.

Melcher:1998:DFP

[MAD+98] R. L. Melcher, P. M. Alt, D. B. Dove, T. M. Cipolla, E. G. Colgan, F. E. Doany, K. Enami, K. C. Ho, I. Lovas, C. Narayan, R. S. Olyha, Jr., C. G. Powell, A. E. Rosenbluth, J. L. Sanford, E. S. Schlig, R. N. Singh, T. Tomooka, M. Uda, and K. H. Yang. Design and fabrication of a prototype projection data monitor with high information content. *IBM Journal of Research and Development*, 42(3/4):321–338, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/melcher.html`. See addendum [MHI98].

Mueller:1999:RSI

[MAF+99] M. Mueller, L. C. Alves, W. Fischer, M. L. Fair, and I. Modi. RAS strategy for IBM S/390 G5 and G6. *IBM Journal of Research and Development*, 43(5/6):875–888, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/mueller.html`.

Magdo:1973:TOS

[Mag73] S. Magdo. Theory and operation of space-charge-limited transistors with transverse injection. *IBM Journal of Research and Development*, 17(5): 443–458, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Medeiros:2001:RPE

[MAG+01] D. R. Medeiros, A. Aviram, C. R. Guarnieri, W.-S. Huang, R. Kwong, C. K. Magg, A. P. Mahorowala, W. M. Moreau, K. E. Petrillo, and M. Angelopoulos. Recent progress in electron-beam resists for advanced mask-making. *IBM Journal of Research and Development*, 45(5):639–650, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/medeiros.html`; `http://www.research.ibm.com/journal/rd/455/medeiros.pdf`.

Mahaney:1993:TMI

[Mah93] H. V. Mahaney. Thermal modeling of the infrared reflow process for Solder Ball Connect (SBC). *IBM Journal of Research and Development*, 37(5): 609–619, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Malik:2013:GBD

[Mal13] P. Malik. Governing Big Data: Principles and practices. *IBM Journal of Research and Development*, 57(3/4):1:1–1:13, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mandeville:1985:NMA

[Man85] Jon R. Mandeville. Novel method for analysis of printed circuit images. *IBM Journal of Research and Development*, 29 (1):73–86, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mantyla:1990:MST

[Man90] M. Mantyla. A modeling system for top-down design of assembled products. *IBM Journal of Research and Development*, 34(5):636–659, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mapother:1962:TCM

[Map62] D. E. Mapother. Thermodynamic consistency of magnetic and calorimetric mea-

surements on superconductors. *IBM Journal of Research and Development*, 6(1): 77–81, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392418`.

Marcus:1959:DEL

[Mar59] M. P. Marcus. Doubling the efficiency of the load-sharing matrix switch. *IBM Journal of Research and Development*, 3 (2):194–196, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392612`.

Marinace:1960:EVG

[Mar60a] J. C. Marinace. Epitaxial vapor growth of Ge single crystals in a closed-cycle process. *IBM Journal of Research and Development*, 4(3): 248–255, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392489`.

Marinace:1960:TDV

[Mar60b] J. C. Marinace. Tunnel diodes by vapor growth of Ge on Ge and on GaAs [letter to the editor]. *IBM Journal of Research and Development*, 4(3): 280–282, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392494`.

Marcus:1961:MPD

[Mar61] M. P. Marcus. Minimum polarized distance codes. *IBM Journal of Research and Development*, 5(3):241–248, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392452`.

Marcus:1962:FPI

[Mar62] P. M. Marcus. Foreword to papers in this issue [fundamental research in superconductivity]. *IBM Journal of Research and Development*, 6 (1):2, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392402`.

Marcus:1964:DMC

[Mar64a] M. P. Marcus. Derivation of maximal compatibles using Boolean algebra. *IBM Journal of Research and Development*, 8(5):537–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marcus:1964:CCS

[Mar64b] P. M. Marcus. Calculation of the capacitance of a semiconductor surface, with application

to silicon. *IBM Journal of Research and Development*, 8(5): 496–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marinace:1964:HPC

[Mar64c] J. C. Marinace. High power CW operation of GaAs injection lasers at 77K. *IBM Journal of Research and Development*, 8(5):543–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marinace:1971:EFO

[Mar71] J. C. Marinace. Experimental fabrication of one-dimensional GaAs laser arrays. *IBM Journal of Research and Development*, 15(4):258–264, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marinace:1979:TSE

[Mar79] J. C. Marinace. Tunnels in semiconductor epitaxy. *IBM Journal of Research and Development*, 23(4):459–461, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marks:1980:CCC

[Mar80] Brian Marks. Compilation to compact code. *IBM Journal of Research and Development*, 24(6):684–691, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Markstein:1990:CEF

[Mar90] P. W. Markstein. Computation of elementary functions on the IBM RISC System/6000 processor. *IBM Journal of Research and Development*, 34(1): 111–119, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401N.pdf`.

Marks:1998:JAC

[Mar98] K. M. Marks. A JBIG-ABIC compression engine for digital document processing. *IBM Journal of Research and Development*, 42(6):753–758, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/marks.html`.

Marinescu:2012:ATD

[Mar12] R. Marinescu. Assessing technical debt by identifying design flaws in software systems. *IBM Journal of Research and Development*, 56(5): 9:1–9:13, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261578`.

Masuda:1962:NSR

[Mas62] Yoshika Masuda. Nuclear spin relaxation in superconducting cadmium. *IBM Journal of Research and Development*, 6

(1):24–26, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392406`.

Mastie:1997:UTE

[Mas97] S. D. Mastie. Use of the transform exit sequence in printing and as a framework for the solution of complex problems. *IBM Journal of Research and Development*, 41(6): 679–692, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/mastie.html`.

Matthias:1962:SF

[Mat62a] B. T. Matthias. Superconductivity and ferromagnetism. *IBM Journal of Research and Development*, 6(2): 250–255, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392360`.

Mattis:1962:IFP

[Mat62b] D. C. Mattis. On the influence of free path on the Meissner effect [letter to the editor]. *IBM Journal of Research and Development*, 6(2): 258, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392362`.

Matsumoto:1970:MEP

[Mat70] G. Matsumoto. Magnetic and electrical properties of $(La_{1-x}Ca_x)MnO_3$. *IBM Journal of Research and Development*, 14(3):258–260, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matisoo:1980:OJT

[Mat80] J. Matisoo. Overview of Josephson technology logic and memory. *IBM Journal of Research and Development*, 24(2):113–129, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matino:1985:AHC

[Mat85] Haruhiro Matino. Analysis of the holding current in CMOS latch-up. *IBM Journal of Research and Development*, 29(6): 588–592, November 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matick:1989:FCC

[Mat89] Richard E. Matick. Functional cache chip for improved system performance. *IBM Journal of Research and Development*, 33 (1):15–32, January 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mate:1995:FMS

[Mat95] C. M. Mate. Force microscopy studies of the molecular ori-

gins of friction and lubrication. *IBM Journal of Research and Development*, 39(6): 617–627, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#three`.

Matick:1998:MNM

[Mat98] R. E. Matick. Modular nets (MNETS): a modular design methodology for computer timers. *IBM Journal of Research and Development*, 42(6): 813–830, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/matick.html`.

Matick:2003:CAP

[Mat03] R. E. Matick. Comparison of analytic performance models using closed mean-value analysis versus open-queuing theory for estimating cycles per instruction of memory hierarchies. *IBM Journal of Research and Development*, 47(4): 495–517, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/matick.pdf`.

Mauri:1997:PIG

[Mau97] Ross A. Mauri. Preface: IBM S/390 G3 and G4. *IBM Journal of Research and Development*, 41(4/5):395–396, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/preface.html`.

Mauri:2018:MGM

[Mau18] R. A. Mauri. Message from the General Manager, IBM Z. *IBM Journal of Research and Development*, 62(2–3):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8353753/`.

Mauri:2020:MGM

[Mau20] R. A. Mauri. Message from the General Manager, IBM Z. *IBM Journal of Research and Development*, 64(5/6):1–2, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mayeda:1960:SSF

[May60] W. Mayeda. Synthesis of switching functions by linear graph theory. *IBM Journal of Research and Development*, 4 (3):321–328, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392502`.

May:1981:IWP

[May81] F. T. May. IBM word processing developments. *IBM Journal of Research and Development*, 25(5):741–754 (or 741–753??),

September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mayo:1985:SCP

[May85] Randy D. Mayo. System control for a printwheel typewriter. *IBM Journal of Research and Development*, 29(5): 488–493, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

May:1990:P

[May90] Paul G. May. Preface. *IBM Journal of Research and Development*, 34(2/3):139–140, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mazza:1970:AIM

[Maz70] N. M. Mazza. Automatic impedance matching system for RF sputtering. *IBM Journal of Research and Development*, 14 (2):192–193, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mader:1975:DGP

[MB75] S. Mader and A. E. Blakeslee. On dislocations in $GaAs_{1-x}P_x$. *IBM Journal of Research and Development*, 19(2):151–162, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mayer:2012:URM

[MBA+12] C. Mayer, F. Baitinger, S. Amann, G. McAfee, and A. Nunez Mencias. Unified Resource Manager virtualization management. *IBM Journal of Research and Development*, 56(1–2):18:1–18:9, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Michel:2001:PML

[MBB+01] B. Michel, A. Bernard, A. Bietsch, E. Delamarche, M. Geissler, D. Juncker, H. Kind, J.-P. Renault, H. Rothuizen, H. Schmid, P. Schmidt-Winkel, R. Stutz, and H. Wolf. Printing meets lithography: Soft approaches to high-resolution patterning. *IBM Journal of Research and Development*, 45(5):697–719, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/455/michel.html`; `http://www.research.ibm.com/journal/rd/455/michel.pdf`.

Mayer:2018:PSI

[MBB+18] C. Mayer, A. Brand, A. Bieswanger, B. D. Valentine, E. A. Weinmann, H. Wolf, T. Reiser, S. Korba, and W. Niklaus. Platform simplification for IBM z14. *IBM Journal of Research and Development*, 62(2–3):6:1–6:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8268109/`.

McCain:2020:IZD

[MBB+20] E. C. McCain, P. Bastien, B. F. Belmar, B. Bhattacharya, K. K. Cheruiyot, M. Coq, R. Dartey, K. Deekaram, K. Ghadai, L. D. Lalima, J. Nettey, A. W. Owolabi, K. Phillips, T. M. Shiling, D. T. Schroeder, C. Slegel, B. Steen, D. A. Thorne, E. Venuto, J. D. Willoughby, D. Yaniv, and N. Ziemis. IBM Z development transformation. *IBM Journal of Research and Development*, 64(5/6):14:1–14:13, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mintzer:1996:TOW

[MBC+96] F. C. Mintzer, L. E. Boyle, A. N. Cazes, B. S. Christian, S. C. Cox, F. P. Giordano, H. M. Gladney, M. L. Kelmanson, A. C. Lirani, K. A. Magerlein, A. M. B. Pavani, and F. Schiattarella. Toward online, worldwide access to Vatican Library materials. *IBM Journal of Research and Development*, 40(2):139–162, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-2.html#two`.

McCreary:2007:EIP

[MBF+07] H.-Y. McCreary, M. A. Broyles, M. S. Floyd, A. J. Geissler, S. P. Hartman, F. L. Rawson, T. J. Rosedahl, J. C. Rubio, and M. S. Ware. EnergyScale for IBM POWER6 microprocessor-based systems. *IBM Journal of Research and Development*, 51(6):775–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/mccreary.html`.

Malone:2013:MOD

[MBF+13] C. V. Malone, E. J. Barkie, B. L. Fletcher, N. Wei, A. Keren, and A. Wyskida. Mobile Optimized Digital Identity (MODI): A framework for easier digital certificate use. *IBM Journal of Research and Development*, 57(6): 9:1–9:11, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mak:1997:SCC

[MBJ+97] P. Mak, M. A. Blake, C. C. Jones, G. E. Strait, and P. R. Turgeon. Shared-cache clusters in a system with a fully shared memory. *IBM Journal of Research and Development*, 41(4/5):429–448, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/mak.html`.

Mutahi:2015:SBL

[MBK+15] J. Mutahi, O. Bent, A. Kinai, K. Weldemariam, B. Sengupta, and D. Contractor. Seamless blended learning using the Cognitive Learning Companion: A

systemic view. *IBM Journal of Research and Development*, 59(6):8:1–8:13, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Manevich:2019:EHF

[MBT19] Y. Manevich, A. Barger, and Y. Tock. Endorsement in hyperledger fabric via service discovery. *IBM Journal of Research and Development*, 63(2–3):2:1–2:9, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morehead:1968:PJZ

[MC68] F. F. Morehead and B. L. Crowder. Photo-n–p junctions in ZnTe. *IBM Journal of Research and Development*, 12(6): 458–464, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mercer:1987:MES

[MC87] Robert L. Mercer and Paul S. Cohen. A method for efficient storage and rapid application of context-sensitive phonological rules for automatic speech recognition. *IBM Journal of Research and Development*, 31 (1):81–90, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mathias:2009:ACI

[MC09] T. B. Mathias and P. J. Callaghan. Autonomic computing and IBM System z10 active resource monitoring. *IBM Journal of Research and Development*, 53(1):13:1–13:11, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/mathias.pdf`.

McAuley:1983:RDI

[McA83] David McAuley. Row-by-row dynamic image analysis of a matrix of scanned points. *IBM Journal of Research and Development*, 27(4):367–375, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mann:1995:SLI

[MCAW95] R. W. Mann, L. A. Clevenger, P. D. Agnello, and F. R. White. Silicides and local interconnections for high-performance VLSI applications. *IBM Journal of Research and Development*, 39(4):403–417, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#four`.

McClure:1964:EBS

[McC64] J. W. McClure. Energy band structure of graphite. *IBM Journal of Research and Development*, 8(3):255–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McCann:1969:NRT

[McC69] G. D. McCann. New research techniques for the life sciences. *IBM Journal of Research and Development*, 13(1):28–35, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McGee:1981:DBT

[McG81] W. C. McGee. Data base technology. *IBM Journal of Research and Development*, 25(5): 505–519, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McGroddy:1992:PPT

[McG92] J. C. McGroddy. Preface: Papers on thin-film-transistor liquid-crystal display technology. *IBM Journal of Research and Development*, 36(1):2, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meaney:2015:IZM

[MCG+15] P. J. Meaney, L. D. Curley, G. D. Gilda, M. R. Hodges, D. J. Buerkle, R. D. Siegl, and R. K. Dong. The IBM z13 memory subsystem for big data. *IBM Journal of Research and Development*, 59(4–5):4:1–4:11, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Melan:1982:QRA

[MCH+82] E. H. Melan, R. T. Curtis, J. K. Ho, J. G. Koens, and G. A. Snyder. Quality and reliability assurance systems in IBM semiconductor manufacturing. *IBM Journal of Research and Development*, 26(5): 613–624, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mitzi:2001:OIE

[MCK01] D. B. Mitzi, K. Chondroudis, and C. R. Kagan. Organic-inorganic electronics. *IBM Journal of Research and Development*, 45(1):29–46, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/mitzi.html`.

McNutt:1994:BDM

[McN94] B. McNutt. Background data movement in a log-structured disk subsystem. *IBM Journal of Research and Development*, 38 (1):47–58, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html`.

Mattson:1965:TDC

[MD65] R. L. Mattson and J. E. Dammann. A technique for determining and coding subclasses in pattern recognition problems. *IBM Journal of Research and Development*, 9 (4):294–302, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mason:2012:CDM

[MD12a] J. E. Mason and B. T. Denton. A comparison of decision-maker perspectives for optimal cholesterol treatment. *IBM Journal of Research and Development*, 56(5):8:1–8:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261580`.

Massie:2012:ITR

[MD12b] J. G. Massie and W. J. Davis. IBM toolkit for radical simplification of business processes. *IBM Journal of Research and Development*, 56(6):3:1–3:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353952`.

Mandelman:2002:CFD

[MDB+02] J. A. Mandelman, R. H. Dennard, G. B. Bronner, J. K. DeBrosse, R. Divakaruni, Y. Li, and C. J. Radens. Challenges and future directions for the scaling of dynamic random-access memory (DRAM). *IBM Journal of Research and Development*, 46(2/3):187–212, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/mandelman.html`; `http://www.research.ibm.com/journal/rd/462/mandelman.pdf`.

Maffitt:2006:DCM

[MDG+06] T. M. Maffitt, J. K. DeBrosse, J. A. Gabric, E. T. Gow, M. C. Lamorey, J. S. Parenteau, D. R. Willmott, M. A. Wood, and W. J. Gallagher. Design considerations for MRAM. *IBM Journal of Research and Development*, 50(1):25–39, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/maffitt.html`.

Markatou:2012:CBR

[MDH+12] M. Markatou, P. K. Don, J. Hu, F. Wang, J. Sun, R. Sorrentino, and S. Ebadollahi. Case-based reasoning in comparative effectiveness research. *IBM Journal of Research and Development*, 56(5):4:1–4:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261579`.

Mathur:1970:SHS

[MDJ+70] M. P. Mathur, D. W. Deis, C. K. Jones, A. Patterson, and W. J. Carr, Jr. Specific heat of SnTe-MnTe system from 2 to 25°K. *IBM Journal of Research and Development*, 14 (3):229–231, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Magoutis:2008:GMD

[MDJV08] Kostas Magoutis, Murthy Devarakonda, Nikolai Joukov, and Norbert G. Vogl. Galapagos: Model-driven discovery of end-to-end application–storage relationships in distributed systems. *IBM Journal of Research and Development*, 52 (4/5):367–377, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/magoutis.html`.

Modani:2010:DAT

[MDMN10] N. Modani, K. Dey, S. Mukherjea, and A. A. Nanavati. Discovery and analysis of tightly knit communities in telecom social networks. *IBM Journal of Research and Development*, 54 (6):7:1–7:13, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mencias:2018:OBS

[MDN+18] A. Nuñez Mencias, D. Dillenberger, P. Novotny, F. Toth, T. E. Morris, V. Paprotski, J. Dayka, T. Visegrady, B. O'Farrell, J. Lang, and E. Carbarnes. An optimized blockchain solution for the IBM z14. *IBM Journal of Research and Development*, 62(2–3):4:1–4:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8276264/`.

Mayer:2007:DMA

[MDR+07] G. Mayer, G. Doettling, R. F. Rizzolo, C. J. Berry, S. M. Carey, C. M. Carney, J. Keinert, P. Loeffler, W. Nop, D. E. Skooglund, V. A. Victoria, A. P. Wagstaff, and P. M. Williams. Design methods for attaining IBM System z9 processor cycle-time goals. *IBM Journal of Research and Development*, 51(1/2):19–35, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/mayer.html`.

Meindl:2002:IOG

[MDZH+02] J. D. Meindl, J. A. Davis, P. Zarkesh-Ha, C. S. Patel, K. P. Martin, and P. A. Kohl. Interconnect opportunities for gigascale integration. *IBM Journal of Research and Development*, 46(2/3):245–263, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/meindl.html`; `http://www.research.ibm.com/journal/rd/462/meindl.pdf`.

Mee:1967:MMS

[Mee67] C. D. Mee. The magnetization mechanism in single-crystal garnet slabs near the compensation temperature. *IBM Journal of Research and Development*,

11(4):468–476, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391951`.

Meggitt:1960:ECC

[Meg60] J. E. Meggitt. Error correcting codes for correcting bursts of errors. *IBM Journal of Research and Development*, 4(3): 329–334, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392503`.

Meggitt:1962:PDP

[Meg62] J. E. Meggitt. Pseudo division and pseudo multiplication processes. *IBM Journal of Research and Development*, 6(2):210–226, April 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392356`.

Meggitt:1963:DMP

[Meg63a] J. E. Meggitt. Digit-by-digit methods for polynomials. *IBM Journal of Research and Development*, 7(??):237–245, 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meggitt:1963:DDM

[Meg63b] J. E. Meggitt. Digit-by-digit methods for polynomials. *IBM Journal of Research and Development*, 7(3): 237–245, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392306`.

Mehring:1989:NMR

[Meh89] Michael Mehring. Nuclear magnetic resonance in high-T_c superconductors. *IBM Journal of Research and Development*, 33 (3):342–350, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mehta:2007:P

[Meh07] H. Mehta. Preface. *IBM Journal of Research and Development*, 51(6):637–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/preface.html`.

Meissner:1962:SEE

[Mei62] H. Meissner. Surface energy effects at the boundary between a superconductor and a normal conductor. *IBM Journal of Research and Development*, 6(1):71–74, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392416`.

Meister:1983:MYF

[Mei83] Bernd Meister. On Murphy's yield formula. *IBM Journal of Research and Development*, 27(6):545–548, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Melas:1960:CCD

[Mel60a] C. M. Melas. A cyclic code for double error correction [letter to the editor]. *IBM Journal of Research and Development*, 4(3):364–366, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392508`.

Melas:1960:NGC

[Mel60b] C. M. Melas. A new group of codes for correction of dependent errors in data transmission. *IBM Journal of Research and Development*, 4(1): 58–65, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392531`.

Mendelssohn:1962:EWS

[Men62] K. Mendelssohn. Experimental work on superconductivity. *IBM Journal of Research and Development*, 6(1): 27–30, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392407`.

Merritt:1978:OPM

[Mer78] Vingie Y. Merritt. Organic photovoltaic materials: Squarylium and cyanine-TCNQ dyes. *IBM Journal of Research and Development*, 22(4):353–371, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Merialdo:1988:MDV

[Mer88] Bernard Merialdo. Multilevel decoding for very-large-size-dictionary speech recognition. *IBM Journal of Research and Development*, 32(2):227–237, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mermin:2004:CCH

[Mer04] N. D. Mermin. Copenhagen computation: How I learned to stop worrying and love Bohr. *IBM Journal of Research and Development*, 48(1):53–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/mermin.pdf`.

Methfessel:1970:SFM

[Met70] S. Methfessel. Survey of the field of magnetic semiconductors. *IBM Journal of Research and Development*, 14(3):207–213, May 1970. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meyer:1981:ESP

[Mey81] Jeanine Meyer. An emulation system for programmable sensory robots. *IBM Journal of Research and Development*, 25(6):955–962, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meyerson:1990:LSS

[Mey90] B. S. Meyerson. Low-temperature Si and Si:Ge epitaxy by ultrahigh-vacuum/chemical vapor deposition: Process fundamentals. *IBM Journal of Research and Development*, 34(6):806–815, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meyerson:2000:LTS

[Mey00a] B. S. Meyerson. Low-temperature Si and Si:Ge epitaxy by ultrahigh vacuum/chemical vapor deposition: Process fundamentals. *IBM Journal of Research and Development*, 44(1/2):132–141, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/meyerson.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Meyerson:2000:SGB

[Mey00b] B. S. Meyerson. Silicon:germanium-based mixed-signal technology for optimization of wired and wireless telecommunications. *IBM Journal of Research and Development*, 44 (3):391–407, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/meyerson.html`.

Meyerson:2003:MVP

[Mey03] Bernard S. Meyerson. Message from the Vice President for Technology and Chief Technologist, IBM Technology Group. *IBM Journal of Research and Development*, 47(2/3):??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/message.pdf`.

Murdock:2012:TEG

[MFL+12] J. W. Murdock, J. Fan, A. Lally, H. Shima, and B. K. Boguraev. Textual evidence gathering and analysis. *IBM Journal of Research and Development*, 56(3–4):8:1–8:14, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Makris:1971:EET

[MFPJ71] J. Makris, A. Ferris-Prabhu, and M. L. Joshi. Effect of extremely thin nitrogenous

surface films on phosphorus-impurity profiles in silicon. *IBM Journal of Research and Development*, 15(2):132–139, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meyer:2011:SOU

[MFS+11] A. Meyer, J. I. Flege, S. D. Senanayake, B. Kaemena, R. E. Rettew, F. M. Alamgir, and J. Falta. In situ oxidation of ultrathin silver films on Ni(111). *IBM Journal of Research and Development*, 55(4): 8:1–8:7, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Maruyama:1977:HDA

[MFT77] K. Maruyama, L. Fratta, and D. T. Tang. Heuristic design algorithm for computer communication networks with different classes of packets. *IBM Journal of Research and Development*, 21(4):360–369, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mach:1962:RSP

[MG62] R. E. Mach and T. L. Gardner. Rectification of satellite photography by digital techniques. *IBM Journal of Research and Development*, 6(3): 290–305, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392372`.

Melas:1963:NEC

[MG63a] C. M. Melas and E. Gorog. A note on extending certain codes to correct error bursts in longer messages. *IBM Journal of Research and Development*, 7(2):151–152, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392292`.

Moll:1963:TCJ

[MG63b] J. L. Moll and J. F. Gibbons. Threshold current for p-n junction lasers [letter to the editor]. *IBM Journal of Research and Development*, 7(2): 157–159, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392295`.

Makous:1968:ELH

[MG68] W. L. Makous and J. D. Gould. Effects of lasers on the human eye. *IBM Journal of Research and Development*, 12(3):234–211, May 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Melcher:1998:ADF

[MHI98] R. L. Melcher, R. R. Horton, and H. Ifill. Addendum: Design and fabrication of a prototype projection data monitor with high information-content (vol 42, pg 321, 1998). *IBM*

Journal of Research and Development, 42(6):874, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/addenda.html`. See [MAD+98].

Matick:2001:AAF

[MHI01] R. E. Matick, T. J. Heller, and M. Ignatowski. Analytical analysis of finite cache penalty and cycles per instruction of a multiprocessor memory hierarchy using miss rates and queuing theory. *IBM Journal of Research and Development*, 45(6): 819–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mullerova:2011:STL

[MHK+11] I. Mullerova, M. Hovorka, I. Konvalina, M. Uncovsky, and L. Frank. Scanning transmission low-energy electron microscopy. *IBM Journal of Research and Development*, 55 (4):2:1–2:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Montoye:1990:DIR

[MHR90] R. K. Montoye, E. Hokenek, and S. L. Runyon. Design of the IBM RISC System/6000 floating-point execution unit. *IBM Journal of Research and Development*, 34(1): 59–70, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401G.pdf`.

Marder:2015:UIA

[MHR+15] M. Marder, S. Harary, A. Ribak, Y. Tzur, S. Alpert, and A. Tzadok. Using image analytics to monitor retail store shelves. *IBM Journal of Research and Development*, 59(2–3):3:1–3:11, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mitchell:1962:DOS

[MHS62] W. L. Mitchell, C. Hays, and R. E. Swift. Direct observations of the substructure network in iron [letter to the editor]. *IBM Journal of Research and Development*, 6(4): 467–469, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392323`.

McClelland:1995:FFC

[MHW95] G. M. McClelland, H. Heinzelmann, and F. Watanabe. The femtosecond field-emission camera, a device for continuous observation of the motion of individual adsorbed atoms and molecules. *IBM Journal of Research and Development*, 39(6):669–680, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

almaden.ibm.com/journal/rd39-6.html#seven.

Molloy:2010:IDC

[MI10] C. Molloy and M. Iqbal. Improving data-center efficiency for a Smarter Planet. *IBM Journal of Research and Development*, 54(4):1–8, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Michael:1959:GFL

[Mic59] W. A. Michael. A gas film lubrication study. II: Numerical solution of the Reynolds equation for finite slider bearings. *IBM Journal of Research and Development*, 3(3):256–259, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392563.

Michaud:1972:EIE

[Mic72] P. Michaud. Exact implicit enumeration method for solving the set partitioning problem. *IBM Journal of Research and Development*, 16(6):573–578, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Michaelson:1978:RBA

[Mic78] H. G. Michaelson. Relation between an atomic electronegativity scale and the work function. *IBM Journal of Research and Development*, 22(1):72–80, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Middelhoek:1962:SRP

[Mid62] S. Middelhoek. Static reversal processes in thin ni-fe films. *IBM Journal of Research and Development*, 6(4):394–406, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392314.

Middelhoek:1965:PDB

[Mid65] S. Middelhoek. Peculiar domain behavior in thin, magnetic Ni–Fe double films. *IBM Journal of Research and Development*, 9(2):147–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Middelhoek:1966:DWV

[Mid66] S. Middelhoek. Domain wall velocities in thin magnetic films. *IBM Journal of Research and Development*, 10(4):351–354, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392038.

Middelhoek:1970:MPF

[Mid70a] S. Middelhoek. Metallization processes in fabrication of Schottky-Barrier FET's. *IBM Journal of Research and Development*, 14(2):148–151, March 1970. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Middelhoek:1970:PMT

[Mid70b] S. Middelhoek. Projection masking, thin photoresist layers and interference effects. *IBM Journal of Research and Development*, 14(2):117–124, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mills:1967:E

[Mil67] H. D. Mills. On the equation $i = i_0[\exp \alpha(v - Ri) - 1]$. *IBM Journal of Research and Development*, 11(5):553–554, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391964`.

Miller:1969:CCR

[Mil69] L. F. Miller. Controlled collapse reflow chip joining. *IBM Journal of Research and Development*, 13(3):239–250, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Milewski:1983:PSO

[Mil83] A. Milewski. Periodic sequences with optimal properties for channel estimation and fast start-up equalization. *IBM Journal of Research and Development*, 27(5):426–431, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Miller:1984:IIP

[Mil84] R. C. Miller, Jr. Introduction to the IBM 3800 printing subsystem models 3 and 8. *IBM Journal of Research and Development*, 28(3):252–256, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Miller:2000:CCR

[Mil00] L. F. Miller. Controlled collapse reflow chip joining. *IBM Journal of Research and Development*, 44(1/2):93–104, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/miller.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Martin:2018:HNL

[MIL+18] R. L. Martin, D. Martinez Iraola, E. Louie, D. Pierce, B. A. Tagtow, J. J. Labrie, and P. G. Abrahamson. Hybrid natural language processing for high-performance patent and literature mining in IBM Watson for drug discovery. *IBM Journal of Research and Development*, 62(6):8:1–8:12, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mintzer:2008:P

[Min08] F. Mintzer. Preface. *IBM Journal of Research and Development*, 52(1/2):3–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/preface.html`.

Miranker:1960:WEM

[Mir60] W. L. Miranker. The wave equation in a medium in motion. *IBM Journal of Research and Development*, 4(1): 36–42, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392529`.

Miranker:1961:PSW

[Mir61] W. L. Miranker. Periodic solutions of the wave equation with a nonlinear interface condition. *IBM Journal of Research and Development*, 5(1): 2–24, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392473`.

Miranker:1969:PMA

[Mir69] W. L. Miranker. Parallel methods for approximating the root of a function. *IBM Journal of Research and Development*, 13 (3):297–301, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Miranker:1972:EIS

[Mir72] W. L. Miranker. Enveloping an iteration scheme. *IBM Journal of Research and Development*, 16(4):389–392, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Mittal:1994:PAS

[Mit94] K. L. Mittal. Preface: Adhesion science and technology. *IBM Journal of Research and Development*, 38(4):346, April 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#one`.

Mitchell:1964:SHA

[MJ64] A. H. Mitchell and K. L. Johnson. Simulation of a hydraulic actuator. *IBM Journal of Research and Development*, 8(3): 329–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marcus:1969:EDM

[MJJ69] P. M. Marcus, F. P. Jona, and D. W. Jepsen. Energy diagram method for Bragg reflections in low energy electron diffraction (LEED) spectra. *IBM Journal of Research and Development*, 13(6):646–661, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Maissel:1970:RSS

[MJS70] L. I. Maissel, R. E. Jones, and C. L. Standley. Re-emission of sputtered SiO_2 during growth and its relation to film quality. *IBM Journal of Research and Development*, 14(2):176–181, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moreno:1993:MTI

[MKJM93] O. A. Moreno, R. H. Katyl, J. D. Jones, and P. A. Moschak. Mass transfer of an impinging jet confined between parallel plates (jet array processing). *IBM Journal of Research and Development*, 37(2):143–155, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matthews:1973:DGG

[MKP73] J. W. Matthews, E. Klokholm, and T. S. Plaskett. Dislocations in gadolinium gallium garnet ($Gd_3Ga_5O_{12}$). III. nature of prismatic loops and helical dislocations. *IBM Journal of Research and Development*, 17(5): 426–429, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Manzer:2005:HSE

[MKW+05] D. G. Manzer, J. P. Karidis, K. M. Wiley, D. C. Bruen, C. W. Cline, C. Hendricks, R. N. Wiggin, and Y.-Y. Yu. High-speed electrical testing of multichip ceramic modules. *IBM Journal of Research and Development*, 49 (4/5):687–697, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/manzer.html`.

Murdock:2012:TCA

[MKW+12] J. W. Murdock, A. Kalyanpur, C. Welty, J. Fan, D. A. Ferrucci, D. C. Gondek, L. Zhang, and H. Kanayama. Typing candidate answers using type coercion. *IBM Journal of Research and Development*, 56(3–4):7:1–7:13, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mathews:1982:BCD

[ML82] K. F. Mathews and L. P. Lee. Bipolar chip design for a VLSI microprocessor. *IBM Journal of Research and Development*, 26(4):464–474, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matick:1984:APA

[MLGD84] Richard Matick, Daniel T. Ling, Satish Gupta, and Frederick Dill. All points addressable raster display memory. *IBM Journal of Research and Development*, 28(4):379–392, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mukhopadhyay:2019:HIA

[MLM+19] S. Mukhopadhyay, Y. Long, B. Mudassar, C. S. Nair, B. H. DeProspo, H. M. Torun, M. Kathaperumal, V. Smet, D. Kim, S. Yalamanchili, and M. Swaminathan. Heterogeneous integration for artificial intelligence: Challenges and opportunities. *IBM Journal of Research and Development*, 63 (6):4:1, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meaney:2012:IZR

[MLMP+12] P. J. Meaney, L. A. Lastras-Montano, V. K. Papazova, E. Stephens, J. S. Johnson, L. C. Alves, J. A. O'Connor, and W. J. Clarke. IBM zEnterprise redundant array of independent memory subsystem. *IBM Journal of Research and Development*, 56(1–2):4:1–4:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Marsh:1984:MSD

[MLSS84] Lyle L. Marsh, Ron Lasky, Donald P. Seraphim, and George S. Springer. Moisture solubility and diffusion in epoxy and epoxy-glass composites. *IBM Journal of Research and Development*, 28(6):655–661, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Martin:1983:ACC

[MLT83] G. Nigel N. Martin, Glen G. Langdon, Jr., and Stephen J. P. Todd. Arithmetic codes for constrained channels. *IBM Journal of Research and Development*, 27(2):94–106, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Maerean:2020:TAE

[MLWC20] S. Maerean, E. K. Lee, H.-F. Wen, and I. Chung. Transformation of application enablement tools on CORAL systems. *IBM Journal of Research and Development*, 64(3/4): 16:1–16:12, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McWhorter:1964:APW

[MM64] A. L. McWhorter and W. G. May. Acoustic plasma waves in semimetals. *IBM Journal of Research and Development*, 8(3):285–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Magdo:1975:HST

[MM75a] S. Magdo and I. Magdo. High speed transistor with double base diffusion. *IBM Journal of Research and Development*, 19 (2):146–150, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Miranker:1975:IDF

[MM75b] W. L. Miranker and A. Morreeuw. Interpolation with dis-

continuous functions: Application to calculation of shocks. *IBM Journal of Research and Development*, 19(4):384–397, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McCabe:1982:BVC

[MM82] J. F. McCabe and A. Z. Muszynski. Bipolar VLSI custom macro physical design verification strategy. *IBM Journal of Research and Development*, 26(4):485–496, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moler:1983:RSR

[MM83] Cleve Moler and Donald Morrison. Replacing square roots by Pythagorean sums. *IBM Journal of Research and Development*, 27(6):577–581, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5390405; http://www.research.ibm.com/journal/rd/276/ibmrd2706P.pdf`.

Musgrave:1991:AFL

[MM91] F. K. Musgrave and B. B. Mandelbrot. The art of fractal landscapes. *IBM Journal of Research and Development*, 35(4): 535–536, 539, July 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mhaskar:1994:DIB

[MM94] H. N. Mhaskar and C. A. Micchelli. Dimension-independent bounds on the degree of approximation by neural networks. *IBM Journal of Research and Development*, 38(3): 277–284, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#six`.

McCord:2012:DPW

[MMB12] M. C. McCord, J. W. Murdock, and B. K. Boguraev. Deep parsing in Watson. *IBM Journal of Research and Development*, 56 (3–4):3:1–3:15, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moreno:1997:SEE

[MME+97] J. H. Moreno, M. Moudgill, K. Ebcioglu, E. Altman, C. B. Hall, R. Miranda, S.-K. Chen, and A. Polyak. Simulation/evaluation environment for a VLIW processor architecture. *IBM Journal of Research and Development*, 41(3): 287–302, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/moreno.html`.

Mitchell:1969:MPE

[MMJ69] F. H. Mitchell, Jr., W. R. Mahaffey, and R. F. Jacob. Modeling plasma effects on radar

cross section of reentry vehicles. *IBM Journal of Research and Development*, 13(4):468–474, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mathis:2005:CSM

[MMM+05] H. M. Mathis, A. E. Mericas, J. D. McCalpin, R. J. Eickemeyer, and S. R. Kunkel. Characterization of simultaneous multithreading (SMT) efficiency in POWER5. *IBM Journal of Research and Development*, 49(4/5):555–564, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/mathis.html`. See erratum [Ano05c].

Matick:1989:ADO

[MMR89] R. Matick, R. Mao, and S. Ray. Architecture, design, and operating characteristics of a 12-ns CMOS functional cache chip. *IBM Journal of Research and Development*, 33(5):524–539, September 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mackerras:2005:OSE

[MMS05] P. Mackerras, T. S. Mathews, and R. C. Swanberg. Operating system exploitation of the POWER5 system. *IBM Journal of Research and Development*, 49(4/5):533–539, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/mackerras.html`.

Methfessel:1960:DWT

[MMT60] S. Methfessel, S. Middelhoek, and H. Thomas. Domain walls in thin ni-fe films. *IBM Journal of Research and Development*, 4(2):96–106, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392539`.

Maruyama:1988:JSA

[MMUS88] N. Maruyama, M. Morohashi, S. Umeda, and E. Sumita. A Japanese sentence analyzer. *IBM Journal of Research and Development*, 32(2):238–250, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morokuma:2001:MSS

[MMV+01] K. Morokuma, D. G. Musaev, T. Vreven, H. Basch, M. Torrent, and D. V. Khoroshun. Model studies of the structures, reactivities, and reaction mechanisms of metalloenzymes. *IBM Journal of Research and Development*, 45(3/4):367–395, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/morokuma.html`; `http://www.research.ibm.com/journal/rd/453/morokuma.pdf`.

Manohar:1999:FPO

[MMWLN99] N. R. Manohar, A. Mehra, M. H. Willebeek-LeMair, and M. Naghshineh. A framework for programmable overlay multimedia networks. *IBM Journal of Research and Development*, 43(4):555–577, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/manohar.html`.

Maling:1967:RCD

[MN67a] G. C. Maling and K. S. Nordby. Reverberation chamber determination of the acoustic power of pure-tone sources. *IBM Journal of Research and Development*, 11(5):492–501, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391957`.

McGroddy:1967:NCI

[MN67b] J. C. McGroddy and M. I. Nathan. A new current instability in N-type germanium. *IBM Journal of Research and Development*, 11(3): 337–340, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391997`.

Marcus:1970:ICM

[MN70] M. P. Marcus and W. H. Niehoff. Iterated consensus method for multiple-output functions. *IBM Journal of Research and Development*, 14(6): 677–679, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Milenkovic:1990:FCC

[MN90] V. J. Milenkovic and L. R. Nackman. Finding compact coordinate representations for polygons and polyhedra. *IBM Journal of Research and Development*, 34(5):753–769, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moreira:1997:DRM

[MN97] J. E. Moreira and V. K. Naik. Dynamic resource management on distributed systems using reconfigurable applications. *IBM Journal of Research and Development*, 41(3):303–330, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/moreira.html`.

Martens:2003:ETO

[MN03] M. Martens and T. J. Nowicki. Ergodic theory of one-dimensional dynamics. *IBM Journal of Research and Development*, 47(1):67–76, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/martens.pdf`.

McGroddy:1969:EHP

[MNP+69] J. C. McGroddy, M. I. Nathan, W. Paul, S. Porowski, J. E. Smith, Jr., and W. P. Dumke. Effects of hydrostatic pressure on hot-electron phenomena in n-InSb. *IBM Journal of Research and Development*, 13(5): 580–582, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Martin:1986:MCP

[MNR86] William R. Martin, Paul F. Nowak, and James A. Rathkopf. Monte Carlo photon transport on a vector supercomputer. *IBM Journal of Research and Development*, 30(2):193–202, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McGroddy:1969:NCE

[MNS69] J. C. McGroddy, M. I. Nathan, and J. E. Smith, Jr. Negative conductivity effects and related phenomena in germanium. I. *IBM Journal of Research and Development*, 13(5): 543–553, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Murakami:2020:URI

[MNWH20] A. Murakami, T. Nasukawa, K. Watanabe, and M. Hatayama. Understanding requirements and issues in disaster area using geotemporal visualization of twitter analysis. *IBM Journal of Research and Development*, 64(1/2):10:1–10:8, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Maissel:1984:HDD

[MO84] Leon I. Maissel and Hillel Ofek. Hardware design and description languages in IBM. *IBM Journal of Research and Development*, 28(5):557–563, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Martins:2019:CCI

[MOG+19] P. Martins, H. G. Oliveira, J. C. Gonçalves, A. Cruz, F. A. Cardoso, M. Žnidaršič, N. Lavrač, S. Linkola, H. Toivonen, R. Hervás, G. Méndez, and P. Gervás. Computational creativity infrastructure for online software composition: A conceptual blending use case. *IBM Journal of Research and Development*, 63(1):9:1–9:17, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mohr:1970:SSP

[Moh70] Th. O. Mohr. Silicon and silicon-dioxide processing for high-frequency MESFET preparation. *IBM Journal of Research and Development*, 14(2): 142–147, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moini:1991:AVT

[Moi91] S. Moini. Application of visualization tools in solid mechanics. *IBM Journal of Research and Development*, 35(1/2):156–166, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mollenauer:1969:GLC

[Mol69] J. F. Mollenauer. Growth of a laboratory computer system for nuclear physics. *IBM Journal of Research and Development*, 13 (1):87–92, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Monachino:1982:DVS

[Mon82a] Michael Monachino. Design verification system for large-scale LSI designs. *IBM Journal of Research and Development*, 26(1):89–99, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Montoto:1982:DMA

[Mon82b] L. Montoto. Digital multi-image analysis: application to the quantification of rock microfractography. *IBM Journal of Research and Development*, 26(6):735–734, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moore:1960:MCR

[Moo60] Edward F. Moore. Minimal complete relay decoding networks. *IBM Journal of Research and Development*, 4(5): 525–531, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392467`.

Moore:1972:CMC

[Moo72] F. R. Moore. Computational model of a closed queuing network with exponential servers. *IBM Journal of Research and Development*, 16(6): 567–572, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morse:1962:UAS

[Mor62] R. W. Morse. Ultrasonic attenuation in superconductors. *IBM Journal of Research and Development*, 6(1): 58–62, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392413`.

More:1973:ATT

[Mor73] Trenchard More, Jr. Axioms and theorems for a theory of arrays. *IBM Journal of Research and Development*, 17(2): 135–175, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morawitz:1979:CEE

[Mor79] H. Morawitz. Cooperative emission of an excited monolayer into surface plasmons. *IBM Journal of Research and*

Development, 23(5):517–526, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morgenstern:1989:GBH

[Mor89] I. Morgenstern. Glassy behavior of high-T_c superconductors. *IBM Journal of Research and Development*, 33(3):307–313, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moser:1961:BSD

[Mos61] J. K. Moser. Bistable systems of differential equations with applications to tunnel diode circuits. *IBM Journal of Research and Development*, 5(3):226–240, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392451`.

Moura:1986:EED

[Mou86] A. V. Moura. Early error detection in syntax-driven parsers. *IBM Journal of Research and Development*, 30(6):617–626, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McDermid:1961:MAM

[MP61] W. L. McDermid and H. E. Petersen. A magnetic associative memory system [letter to the editor]. *IBM Journal of Research and Development*, 5(1):59–62, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392478`.

Myers:1967:EBS

[MP67] R. A. Myers and R. V. Pole. The electron beam scanlaser: Theoretical and operational studies. *IBM Journal of Research and Development*, 11(5):502–510, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391958`.

Muller:1981:PT

[MP81] K. A. Muller and E. Pytte. Phase transitions. *IBM Journal of Research and Development*, 25(5):811–824, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mintzer:1982:MSP

[MP82] Fred Mintzer and Abraham Peled. A microprocessor for signal processing, the RSP. *IBM Journal of Research and Development*, 26(4):413–423, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mitchell:1988:OHS

[MP88a] Joan L. Mitchell and William B. Pennebaker. Optimal hardware and software arithmetic

coding procedures for the Q-Coder. *IBM Journal of Research and Development*, 32(6): 727–736, November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mitchell:1988:SIQ

[MP88b] Joan L. Mitchell and William B. Pennebaker. Software implementations of the Q-Coder. *IBM Journal of Research and Development*, 32(6):753–774, November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Murgai:1982:OIP

[MPCF82] A. Murgai, W. J. Patrick, J. Combronde, and J. C. Felix. Oxygen incorporation and precipitation in Czochralski-grown silicon. *IBM Journal of Research and Development*, 26(5): 546–552, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Muralt:1986:WLB

[MPD86] P. Muralt, D. W. Pohl, and W. Denk. Wide-range, low-operating-voltage, bimorph STM: Application as potentiometer. *IBM Journal of Research and Development*, 30(5): 443–450, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

May:1990:PPM

[MPHC90] P. May, Y. Pastol, J.-M. Halbout, and G. Chiu. Picosecond photoelectron microscope for high-speed testing of integrated circuits. *IBM Journal of Research and Development*, 34(2/3):204–214, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mericas:2015:IPP

[MPP+15] A. Mericas, N. Peleg, L. Pesantez, S. B. Purushotham, P. Oehler, C. A. Anderson, B. A. King-Smith, M. Anand, J. A. Arnold, B. Rogers, L. Maurice, and K. Vu. IBM POWER8 performance features and evaluation. *IBM Journal of Research and Development*, 59(1):6:1–6:10, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mauer:1977:EOE

[MPS77] J. L. Mauer, H. C. Pfeiffer, and W. Stickel. Electron optics of an electron-beam lithographic system. *IBM Journal of Research and Development*, 21(6): 514–521, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matick:1966:HSR

[MPST66] R. E. Matick, P. Pleshko, C. Sie, and L. M. Terman. A high-speed read only store using thick magnetic films. *IBM Journal of Research and Development*, 10(4): 333–342, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392035`.

Micchelli:1972:TFH

[MR72] C. A. Micchelli and T. J. Rivlin. Turán formulae and highest precision quadrature rules for Chebyshev coefficients. *IBM Journal of Research and Development*, 16(4):372–379, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Markowsky:1976:BCP

[MR76a] G. Markowsky and B. K. Rosen. Bases for chain-complete posets. *IBM Journal of Research and Development*, 20(2):138–147, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meier:1976:EMR

[MR76b] J. H. Meier and J. W. Raider. Electric motor requirements for positioning an inertial load. *IBM Journal of Research and Development*, 20(2):176–183, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meier:1979:IDP

[MR79] J. H. Meier and J. W. Raider. Interposer for disk printer. *IBM Journal of Research and Development*, 23(4):392–395, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Morgan:1987:SSR

[MR87] Carroll Morgan and Ken Robinson. Specification statements and refinement. *IBM Journal of Research and Development*, 31(5):546–555, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mausser:2014:CER

[MR14] H. Mausser and O. Romanko. Computing equal risk contribution portfolios. *IBM Journal of Research and Development*, 58 (4):5:1–5:12, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Mohsenian:1999:SPC

[MRG99] N. Mohsenian, R. Rajagopalan, and C. A. Gonzales. Single-pass constant- and variable-bit-rate MPEG-2 video compression. *IBM Journal of Research and Development*, 43 (4):489–509, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/mohsenian.html`.

Maeno:1989:MEY

[MRH89] Yoshiteru Maeno, Christophe Rossel, and Frederic H. Holtzberg. Memory effects in $YBa_2Cu_5O_{7-\delta}$ single crystal. *IBM Journal of Research and Development*, 33(3):328–332,

May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McCurry:1960:SCL

[MS60a] R. E. McCurry and R. M. Schaffert. Space-charge-limited currents in resin films [letter to the editor]. *IBM Journal of Research and Development*, 4 (3):359–363, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392507`.

Miller:1960:MPR

[MS60b] R. E. Miller and J. L. Selfridge. Maximal paths on rectangular boards. *IBM Journal of Research and Development*, 4(5):479–486, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392461`.

Mehta:1967:RMD

[MS67] P. K. Mehta and M. J. Shah. A rapid method for determining compound composition of cement clinker: Application to closed loop kiln control. *IBM Journal of Research and Development*, 11(1): 106–113, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392022`.

MacDonald:1975:SHO

[MS75] J. E. MacDonald and K. L. Sigworth. Storage hierarchy optimization procedure. *IBM Journal of Research and Development*, 19(2):133–140, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Meshkat:1987:VDM

[MS87] Siavash N. Meshkat and Constantine M. Sakkas. Voronoi diagram for multiply-connected polygonal domains. II: Implementation and application. *IBM Journal of Research and Development*, 31(3):373–381, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Molteni:1989:TOS

[MS89] William J. Molteni, Jr. and David Small. Translating object specifications into a computer-generated three-dimensional graphic to be reproduced as a high efficiency, reflection photopolymer hologram suitable for mass-production. *IBM Journal of Research and Development*, 33(2):178–181, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Murley:1996:SMC

[MS96] P. C. Murley and G. R. Srinivasan. Soft-error Monte Carlo modeling program, SEMM. *IBM Journal of Research*

and Development, 40(1):109–118, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#nine`.

Matick:2005:LBE

[MS05] R. E. Matick and S. E. Schuster. Logic-based eDRAM: Origins and rationale for use. *IBM Journal of Research and Development*, 49(1):145–165, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/matick.pdf`.

Muller:2007:QOM

[MS07] S. Müller and C. Supatgiat. A quantitative optimization model for dynamic risk-based compliance management. *IBM Journal of Research and Development*, 51 (3/4):295–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/muller.html`.

Mak:2004:PSI

[MSB+04] P. Mak, G. E. Strait, M. A. Blake, K. W. Kark, V. K. Papazova, A. E. Seigler, G. A. Van Huben, L. Wang, and G. C. Wellwood. Processor subsystem interconnect architecture for a large symmetric multiprocessing system. *IBM Journal of Research and Development*, 48 (3/4):323–338, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/mak.html`; `http://www.research.ibm.com/journal/rd/483/mak.pdf`.

Maissel:1972:SHS

[MSG72] L. I. Maissel, C. L. Standley, and L. V. Gregor. Sputter-etching of heterogeneous surfaces. *IBM Journal of Research and Development*, 16(1):67–70, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Murray:2001:CSN

[MSG+01] C. B. Murray, Shouheng Sun, W. Gaschler, H. Doyle, T. A. Betley, and C. R. Kagan. Colloidal synthesis of nanocrystals and nanocrystal superlattices. *IBM Journal of Research and Development*, 45(1): 47–56, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/murray.html`.

Mack:2007:IPR

[MSSM07] M. J. Mack, W. M. Sauer, S. B. Swaney, and B. G. Mealey. IBM POWER6 reliability. *IBM Journal of Research and Development*, 51(6): 763–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL `http://www.research.ibm.com/journal/rd/516/mack.html`.

Mahindru:2014:SDU

[MSV14] R. Mahindru, R. Sarkar, and M. Viswanathan. Software defined unified monitoring and management of clouds. *IBM Journal of Research and Development*, 58(2–3):12:1–12:11, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Moore:1969:OAD

[MSW69] A. R. Moore, R. W. Smith, and P. Worcester. Off-axis acoustoelectric domains in CdS. *IBM Journal of Research and Development*, 13(5):503–506, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Martorell:2005:BGP

[MSW+05] X. Martorell, N. Smeds, R. Walkup, J. R. Brunheroto, G. Almási, J. A. Gunnels, L. DeRose, J. Labarta, F. Escalé, J. Giménez, H. Servat, and J. E. Moreira. Blue Gene/L performance tools. *IBM Journal of Research and Development*, 49 (2/3):407–424, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/martorell.pdf`.

Murphy:1964:DAT

[MT64] D. W. Murphy and J. R. Turnbull. Design of ACP tunnel-diode-coupled circuits. *IBM Journal of Research and Development*, 8(5):506–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Maruyama:1977:DLC

[MT77] Kyoshi Maruyama and Donald T. Tang. Discrete link capacity and priority assignments in communication networks. *IBM Journal of Research and Development*, 21(3): 254–263 (or 255–263??), May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mulvany:1981:IDF

[MT81] R. B. Mulvany and L. H. Thompson. Innovations in disk file manufacturing. *IBM Journal of Research and Development*, 25(5):711–723, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Myers:1984:ITI

[MT84] R. A. Myers and J. C. Tamulis. Introduction to topical issue on non-impact printing technologies. *IBM Journal of Research and Development*, 28(3):234–240, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Motika:1990:LCD

[MTB+90] F. Motika, N. N. Tendolkar, C. C. Beh, W. R. Heller, C. E. Radke, and P. J. Nigh. A logic chip delay-test method based on system timing. *IBM Journal of Research and Development*, 34(2/3):299–313, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mamin:1995:HDS

[MTF+95] H. J. Mamin, B. D. Terris, L. S. Fan, S. Hoen, R. C. Barrett, and D. Rugar. High-density data storage using proximal probe techniques. *IBM Journal of Research and Development*, 39(6):681–699, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#eight`.

Magdo:1971:EBF

[MTH71] S. Magdo, C. H. Ting, and M. Hatzakis. Electron beam fabrication of micron transistors. *IBM Journal of Research and Development*, 15(6):446–451, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McMurtry:1984:TIP

[MTS84] David McMurtry, Mike Tinghitella, and Roger Svendsen. Technology of the IBM 3800 printing subsystem model 3. *IBM Journal of Research and Development*, 28(3):257–262, May 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Miranker:1983:ZTV

[MTW83] Glen S. Miranker, Luong Tang, and Chak Kuen Wong. "zero-time" VLSI sorter. *IBM Journal of Research and Development*, 27(2):140–148, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Matino:1977:ESB

[MU77] H. Matino and T. Ushiroda. Effect of substrate bias on properties of RF-sputtered CR-SiO films. *IBM Journal of Research and Development*, 21(6):576–579, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mullick:1967:PSN

[Mul67] S. K. Mullick. Propagation of signals in nonlinear transmission lines. *IBM Journal of Research and Development*, 11 (5):558–562, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391966`.

Mulvany:1974:EDD

[Mul74] R. B. Mulvany. Engineering design of a disk storage facility with data modules. *IBM Journal of Research and Development*, 18(6):489–505, November 1974. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Murphy:1957:PIA

[Mur57] R. W. Murphy. A positive-integer arithmetic for data processing. *IBM Journal of Research and Development*, 1(2): 158–170, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392735; http://www.research.ibm.com/journal/rd/012/ibmrd0102G.pdf`.

MacDonald:1962:FET

[MVB62] R. E. MacDonald, M. J. Vogel, and J. W. Brookman. Fluorescence of europium tungstate [letter to the editor]. *IBM Journal of Research and Development*, 6(3): 363–364, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392379`.

Martin:2010:PTS

[MVCW10] J. L. Martin, H. Varilly, J. Cohn, and G. R. Wightwick. Preface: Technologies for a Smarter Planet. *IBM Journal of Research and Development*, 54(4):1–2, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Muehlbach:2007:CDU

[MVI+07] A. Muehlbach, B. D. Valentine, D. Immel, M. S. Bomar, and T. V. Bolan. Concurrent driver upgrade: Method to eliminate scheduled system outages for new function releases. *IBM Journal of Research and Development*, 51(1/2):185–193, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/muehlbach.html`.

Marsh:1985:DLI

[MVK85] L. L. Marsh, D. C. Van Hart, and S. M. Kotkiewicz. Dielectric loss investigation of moisture in epoxy-glass composites. *IBM Journal of Research and Development*, 29(1):18–26, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ma:1962:EIA

[MW62] J. T. S. Ma and P. K. C. Wang. Effect of initial air content on the dynamics of bubbles in liquids [letter to the editor]. *IBM Journal of Research and Development*, 6(4): 472–474, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392325`.

Middelhoek:1967:RWC

[MW67] S. Middelhoek and D. Wild. Review of wall creeping in thin magnetic films. *IBM Journal of Research and Development*, 11(1):93–105, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392021`.

Milder:1970:AHC

[MW70] D. M. Milder and W. H. Wells. Acoustic holography with crossed linear arrays. *IBM Journal of Research and Development*, 14(5):492–500, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McCumber:1979:ACA

[MW79] W. H. McCumber and M. W. Weston. Analysis and comparison of actual to predicted collector array performances. *IBM Journal of Research and Development*, 23(3):253–269, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Magerlein:1980:ERL

[MW80a] J. H. Magerlein and D. J. Webb. Electron-beam resists for lift-off processing with potential application to Josephson integrated circuits. *IBM Journal of Research and Development*, 24(5): 554–562, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Markowsky:1980:FWF

[MW80b] George Markowsky and Michael A. Wesley. Fleshing out wire frames. *IBM Journal of Research and Development*, 24(5): 582–597, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mescia:1982:PAS

[MW82] N. C. Mescia and C. D. Woods. Plant automation in a structured distributed system environment. *IBM Journal of Research and Development*, 26 (4):497–505, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

McPherson:2009:P

[MW09] Tom McPherson and Robert Wallners. Preface. *IBM Journal of Research and Development*, 53(1):i, January/ February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/preface.pdf`.

Moffat:2005:SFG

[MWEJ05] T. P. Moffat, D. Wheeler, M. D. Edelstein, and D. Josell. Superconformal film growth: Mechanism and quantification. *IBM Journal of Research and Development*, 49(1):19–36, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/moffat.pdf`.

Mega:2014:DCS

[MWL+14] C. Mega, T. Waizenegger, D. Lebutsch, S. Schleipen, and J. M. Barney. Dynamic cloud service topology adaption for minimizing resources while meeting performance goals. *IBM Journal of Research and Development*, 58(2–3):8:1–8:10, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Michel:1963:DAR

[MWN63] A. E. Michel, E. J. Walker, and M. I. Nathan. Determination of the active region in light-emitting GaAs diodes [letter to the editor]. *IBM Journal of Research and Development*, 7(1):70–71, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392342`.

Mak:2009:ISZ

[MWS09] P. Mak, C. R. Walters, and G. E. Strait. IBM System z10 processor cache subsystem microarchitecture. *IBM Journal of Research and Development*, 53(1):2:1–2:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/mak.pdf`.

Mueller:2007:FRC

[MWW+07] M. J. Mueller, U. Weiss, T. Webel, L. C. Alves, W. J. Clarke, M. Strasser, E. Engler, G. Cautillo, H. Osterndorf, and J. Schulze. Fully redundant clock generation and distribution with dynamic oscillator switchover. *IBM Journal of Research and Development*, 51 (1/2):145–156, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/mueller.html`.

Meng:2017:ITD

[MWX+17] F. J. Meng, M. N. Wegman, J. M. Xu, X. Zhang, P. Chen, and G. Chafle. IT troubleshooting with drift analysis in the DevOps era. *IBM Journal of Research and Development*, 61 (1):6:62–6:73, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877287/`.

McLean:1965:MAR

[MY65] A. D. McLean and M. Yoshimine. Mapping an arbitrary range into $(-1, 1)$ with a side condition: Application to numerical quadratures. *IBM Journal of Research and Development*, 9(3):203–204, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/093/ibmrd0903H.pdf.

McLean:1967:CMP

[MY67a] A. D. McLean and M. Yoshimine. Computation of molecular properties and structure. *IBM Journal of Research and Development*, 13(3):206–233, November 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See supplemental volume [MY67b].

McLean:1967:TLM

[MY67b] A. D. McLean and M. Yoshimine. Tables of linear molecule wavefunctions. *IBM Journal of Research and Development*, 11 (11):8 + 223, November 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). This volume is a supplement to [MY67a].

McLean:1968:CMP

[MY68] A. D. McLean and M. Yoshimine. Computation of molecular properties and structure. *IBM Journal of Research and Development*, 12(3):206–233, May 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Myers:1972:COC

[Mye72] H. J. Myers. Compiling optimized code from decision tables. *IBM Journal of Research and Development*, 16(5): 489–503, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Mashford:2017:NNB

[MYKK+17] B. S. Mashford, A. Jimeno Yepes, I. Kiral-Kornek, J. Tang, and S. Harrer. Neural-network-based analysis of EEG data using the neuromorphic TrueNorth chip for brain-machine interfaces. *IBM Journal of Research and Development*, 61(2–3):7:1–7:6, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/document/7921702/.

Moreno:2003:ILP

[MZS+03] J. H. Moreno, V. Zyuban, U. Shvadron, F. D. Neeser, J. H. Derby, M. S. Ware, K. Kailas, A. Zaks, A. Geva, S. Ben-David, S. W. Asaad, T. W. Fox, D. Littrell, M. Biberstein, D. Naishlos, and H. Hunter. An innovative low-power high-performance programmable signal processor for digital communications. *IBM Journal of Research and Development*, 47 (2/3):299–326, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/472/moreno.pdf.

Nair:2015:AMC

[NAB+15] R. Nair, S. F. Antao, C. Bertolli, P. Bose, J. R. Brunheroto, T. Chen, C. Cher, C. H. A. Costa, J. Doi, C. Evangelinos, B. M. Fleischer, T. W. Fox,

D. S. Gallo, L. Grinberg, J. A. Gunnels, A. C. Jacob, P. Jacob, H. M. Jacobson, T. Karkhanis, C. Kim, J. H. Moreno, J. K. O'Brien, M. Ohmacht, Y. Park, D. A. Prener, B. S. Rosenburg, K. D. Ryu, O. Sallenave, M. J. Serrano, P. D. M. Siegl, K. Sugavanam, and Z. Sura. Active Memory Cube: A processing-in-memory architecture for exascale systems. *IBM Journal of Research and Development*, 59 (2–3):17:1–17:14, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nadas:1979:PP

[Nad79] Arthur Nadas. Probabilistic PERT. *IBM Journal of Research and Development*, 23 (3):339–347, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nair:2002:EIC

[Nai02] R. Nair. Effect of increasing chip density on the evolution of computer architectures. *IBM Journal of Research and Development*, 46(2/3):223–234, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/nair.html; http://www.research.ibm.com/journal/rd/462/nair.pdf`.

Nett:2018:IPS

[NAN+18] N. S. Nett, R. X. Arroyo, T. Nguyen, B. W. Mashak, R. M. Zgabay, H. Nguyen, C. W. Mann, E. J. Hauptli, S. P. Mroz, and W. J. Anderl. IBM POWER9 systems designed for commercial, cognitive, and cloud. *IBM Journal of Research and Development*, 62 (4–5):7:1–7:13, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8458311/`.

Nowick:1961:LDFa

[NB61a] A. S. Nowick and B. S. Berry. Lognormal distribution function for describing anelastic and other relaxation processes I. theory and numerical computations. *IBM Journal of Research and Development*, 5(4): 297–311, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392391`.

Nowick:1961:LDFb

[NB61b] A. S. Nowick and B. S. Berry. Lognormal distribution function for describing anelastic and other relaxation processes II. data analysis and applications. *IBM Journal of Research and Development*, 5(4): 312–320, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392392`.

Nyberg:2000:MER

[NBF+00] G. B. Nyberg, R. R. Balcarcel, B. D. Follstad, G. Stephanopoulos, and D. I. C. Wang. Metabolic effects on recombinant interferon-γ glycosylation in continuous culture of Chinese hamster ovary cells. *IBM Journal of Research and Development*, 44(5):770–783, September 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/445/nyberg.pdf`.

Natarajan:2016:MEM

[NBF+16] R. Natarajan, R. C. Baker, R. M. Ford, M. E. Helander, J. Marecki, and B. K. Ray. Mixed-effects models and tolerance limits for mycotoxin measurements in foodstock lots. *IBM Journal of Research and Development*, 60(5–6):4:1–4:11, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580665/`.

Noothigattu:2019:TAA

[NBM+19] R. Noothigattu, D. Bouneffouf, N. Mattei, R. Chandra, P. Madan, K. R. Varshney, M. Campbell, M. Singh, and F. Rossi. Teaching AI agents ethical values using reinforcement learning and policy orchestration. *IBM Journal of Research and Development*, 63 (4–5):2:1–2:9, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nicolau:1970:TPI

[NBRB70] P. Nicolau, I. Bunget, M. Rosenberg, and I. Belciu. Transport properties of iron-nickel ferrites. *IBM Journal of Research and Development*, 14(3):248–250, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nowka:2003:DAP

[NCB03] K. J. Nowka, G. D. Carpenter, and B. C. Brock. The design and application of the PowerPC 405LP energy-efficient system-on-a-chip. *IBM Journal of Research and Development*, 47 (5/6):631–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/nowka.pdf`.

Notohardjono:2001:MSF

[NCM+01] B. D. Notohardjono, J. S. Corbin, S. J. Mazzuca, S. C. McIntosh, and H. Welz. Modular server frame with robust earthquake retention. *IBM Journal of Research and Development*, 45(6):771–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Noyes:1957:RAM

[ND57] T. Noyes and W. E. Dickinson. The random-access memory accounting machine — II. The magnetic-disk, random-access memory. *IBM Journal of Research and Development*, 1(1):72–75, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392720`.

Noyes:2000:RAM

[ND00] T. Noyes and W. E. Dickinson. The Random-Access Memory Accounting Machine. II. the magnetic-disk, random-access memory. *IBM Journal of Research and Development*, 44(1/2):16–19, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/noyes.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Newns:2004:NET

[NDM+04] D. M. Newns, W. E. Donath, G. J. Martyna, M. E. Schabes, and B. H. Lengsfield III. Novel efficient techniques for computer simulation of magnetic recording. *IBM Journal of Research and Development*, 48(2):173–182, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/482/newns.html`; `http://www.research.ibm.com/journal/rd/482/newns.pdf`.

Neff:1990:FDB

[Nef90] C. A. Neff. Finding the distance between two circles in three-dimensional space. *IBM Journal of Research and Development*, 34(5):770–775, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nesbet:1998:TSD

[Nes98] R. K. Nesbet. Theory of spin-dependent conductivity in GMR materials. *IBM Journal of Research and Development*, 42(1):53–71, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/nesbet.html`.

Nethercot:1960:STS

[Net60] A. H. Nethercot. On the switching time of subharmonic oscillators. *IBM Journal of Research and Development*, 4(4):402–406, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392515`.

Nagle:2008:ATO

[NFI+08] David Nagle, Michael E. Factor, Sami Iren, Dalit Naor, Erik Riedel, Ohad Rodeh, and

Julian Satran. The ANSI T10 object-based storage standard and current implementations. *IBM Journal of Research and Development*, 52 (4/5):401–411, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/nagle.html`.

Narayanan:2017:TCA

[NFS+17] P. Narayanan, A. Fumarola, L. L. Sanches, K. Hosokawa, S. C. Lewis, R. M. Shelby, and G. W. Burr. Toward on-chip acceleration of the backpropagation algorithm using nonvolatile memory. *IBM Journal of Research and Development*, 61(4–5):1–11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030206/`.

Nair:2017:WAS

[NG17] R. Nair and S. Gupta. Wildfire: Approximate synchronization of parameters in distributed deep learning. *IBM Journal of Research and Development*, 61 (4–5):7:1–7:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030302/`.

Nicollian:1957:REH

[NGMW57] E. H. Nicollian, G. R. Gunther-Mohr, and L. R. Weisberg. A radiant-energy heater using an ellipsoidal reflector. *IBM Journal of Research and Development*, 1(4):349–355, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392701`.

Nguyen:1999:HDP

[Ngu99] S. V. Nguyen. High-density plasma chemical vapor deposition of silicon-based dielectric films for integrated circuits. *IBM Journal of Research and Development*, 43 (1/2):109–126, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/nguyen.html`.

Nohilly:1991:PES

[NHH91] W. Nohilly, S. Hajek, and R. Hawryluk. Preface: Enterprise System 9000 Type 9121 air-cooled processor. *IBM Journal of Research and Development*, 35(3):306, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nakagome:2003:RFP

[NHKI03] Y. Nakagome, M. Horiguchi, T. Kawahara, and K. Itoh. Review and future prospects of low-voltage RAM circuits. *IBM Journal of Research and Development*, 47(5/6):525–??, ????

2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/nakagome.pdf`.

Nicholson:1992:CEK

[Nic92] C. N. Nicholson. The controlled experiment in knowledge-acquisition research. *IBM Journal of Research and Development*, 36(6): 958–964, November 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Niijima:1995:DSF

[Nii95] H. Niijima. Design of a solid-state file using flash EEPROM. *IBM Journal of Research and Development*, 39(5): 531–545, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-5.html#two`.

Ning:2002:WBS

[Nin02] T. H. Ning. Why BiCMOS and SOI BiCMOS? *IBM Journal of Research and Development*, 46 (2/3):181–186, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/ning.html; http://www.research.ibm.com/journal/rd/462/ning.pdf`.

Nickel:1981:PTI

[NK81] T. Y. Nickel and F. J. Kania. Printer technology in IBM. *IBM Journal of Research and Development*, 25(5): 755–765, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Norris:1969:RCC

[NL69] K. C. Norris and A. H. Landzberg. Reliability of controlled collapse interconnections. *IBM Journal of Research and Development*, 13(3):266–271, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nieters:2017:NCM

[NLP17] P. Nieters, J. Leugering, and G. Pipa. Neuromorphic computation in multi-delay coupled models. *IBM Journal of Research and Development*, 61(2–3):8:7–8:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921635/`.

Nathan:1962:EBM

[NM62] M. I. Nathan and S. H. Moll. Electron beam microanalysis of germanium tunnel diodes [letter to the editor]. *IBM Journal of Research and Development*, 6(3):375–377, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392383`.

Nowick:1965:HSM

[NM65] A. S. Nowick and S. R. Mader. A hard-sphere model to simulate alloy thin films. *IBM Journal of Research and Development*, 9(5/6):358–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/095/ibmrd0905a6B.pdf`.

Neeser:2010:SII

[NMF10] F. D. Neeser, B. Metzler, and P. W. Frey. SoftRDMA: Implementing iWARP over TCP kernel sockets. *IBM Journal of Research and Development*, 54(1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/neeser.html`.

Nanda:2007:CBB

[NMH+07] A. K. Nanda, J. R. Moulic, R. E. Hanson, G. Goldrian, M. N. Day, B. D. D'Amora, S. Kesavarapu, Karen A. Magerlein, Atman Binstock, Bernard Yee, and Francesco Iorio. Cell/B.E. blades: Building blocks for scalable, real-time, interactive, and digital media servers. *IBM Journal of Research and Development*, 51(5): 573–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/nanda.html`. See erratum [Ano08b] supplying missing authors.

Nair:2020:MLA

[NML+20] R. Nair, B. S. Madsen, H. Lassen, S. Baduk, S. Nagarajan, L. H. Mogensen, R. Novack, R. Curzon, J. Paraszczak, and S. Urbak. A machine learning approach to scenario analysis and forecasting of mixed migration. *IBM Journal of Research and Development*, 64 (1/2):7:1–7:7, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nguyen:2014:HBD

[NMTP14] H. Nguyen, L. Michel, J. D. Thompson, and O. Poch. Heterogeneous biological data integration with declarative query language. *IBM Journal of Research and Development*, 58 (2–3):15:1–15:12, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Neogi:2009:BFB

[NMV+09] A. Neogi, A. Mohindra, B. Viswanathan, T. Kushida, and H. Horii. BlueStar: a federation-based approach to building Internet-scale data centers. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.`

ibm.com/journal/abstracts/rd/534/neogi.html.

Neti:2015:MIE

[NNF15] C. Neti, M. Naghshineh, and K. Frase. Message from IBM Executives on "Technologies for Educational Transformation". *IBM Journal of Research and Development*, 59(6):0:1–0:2, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Narayanaswami:2019:BAS

[NNGV19] C. Narayanaswami, R. Nooyi, S. R. Govindaswamy, and R. Viswanathan. Blockchain anchored supply chain automation. *IBM Journal of Research and Development*, 63(2–3):7:1–7:11, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nanda:2001:HTC

[NNMJ01] A. K. Nanda, A.-T. Nguyen, M. M. Michael, and D. J. Joseph. High-throughput coherence control and hardware messaging in Everest. *IBM Journal of Research and Development*, 45(2):229–243, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/452/nanda.html.

Nickerson:2006:CMM

[NNN+06] D. Nickerson, M. Nash, P. Nielsen, N. Smith, and P. Hunter. Computational multiscale modeling in the IUPS Physiome Project: Modeling cardiac electromechanics. *IBM Journal of Research and Development*, 50(6):617–630, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/506/nickerson.html.

Nobakht:1995:AAC

[Nob95a] R. A. Nobakht. An algorithm for adaptive cancellation of phase jitter. *IBM Journal of Research and Development*, 39(5):569–573, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-5.html#four.

Nobakht:1995:UTV

[Nob95b] R. A. Nobakht. A unified table-based Viterbi subset decoder for high-speed voice-band modems. *IBM Journal of Research and Development*, 39(3):331–334, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-3.html#four.

Norden:1958:CFM

[Nor58] P. V. Norden. Curve fitting for a model of applied research and development scheduling. *IBM Journal of Research and Development*, 2

(3):232–248, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392627`.

Nowak:2002:MBC

[Now02] E. J. Nowak. Maintaining the benefits of CMOS scaling when scaling bogs down. *IBM Journal of Research and Development*, 46(2/3):169–180, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/nowak.html`; `http://www.research.ibm.com/journal/rd/462/nowak.pdf`.

Nussbaumer:1978:CCD

[NQ78] H. J. Nussbaumer and P. Quandalle. Computation of convolutions and discrete Fourier transforms by polynomial transforms. *IBM Journal of Research and Development*, 22(2): 134–144, March 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nagurney:2020:QSC

[NQ20] A. Nagurney and Q. Qiang. Quantifying supply chain network synergy for humanitarian organizations. *IBM Journal of Research and Development*, 64(1/2):12:1–12:16, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Naveh:2007:WOI

[NRA+07] Y. Naveh, Y. Richter, Y. Altshuler, D. L. Gresh, and D. P. Connors. Workforce optimization: Identification and assignment of professional workers using constraint programming. *IBM Journal of Research and Development*, 51 (3/4):263–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/naveh.html`.

Naghshineh:2009:IRD

[NRD+09] M. Naghshineh, R. Ratnaparkhi, D. Dillenberger, J. R. Doran, C. Dorai, L. Anderson, G. Pacifici, J. L. Snowdon, A. Azagury, M. VanderWiele, and Y. Wolfsthal. IBM Research Division cloud computing initiative. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/naghshineh.html`.

Nguyen:1992:TRA

[NS92] T. N. Nguyen and H. E. Stephanou. Topological reasoning about dextrous grasps. *IBM Journal of Research and Development*, 36(3):469–486, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nishida:1998:MCU

[NSOO98] H. Nishida, K. Sakamoto, Hideki Ogawa, and Hiromi Ogawa. Micropitch connection using anisotropic conductive materials for driver IC attachment to a liquid crystal display. *IBM Journal of Research and Development*, 42 (3/4):517–525, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/nishida.html`.

Newell:1958:CPP

[NSS58] Allen Newell, J. C. Shaw, and H. A. Simon. Chess-playing programs and the problem of complexity. *IBM Journal of Research and Development*, 2 (4):320–335, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392645`.

Nagy:1972:NCC

[NT72] G. Nagy and J. Tolaba. Nonsupervised crop classification through airborne multispectral observations. *IBM Journal of Research and Development*, 16 (2):138–153, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nunes:2009:MVP

[Nun09] Sharon Nunes. Message from the Vice President, Strategic Growth Initiatives, Big Green Innovations, IBM Systems & Technology Group. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/letter.html`.

Nussbaumer:1976:CCF

[Nus76a] H. J. Nussbaumer. Complex convolutions via Fermat number transforms. *IBM Journal of Research and Development*, 20(3):282–284, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nussbaumer:1976:DFU

[Nus76b] H. J. Nussbaumer. Digital filtering using complex Mersenne transforms. *IBM Journal of Research and Development*, 20(5): 498–504, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Nussbaumer:1977:LFT

[Nus77] H. J. Nussbaumer. Linear filtering technique for computing Mersenne and Fermat number transforms. *IBM Journal of Research and Development*, 21(4):334–339 (or 335–339??), July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Newman:1964:MCV

[NW64] E. G. Newman and L. F. Winter. Magnetically controlled variable logic. *IBM Journal of*

Research and Development, 8 (3):308–317, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Olson:2009:GST

[OB09] E. G. Olson and N. Brady. Green Sigma and the technology of transformation for environmental stewardship. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/olson.html`.

Ohmacht:2005:BGC

[OBB+05] M. Ohmacht, R. A. Bergamaschi, S. Bhattacharya, A. Gara, M. E. Giampapa, B. Gopalsamy, R. A. Haring, D. Hoenicke, D. J. Krolak, J. A. Marcella, B. J. Nathanson, V. Salapura, and M. E. Wazlowski. Blue Gene/L compute chip: Memory and Ethernet subsystem. *IBM Journal of Research and Development*, 49(2/3):255–264, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/ohmacht.pdf`.

OConnor:1989:NQP

[O'C89] Michael A. O'Connor. Natural quadrics: Projections and intersections. *IBM Journal of Research and Development*, 33 (4):417–446, July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oakland:1990:SAC

[OCB+90] S. F. Oakland, J. L. Corr, J. D. Blair, R. D. Norman, and W. J. DeGuise. Self-testing the 16-Mbps adapter chip for the IBM token-ring local area network. *IBM Journal of Research and Development*, 34(2/3):416–427, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OSullivan:1998:IVR

[OCR+98] E. J. O'Sullivan, E. I. Cooper, L. T. Romankiw, K. T. Kwietniak, P. L. Trouilloud, J. Horkans, C. V. Jahnes, I. V. Babich, S. Krongelb, S. G. Hegde, J. A. Tornello, N. C. LaBianca, J. M. Cotte, and T. J. Chainer. Integrated, variable-reluctance magnetic minimotor. *IBM Journal of Research and Development*, 42 (5):681–694, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/cooper.html`.

Oldham:1968:EDC

[OCT68] I. B. Oldham, R. T. Chien, and D. T. Tang. Error detection and correction in a photodigital storage system. *IBM Journal of Research and Development*, 12(6):422–430, November 1968. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Osogami:2017:LVH

[OD17] T. Osogami and S. Dasgupta. Learning the values of the hyperparameters of a dynamic Boltzmann machine. *IBM Journal of Research and Development*, 61(4–5):8:1–8:8, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030295/`.

Ortega:2003:GED

[ODA03] A. Ortega, A. A. Dalhoum, and M. Alfonseca. Grammatical evolution to design fractal curves with a given dimension. *IBM Journal of Research and Development*, 47(4):483–493, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/474/ortega.pdf`.

Oehme:2008:ISF

[ODA+08] Sven Oehme, Juergen Deicke, Jens-Peter Akelbein, Ronnie Sahlberg, Andred Tridgell, and Roger L. Haskin. IBM Scale out File Services: Reinventing network-attached storage. *IBM Journal of Research and Development*, 52(4/5):319–328, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/oehme.html`.

Odeh:1964:ETB

[Ode64] F. M. Odeh. An existence theorem for the BCS integral equation. *IBM Journal of Research and Development*, 8 (2):187–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802M.pdf`.

Odeh:1987:SST

[Ode87] F. Odeh. Some stability techniques for multistep methods. *IBM Journal of Research and Development*, 31(2):178–186, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oehrlein:1999:SSI

[ODK+99] G. S. Oehrlein, M. F. Doemling, B. E. E. Kastenmeier, P. J. Matsuo, N. R. Rueger, M. Schaepkens, and T. E. F. M. Standaert. Surface science issues in plasma etching. *IBM Journal of Research and Development*, 43(1/2):181–197, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/oehrlein.html`.

OHare:2009:AED

[ODL+09] G. M. P. O'Hare, D. Diamond, K. T. Lau, J. Hayes, C. Muldoon, M. J. O'Grady, R. Tynan,

G. Rancourt, H. R. Kolar, and R. J. McCarthy. The adaptive environment: Delivering the vision of in situ real-time environmental monitoring. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/ohare.html`.

Oliver:1970:TMF

[ODR70] M. R. Oliver, J. O. Dimmock, and T. B. Reed. Temperature and magnetic field dependence of the conductivity of EuO. *IBM Journal of Research and Development*, 14(3):276–278, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oliveira:2016:DSA

[OEN+16] F. Oliveira, T. Eilam, P. Nagpurkar, C. Isci, M. Kalantar, W. Segmuller, and E. Snible. Delivering software with agility and quality in a cloud environment. *IBM Journal of Research and Development*, 60 (2–3):10:1–10:11, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ormond:1980:RSG

[OG80] Douglas W. Ormond and J. R. Gardiner. Reliability of SiO_2 gate dielectric with semi-recessed oxide isolation. *IBM Journal of Research and Development*, 24(3):353–361, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OConnor:1987:SUV

[OG87] Michael A. O'Connor and Graziano Gentili. Simple unit vectors orthogonal to a given vector. *IBM Journal of Research and Development*, 31 (3):335–342, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oehler:1990:IRS

[OG90] R. R. Oehler and R. D. Groves. IBM RISC System/6000 processor architecture. *IBM Journal of Research and Development*, 34(1):23–36, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401E.pdf`.

Ostapko:1974:GTE

[OH74] D. L. Ostapko and S. J. Hong. Generating test examples for heuristic Boolean minimization. *IBM Journal of Research and Development*, 18(5): 459–464, September 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OHanlon:1978:PSA

[O'H78] John F. O'Hanlon. Phenomenological study of AC gas panels fabricated with vacuum-deposited dielectric layers. *IBM*

Journal of Research and Development, 22(6):626–633, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ohara:2010:ARR

[Oha10] M. Ohara. Aggregating REST requests to accelerate Web 2.0 applications. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/ohara.html`.

Ohba:1984:SRA

[Ohb84] Mitsuru Ohba. Software reliability analysis models. *IBM Journal of Research and Development*, 28(4):428–443, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oakes:2007:ESR

[OHK+07] K. J. Oakes, U. Helmich, A. Kohler, A. W. Piechowski, M. Taubert, J. S. Trotter, J. von Buttlar, and R. M. Whalen, Jr. Enhanced I/O subsystem recovery and availability on the IBM System z9. *IBM Journal of Research and Development*, 51(1/2):131–144, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/oakes.html`.

OBrien:1985:TPM

[OHM+85] Redmond R. O'Brien, C. M. Hsieh, J. Scott Moore, R. F. Lever, P. C. Murley, Karen W. Brannon, G. R. Srinivasan, and Ronald W. Knepper. Two-dimensional process modeling: a description of the SAFE-PRO program. *IBM Journal of Research and Development*, 29 (3):229–241, May 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Onton:1976:SMA

[OHSP76] A. Onton, N. Heiman, J. C. Suits, and W. Parrish. Structure and magnetic anisotropy of amorphous Gd-Co films. *IBM Journal of Research and Development*, 20(4):409–411, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ohta:1995:UMR

[Oht95] T. Ohta. Use of multiple representations for simulating cloth shapes and motions: An overview. *IBM Journal of Research and Development*, 39(5): 523–530, September 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-5.html#one`.

OSullivan:1988:CPC

[OHWR88] Eugene J. M. O'Sullivan, Jean Horkans, James R. White, and Judith M. Roldan. Characterization of PdSn catalysts

for electroless metal deposition. *IBM Journal of Research and Development*, 32(5): 591–602, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Osogami:2013:TSE

[OIM+13] T. Osogami, T. Imamichi, H. Mizuta, T. Suzumura, and T. Ide. Toward simulating entire cities with behavioral models of traffic. *IBM Journal of Research and Development*, 57(5):6:1–6:10, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oktay:1982:CMH

[OK82] Sevgin Oktay and Herbert C. Kammerer. Conduction-cooled module for high-performance LSI devices. *IBM Journal of Research and Development*, 26 (1):55–66, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Okaya:1969:UCC

[Oka69] Y. Okaya. The use of a control computer in a chemistry department. *IBM Journal of Research and Development*, 13(1): 126–131, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Osburn:2002:VSM

[OKH+02] C. M. Osburn, I. Kim, S. K. Han, I. De, K. F. Yee, S. Gannavaram, S. J. Lee, C.-H. Lee, Z. J. Luo, W. Zhu, J. R. Hauser, D.-L. Kwong, G. Lucovsky, T. P. Ma, and M. C. Öztürk. Vertically scaled MOSFET gate stacks and junctions: How far are we likely to go? *IBM Journal of Research and Development*, 46(2/3):299–315, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/osburn.html`; `http://www.research.ibm.com/journal/rd/462/osburn.pdf`.

Oklobdzija:2003:CSE

[Okl03] V. G. Oklobdzija. Clocking and storage elements in a multi-gigahertz environment. *IBM Journal of Research and Development*, 47(5/6):567–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/oklobdzija.pdf`.

Oktay:1969:PST

[Okt69] S. Oktay. Parametric study of temperature profiles in chips joined by controlled collapse techniques. *IBM Journal of Research and Development*, 13 (3):272–285, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oktay:1971:MSB

[Okt71] S. Oktay. Multi-fluid subdued boiling; theoretical analysis of multi-fluid interface bubbles. *IBM Journal of Re-*

search and Development, 15(5): 342–354, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OMalley:1985:ACA

[O'M85] Lawrence V. O'Malley. Adaptive clustering algorithm. *IBM Journal of Research and Development*, 29(1):68–72, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ohbuchi:1996:IMS

[OMA+96] R. Ohbuchi, T. Miyazawa, M. Aono, A. Koide, M. Kimura, and R. Yoshida. Integrated medical-image system for cancer research and treatment. *IBM Journal of Research and Development*, 40(2): 185–210, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-2.html#four`.

ORourke:1960:EPV

[OMAW60] M. J. O'Rourke, J. C. Marinace, R. L. Anderson, and W. H. White. Electrical properties of vapor-grown Ge junctions. *IBM Journal of Research and Development*, 4(3): 256–263, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392490`.

OConnell:1960:IBV

[ON60] J. A. O'Connell and B. Narken. Increasing the brightness-voltage nonlinearity of electroluminescent devices [letter to the editor]. *IBM Journal of Research and Development*, 4 (4):426–429, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392520`.

Ono:1993:APE

[Ono93] H. Ono. Architecture and performance of the ESPER-2 hard-disk drive servo writer. *IBM Journal of Research and Development*, 37(1):3–11, January 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Olsen:1981:RSF

[OO81] P. F. Olsen and R. J. Orrange. Real-time systems for Federal applications: a review of significant technological developments. *IBM Journal of Research and Development*, 25(5): 405–416, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ordonez:2012:VMT

[OOL+12] P. Ordonez, T. Oates, M. E. Lombardi, G. Hernandez, K. W. Holmes, J. Fackler, and C. U. Lehmann. Visualization of multivariate time-series data in a neonatal ICU. *IBM Journal*

of Research and Development, 56(5):7:1–7:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261581`.

OHanlon:1978:EOC

[OPR+78] John F. O'Hanlon, K. C. Park, A. Reisman, R. Havreluk, and J. G. Cahill. Electrical and optical characteristics of evaporable-gas-dielectric AC gas display panels. *IBM Journal of Research and Development*, 22(6):613–621, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oprysko:2003:P

[Opr03] M. M. Oprysko. Preface: Mathematical sciences at 40. *IBM Journal of Research and Development*, 47(2/3):99–100, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/preface.pdf`.

Oehrlein:1992:PDE

[OR92] G. S. Oehrlein and J. F. Rembetski. Plasma-based dry etching techniques in the silicon integrated circuit technology. *IBM Journal of Research and Development*, 36(2):140–157, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Orth:1984:EAE

[Ort84] D. L. Orth. Empty arrays in extended APL. *IBM Journal of Research and Development*, 28(4):412–427, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OGorman:1996:FTC

[ORT+96] T. J. O'Gorman, J. M. Ross, A. H. Taber, J. F. Ziegler, H. P. Muhlfeld, C. J. Montrose, H. W. Curtis, and J. L. Walsh. Field testing for cosmic ray soft errors in semiconductor memories. *IBM Journal of Research and Development*, 40 (1):41–50, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#four`.

Okorn-Schmidt:1999:CSS

[OS99] H. F. Okorn-Schmidt. Characterization of silicon surface preparation processes for advanced gate dielectrics. *IBM Journal of Research and Development*, 43(3):351–366, May 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/433/okorn.html`.

Osborn:1993:SMM

[Osb93] B. E. Osborn. Statistical modeling in manufacturing: Adapting a diagnostic tool to real-time applications. *IBM Journal of Research and Development*,

37(4):491–506, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OSullivan:1998:EDD

[OSP+98] E. J. O'Sullivan, A. G. Schrott, M. Paunovic, C. J. Sambucetti, J. R. Marino, P. J. Bailey, S. Kaja, and K. W. Semkow. Electrolessly deposited diffusion barriers for microelectronics. *IBM Journal of Research and Development*, 42(5): 607–620, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/osullivan.html`.

Ostapko:1984:MMC

[Ost84] D. L. Ostapko. Mapping and memory chip hardware which provides symmetric reading/writing of horizontal and vertical lines. *IBM Journal of Research and Development*, 28 (4):393–398, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Oswald:1974:DDF

[Osw74] R. K. Oswald. Design of a disk file head-positioning servo. *IBM Journal of Research and Development*, 18(6):506–512, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OSullivan:2014:ADM

[OTC14] P. O'Sullivan, G. Thompson, and A. Clifford. Applying data models to big data architectures. *IBM Journal of Research and Development*, 58 (5/6):18:1–18:11, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Overmeyer:1970:CCD

[Ove70] J. Overmeyer. Calculation of the current density in the contacts of a thin film resistor. *IBM Journal of Research and Development*, 14(1):66–69, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

OConnell:2000:PNG

[OW00] F. P. O'Connell and S. W. White. POWER3: The next generation of PowerPC processors. *IBM Journal of Research and Development*, 44(6): 873–884, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/oconnell.html`.

Ohmacht:2013:IBG

[OWG+13] M. Ohmacht, A. Wang, T. Gooding, B. Nathanson, I. Nair, G. Janssen, M. Schaal, and B. Steinmacher-Burow. IBM Blue Gene/Q memory subsystem with speculative execution and transactional memory. *IBM Journal of Research and Development*, 57(1/2):7:1–7:12, January–March 2013. CO-

DEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ortiz-Yepes:2014:BSA

[OYHSB14] D. A. Ortiz-Yepes, R. J. Hermann, H. Steinauer, and P. Buhler. Bringing strong authentication and transaction security to the realm of mobile devices. *IBM Journal of Research and Development*, 58(1):4:1–4:11, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pruett:2005:BSM

[PAB+05] G. Pruett, A. Abbondanzio, J. Bielski, T. D. Fadale, A. E. Merkin, Z. Rafalovich, L. A. Riedle, and J. W. Simpson. BladeCenter systems management software. *IBM Journal of Research and Development*, 49(6):963–975, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/pruett.html`.

Padegs:1981:SB

[Pad81] A. Padegs. System/360 and beyond. *IBM Journal of Research and Development*, 25(5):377–390, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Padegs:1983:SEA

[Pad83] Andris Padegs. System/370 extended architecture: Design considerations. *IBM Journal of Research and Development*, 27(3):198–205, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pissadaki:2018:DCM

[PAH+18] E. K. Pissadaki, A. G. S. Abrami, S. J. Heisig, E. Bilal, M. Cavallo, P. W. Wacnik, K. Erb, D. R. Karlin, P. R. Bergethon, S. P. Amato, H. Zhang, V. L. Ramos, F. Hameed, and J. J. Rice. Decomposition of complex movements into primitives for Parkinson's disease assessment. *IBM Journal of Research and Development*, 62(1):5:1–5:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269771/`.

Paige:1969:BND

[Pai69] E. G. S. Paige. Bulk negative differential conductivity in germanium: theory. *IBM Journal of Research and Development*, 13(5):562–567, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Paivanas:1972:STP

[Pai72] J. A. Paivanas. Stationary temperature profiles and heat flux distribution in a plastic-encapsulated circuit package. *IBM Journal of Research and Development*, 16(3):292–302, May 1972. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Palermo:1961:NMP

[Pal61] F. P. Palermo. A network minimization problem [letter to the editor]. *IBM Journal of Research and Development*, 5(4): 335–337, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392397`.

Palmer:2014:PCS

[Pal14] C. C. Palmer. Preface: Cybersecurity for a smarter planet. *IBM Journal of Research and Development*, 58 (1):??, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pandey:1978:RAH

[Pan78] Kosal Chandra Pandey. Reaction of atomic hydrogen with Si(111) surfaces: Formation of monohydride and trihydride phases. *IBM Journal of Research and Development*, 22 (3):250–259, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Partovi:1960:NPU

[Par60] F. Partovi. Note on perturbation of a uniform magnetic field by a cube of magnetic material [letter to the editor]. *IBM Journal of Research and Development*, 4(3): 357–358, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392506`.

Paris:1966:DSI

[Par66] D. P. Paris. Digital simulation of image-forming systems. *IBM Journal of Research and Development*, 10(5): 407–411, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392051`.

Parter:1967:EE

[Par67] S. V. Parter. Elliptic equations. *IBM Journal of Research and Development*, 11(2): 244–247, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391988`.

Parikh:1980:PEE

[Par80] Mihir Parikh. Proximity effects in electron lithography: Magnitude and correction techniques. *IBM Journal of Research and Development*, 24 (4):438–451, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Parkin:1998:MMM

[Par98] S. S. P. Parkin. The magic of magnetic multilayers: Introduc-

tion to this group of papers. *IBM Journal of Research and Development*, 42(1):3–6, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/parkin.html`.

Patel:1970:MGC

[Pat70] A. M. Patel. Maximal group codes with specified minimum distance. *IBM Journal of Research and Development*, 14 (4):434–443, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patlach:1972:DCM

[Pat72] A. M. Patlach. Design considerations for a magneto-optic cryogenic film memory. *IBM Journal of Research and Development*, 16(3):313–319, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patrin:1973:PVH

[Pat73] N. A. Patrin. Performance of very high density charge coupled devices. *IBM Journal of Research and Development*, 17 (3):241–248, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1975:ZEM

[Pat75] A. M. Patel. Zero-modulation encoding in magnetic recording. *IBM Journal of Research and Development*, 19(4):366–378, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1980:ERS

[Pat80] Arvind M. Patel. Error recovery scheme for the IBM 3850 Mass Storage System. *IBM Journal of Research and Development*, 24(1):32–42, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1985:ACA

[Pat85] Arvind M. Patel. Adaptive cross-parity (axp) code for a high-density magnetic tape subsystem. *IBM Journal of Research and Development*, 29(6): 546–562, November 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1986:FDM

[Pat86] Arvind M. Patel. On-the-fly decoder for multiple byte errors. *IBM Journal of Research and Development*, 30(3):259–268, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1989:TLC

[Pat89] Arvind M. Patel. Two-level coding for error control in magnetic disk storage products. *IBM Journal of Research and Development*, 33(4):470–484, July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pattnaik:2018:PIP

[Pat18] Pratap Pattnaik. Preface: IBM POWER9 technology. *IBM Journal of Research and Development*, 62(4–5):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8463988/`.

Paul:1989:MEI

[Pau89] Clayton R. Paul. Modeling electromagnetic interference properties of printed circuit boards. *IBM Journal of Research and Development*, 33(1):33–50, January 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peterson:1972:ASA

[PAZ72] R. H. Peterson, A. D. Ackerman, and R. E. Zelenski. Acoustic signal analysis for noise source identification in mechanisms. *IBM Journal of Research and Development*, 16 (3):249–257, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pazel:1975:MCP

[Paz75] D. P. Pazel. Mathematical construct for program reorganization. *IBM Journal of Research and Development*, 19(6): 575–581, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Persky:1969:NDM

[PB69] G. Persky and D. J. Bartelink. Negative differential mobility in nonparabolic bands. *IBM Journal of Research and Development*, 13(5):607–610, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pareschi:1989:MIP

[PB89] Maria Teresa Pareschi and Ralph Bernstein. Modeling and image processing for visualization of volcanic mapping. *IBM Journal of Research and Development*, 33(4):406–416 (or 406–415??), July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Perez:2007:CMI

[PBBL07] J. M. Perez, P. Bellens, R. M. Badia, and J. Labarta. CellSs: Making it easier to program the Cell Broadband Engine processor. *IBM Journal of Research and Development*, 51(5): 593–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/perez.html`.

Parrilla:2004:PIE

[PBC+04] J. C. Parrilla, F. E. Bosco, J. S. Corbin, J. J. Loparco, P. Singh, and J. G. Torok. Packaging the IBM eServer z990 central electronic complex. *IBM Journal of Research and Development*,

48(3/4):395–407, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/483/parrilla.html; http://www.research.ibm.com/journal/rd/483/parrilla.pdf.

Peterson:2006:AFS

[PBC+06] J. L. Peterson, P. J. Bohrer, L. Chen, E. N. Elnozahy, A. Gheith, R. H. Jewell, M. D. Kistler, T. R. Maeurer, S. A. Malone, D. B. Murrell, N. Needel, K. Rajamani, M. A. Rinaldi, R. O. Simpson, K. Sudeep, and L. Zhang. Application of full-system simulation in exploratory system design and development. *IBM Journal of Research and Development*, 50(2/3):321–332, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/502/peterson.html.

Prager:2012:SQT

[PBCC12] J. M. Prager, E. W. Brown, and J. Chu-Carroll. Special questions and techniques. *IBM Journal of Research and Development*, 56(3–4):11:1–11:13, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pugh:1960:AIA

[PBF60] E. W. Pugh, E. L. Boyd, and J. F. Freedman. Angle-of-incidence anisotropy in evaporated nickel-iron films. *IBM Journal of Research and Development*, 4(2):163–172, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392546.

Poli:1996:ITA

[PBK96] D. J. Poli, M. S. Berry, and J. N. Kruchowski. IC technology and ASIC design for the Cray J90 supercomputer. *IBM Journal of Research and Development*, 40(4):475–483, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd40-4.html#eight.

Penner:2009:DHS

[PBK+09] H. Penner, U. Bacher, J. Kunigk, C. Rund, and H. J. Schick. directCell: Hybrid systems with tightly coupled accelerators. *IBM Journal of Research and Development*, 53 (5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/535/penner.html.

Pliskin:1964:NDT

[PC64] W. A. Pliskin and E. E. Conrad. Nondestructive determination of thickness and refractive index of transparent films. *IBM Journal of Research and De-*

velopment, 8(1):43–??, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801F.pdf`.

Pennington:1985:RRT

[PC85] Keith S. Pennington and Walter Crooks. Resistive ribbon thermal transfer printing: a historical review and introduction to a new printing technology. *IBM Journal of Research and Development*, 29(5): 449–458, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Plass:2007:IPS

[PC07] D. W. Plass and Y. H. Chan. IBM POWER6 SRAM arrays. *IBM Journal of Research and Development*, 51(6): 747–??, November 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/516/plass.html`.

Pettit:1978:SAS

[PCDW78] G. David Pettit, Jerome J. Cuomo, Thomas H. DiStefano, and Jerry M. Woodall. Solar absorbing surfaces of anodized dendritic tungsten. *IBM Journal of Research and Development*, 22(4):372–377, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Polosecki:2017:CPA

[PCW+17] P. Polosecki, E. Castro, A. Wood, J. H. Warner, I. Rish, and G. A. Cecchi. Computational psychiatry: Advancing predictive modeling of neurodegeneration with neuroimaging of Huntington's disease. *IBM Journal of Research and Development*, 61 (2–3):4:1–4:10, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921645/`.

Pattnaik:2010:P

[PD10] P. Pattnaik and S. Daijavads. Preface. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/preface.html`.

Pliskin:1967:PIT

[PDLM67] W. A. Pliskin, P. D. Davidse, H. S. Lehman, and L. I. Maissel. Properties of insulating thin films deposited by RF sputtering. *IBM Journal of Research and Development*, 11(4): 461–467, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391950`.

Pearson:1969:CSG

[Pea69] A. D. Pearson. Characteristics

of semiconducting glass switching/memory diodes. *IBM Journal of Research and Development*, 13(5):510–514, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pearson:2009:MVP

[Pea09] Harriet P. Pearson. Message from the Vice President, Regulatory Policy & Chief Privacy Officer. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/letter.html`.

Pehrson:1969:NDF

[Peh69] B. Pehrson. A nonlinear digital filter for industrial measurements. *IBM Journal of Research and Development*, 13(6): 703–710, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pennebaker:1969:RSS

[Pen69] W. B. Pennebaker. RF sputtered strontium titanate films. *IBM Journal of Research and Development*, 13(6):686–695, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pennebaker:1979:ISI

[Pen79] William B. Pennebaker. Influence of scattering and ionization on RF impedance in glow discharge sheaths. *IBM Journal of Research and Development*, 23(1):16–23, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pendry:1988:STD

[Pen88] John Pendry. Symmetry and transport in disordered systems. *IBM Journal of Research and Development*, 32(1): 137–143, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pennington:1991:MNP

[Pen91] K. S. Pennington. Making negatives and plates for printing by electroerosion: Introduction and overview. *IBM Journal of Research and Development*, 35 (4):458–465, July 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peres:2004:WAT

[Per04] A. Peres. What is actually teleported? *IBM Journal of Research and Development*, 48 (1):63–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/peres.pdf`.

Plambeck:2002:DAZ

[PERW02] K. E. Plambeck, W. Eckert, R. R. Rogers, and C. F. Webb. Development and attributes of z/Architecture. *IBM Journal of Research and Development*, 46(4/5):367–379, ???? 2002.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/plambeck.html; http://www.research.ibm.com/journal/rd/464/plambeck.pdf`.

Pesch:1971:CBD

[Pes71] J. A. Pesch. On the correlation between domain size and coercive force in grain-oriented 3.25% Si-Fe. *IBM Journal of Research and Development*, 15 (2):151–152, March 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peterson:1957:ARA

[Pet57] W. W. Peterson. Addressing for random-access storage. *IBM Journal of Research and Development*, 1(2): 130–146, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392733`. First major paper dealing with the problem of searching in large files. Defined open addressing in general, analyzed the performance of uniform hashing, and the behavior of linear open addressing with various bucket sizes.

Peterson:1958:CA

[Pet58] W. W. Peterson. On checking an adder. *IBM Journal of Research and Development*, 2 (2):166–168, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392673`.

Petrick:1976:NLB

[Pet76] S. R. Petrick. On natural language based computer systems. *IBM Journal of Research and Development*, 20(4):314–325, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peters:1977:ZON

[Pet77] Robert J. Peters. Zero order and nonzero order decision rules in medical diagnosis. *IBM Journal of Research and Development*, 21(5):449–460 (or 449–450??), September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Petersen:1979:MMS

[Pet79] K. E. Petersen. Micromechanical membrane switches on silicon. *IBM Journal of Research and Development*, 23(4):376–385, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Petersen:1980:STS

[Pet80] Kurt E. Petersen. Silicon torsional scanning mirror. *IBM Journal of Research and Development*, 24(5):631–637, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peter:1989:PAH

[Pet89] Martin Peter. Positron annihilation and high-temperature superconductivity. *IBM Journal of Research and Development*, 33(3):333–341, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pilkuhn:1966:GLS

[PF66] M. H. Pilkuhn and L. M. Foster. Green luminescence from solution-grown junctions in GaP containing shallow donors and acceptors. *IBM Journal of Research and Development*, 10 (2):122–129, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392060`.

Pidgeon:1970:ORS

[PFS+70] C. R. Pidgeon, J. Feinleib, W. J. Scouler, J. O. Dimmock, and T. B. Reed. Optical reflectance study of magnetic ordering effects in EuO, EuS, EuSe and EuTe. *IBM Journal of Research and Development*, 14(3):309–311, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pfeiffer:1988:HHE

[PGN88] Hans C. Pfeiffer, Timothy R. Groves, and Thomas H. Newman. High-throughput, high-resolution electron-beam lithography. *IBM Journal of Research and Development*, 32(4):494–501, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Perfecto:1998:TFM

[PGS+98] E. D. Perfecto, A. P. Giri, R. R. Shields, H. P. Longworth, J. R. Pennacchia, and M. P. Jeanneret. Thin-film multichip module packages for high-end IBM servers. *IBM Journal of Research and Development*, 42(5): 597–606, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/perfecto.html`.

Peterson:1965:NTD

[PH65] R. H. Peterson and R. L. Hoffman. A new technique for dynamic analysis of acoustical noise. *IBM Journal of Research and Development*, 9(3):205–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patel:1974:ORC

[PH74] A. M. Patel and S. J. Hong. Optimal rectangular code for high density magnetic tapes. *IBM Journal of Research and Development*, 18(6):579–588, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Paivanas:1979:AFS

[PH79] J. A. Paivanas and J. K. Hassan. Air film system for handling semiconductor wafers.

IBM Journal of Research and Development, 23(4):361–375, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Paivanas:1981:AFC

[PH81] J. A. Paivanas and J. K. Hassan. Attraction force characteristics engendered by bounded, radially diverging air flow. *IBM Journal of Research and Development*, 25(2/3):176–186, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Piazza:2005:BTD

[PHCM05] W. J. Piazza, R. E. Harper, M. J. Crippen, and J. A. Matteson. BladeCenter thermal diagnostics. *IBM Journal of Research and Development*, 49(6): 977–987, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/piazza.html`.

Pugh:1981:SSM

[PHCR81] E. W. Pugh, R. A. Henle, D. L. Critchlow, and L. A. Russell. Solid state memory development in IBM. *IBM Journal of Research and Development*, 25(5):585–602, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Phillips:1978:CEE

[Phi78] A. Phillips, Jr. Calculations of the effect of emitter compensation on β and f_t of bipolar devices. *IBM Journal of Research and Development*, 22(6): 687–689, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pickover:1987:DVR

[Pic87] Clifford A. Pickover. DNA vectorgrams: Representation of cancer genes as movements on a 2D cellular lattice. *IBM Journal of Research and Development*, 31(1):111–119, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pickover:1991:PRG

[Pic91] C. A. Pickover. Picturing randomness on a graphics supercomputer. *IBM Journal of Research and Development*, 35 (1/2):227–230, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Picciano:2018:MSV

[Pic18] Bob Picciano. Message from the Senior Vice President, IBM Cognitive Systems. *IBM Journal of Research and Development*, 62 (4–5):1–2, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8464027/`.

Pignal:1988:AHS

[Pig88] P. I. Pignal. An analysis of hardware and software availability exemplified on the IBM 3725 communication controller. *IBM Journal of Research and Development*, 32(2): 268–278, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pimbley:1976:DFL

[Pim76] W. T. Pimbley. Drop formation from a liquid jet: a linear one-dimensional analysis considered as a boundary value problem. *IBM Journal of Research and Development*, 20(2): 148–156, March 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pippenger:1979:ACT

[Pip79] Nicholas Pippenger. On the application of coding theory to hashing. *IBM Journal of Research and Development*, 23(2): 225–226, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pippenger:1981:ACT

[Pip81] Nicholas Pippenger. Algebraic complexity theory. *IBM Journal of Research and Development*, 25(5):825–832, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pippenger:1987:CCN

[Pip87] Nicholas Pippenger. The complexity of computations by networks. *IBM Journal of Research and Development*, 31(2): 235–243, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pistor:1974:SCR

[Pis74] P. Pistor. Stability criterion for recursive filters. *IBM Journal of Research and Development*, 18 (1):59–71, January 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Price:1961:AMM

[PK61] P. J. Price and Yi-Han Kao. Acoustic-mode mobilities for "Split-p–Silicon" [letter to the editor]. *IBM Journal of Research and Development*, 5(1): 63–64, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392479`.

Pease:1988:PLU

[PK88] R. F. Pease and O.-K. Kwon. Physical limits to the useful packaging density of electronic systems. *IBM Journal of Research and Development*, 32(5): 636–646, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pepeljugoski:2003:DOC

[PK03] P. K. Pepeljugoski and D. M. Kuchta. Design of optical communications data links. *IBM Journal of Research and Development*, 47(2/3):223–237, ????

2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/pepeljugoski.pdf`.

Pyzer-Knapp:2018:BOA

[PK18] E. O. Pyzer-Knapp. Bayesian optimization for accelerated drug discovery. *IBM Journal of Research and Development*, 62(6):2:1–2:7, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Parija:2007:SPP

[PKXK07] G. Parija, T. Kumar, H. Xi, and D. Keller. Strategic planning of preparedness budgets for wildland fire management. *IBM Journal of Research and Development*, 51 (3/4):375–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/parija.html`.

Peng:1973:EDS

[PL73] S. T. Peng and R. Landauer. Effects of dispersion on steady state electromagnetic shock profiles. *IBM Journal of Research and Development*, 17 (4):299–306, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pimbley:1977:SDF

[PL77] W. T. Pimbley and H. C. Lee. Satellite droplet formation in a liquid jet. *IBM Journal of Research and Development*, 21 (1):21–30, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pacansky:1979:PDM

[PL79] Jacob Pacansky and James R. Lyerla. Photochemical decomposition mechanisms for az-type photoresists. *IBM Journal of Research and Development*, 23(1):42–55, January 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pan:1981:TRU

[PL81] Kelly M. Pan and C. N. Liu. Tomographic reconstruction of ultrasonic attenuation with correction for refractive errors. *IBM Journal of Research and Development*, 25(1):71–82, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Park:1983:ATC

[PL83] D. I.-H. Park and R. D. Love. Analysis of the tolerance to crosstalk noise of a pulse width modulation system. *IBM Journal of Research and Development*, 27(5):432–439, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pandey:2020:ECT

[PL20] P. Pandey and R. Litoriya. Elderly care through unusual behavior detection: a disaster management approach using iot

and intelligence. *IBM Journal of Research and Development*, 64(1/2):15:1–15:11, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Plath:1976:RNL

[Pla76] W. J. Plath. Request: a natural language question-answering system. *IBM Journal of Research and Development*, 20(4): 326–335 (or 326–334??), July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Patau:1970:IFU

[PLHJ70] J. C. Patau, L. B. Lesem, P. M. Hirsch, and J. A. Jordan, Jr. Incoherent filtering using kinoforms. *IBM Journal of Research and Development*, 14(5): 485–491, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pliskin:1966:SLP

[Pli66] W. A. Pliskin. Separation of the linear and parabolic terms in the steam oxidation of silicon. *IBM Journal of Research and Development*, 10(3): 198–206, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392071`.

Pakin:2009:RAM

[PLK09] S. Pakin, M. Lang, and D. J. Kerbyson. The reverse-acceleration model for programming petascale hybrid systems. *IBM Journal of Research and Development*, 53(5): ??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/pakin-kerbyson.html`.

Pankajakshan:2020:PSM

[PLS20] R. Pankajakshan, P.-H. Lin, and B. Sjögreen. Porting a 3D seismic modeling code (SW4) to CORAL machines. *IBM Journal of Research and Development*, 64(3/4):17:1–17:11, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pugacz-Muraszkiewicz:1972:DDP

[PM72] I. J. Pugacz-Muraszkiewicz. Detection of discontinuities in passivating layers on silicon by NaOH anisotropic etch. *IBM Journal of Research and Development*, 16(5):523–529, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pennebaker:1988:PEQ

[PM88] William B. Pennebaker and Joan L. Mitchell. Probability estimation for the Q-Coder. *IBM Journal of Research and Development*, 32(6): 737–752, November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pennebaker:1988:OBP

[PMLA88] William B. Pennebaker, Joan L. Mitchell, Glen G. Langdon, Jr., and Ronald B. Arps. An overview of the basic principles of the Q-coder adaptive binary arithmetic coder. *IBM Journal of Research and Development*, 32(6):717–726 (or 206–211??), November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pang:2008:EIB

[PMS+08] Y.-P. Pang, T. J. Mullins, B. A. Swartz, J. S. McAllister, B. E. Smith, C. J. Archer, R. G. Musselman, A. E. Peters, B. P. Wallenfelt, and K. W. Pinnow. EUDOC on the IBM Blue Gene/L system: Accelerating the transfer of drug discoveries from laboratory to patient. *IBM Journal of Research and Development*, 52(1/2):69–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/pang.html`.

Patterson:2017:DRD

[PMS+17] E. Patterson, R. McBurney, H. Schmidt, I. Baldini, A. Mojsilovi, and K. R. Varshney. Dataflow representation of data analyses: Toward a platform for collaborative data science. *IBM Journal of Research and Development*, 61(6):9:1–9:13, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pattnaik:2015:PIP

[PMV15] P. Pattnaik, J. Moreira, and D. W. Victor. Preface: IBM POWER8 technology. *IBM Journal of Research and Development*, 59(1):1–4, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Podowski:2006:VCS

[PMW06] R. M. Podowski, B. Miller, and W. W. Wasserman. Visualization of complementary systems biology data with parallel heatmaps. *IBM Journal of Research and Development*, 50(6):575–581, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/podowski.html`.

Pohl:1979:FRS

[Poh79] D. W. Pohl. Forced Rayleigh scattering. *IBM Journal of Research and Development*, 23(5):604–614, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pohl:1986:SDC

[Poh86] Dieter W. Pohl. Some design criteria in scanning tunneling microscopy. *IBM Journal of Research and Development*, 30(4):417–427, July 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pohl:1995:STA

[Poh95] D. W. Pohl. Some thoughts about scanning probe microscopy, micromechanics, and storage. *IBM Journal of Research and Development*, 39(6): 701–711, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#nine`.

Polleys:1978:WFH

[Pol78] R. W. Polleys. Work-hardening of ferrite head surfaces by wear with flexible recording media. *IBM Journal of Research and Development*, 22(6):675–680 (or 676–680??), November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ponnalagu:2017:ODR

[Pon17] K. Ponnalagu. Ontology-driven root-cause analytics for user-reported symptoms in managed IT systems. *IBM Journal of Research and Development*, 61 (1):5:53–5:61, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877282/`.

Pfleeger:2009:HPS

[PP09] S. L. Pfleeger and C. P. Pfleeger. Harmonizing privacy with security principles and practices. *IBM Journal of Research and Development*, 53(2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/pfleeger.html`.

Platt:2001:QGU

[PPG+01] D. E. Platt, L. Parida, Y. Gao, A. Floratos, and I. Rigoutsos. QSAR in grossly underdetermined systems: Opportunities and issues. *IBM Journal of Research and Development*, 45 (3/4):533–544, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/platt.html; http://www.research.ibm.com/journal/rd/453/platt.pdf`.

Pittler:1982:SDT

[PPS82] Marvin S. Pittler, Don Michael Powers, and Dorothy L. Schnabel. System development and technology aspects of the IBM 3081 processor complex. *IBM Journal of Research and Development*, 26(1):2–11, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peterson:1959:CCL

[PR59a] W. W. Peterson and M. O. Rabin. On codes for checking logical operations. *IBM Journal of Research and Development*, 3(2):163–168, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392607.

Price:1959:ET

[PR59b] P. J. Price and J. M. Radcliffe. Esaki tunneling. *IBM Journal of Research and Development*, 3(4):364–371, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392576.

Pilkuhn:1965:JHG

[PR65] M. H. Pilkuhn and H. S. Rupprecht. Junction heating of GaAs injection lasers during continuous operation. *IBM Journal of Research and Development*, 9(5/6):400–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Philipp-Rutz:1971:SWO

[PR71] E. M. Philipp-Rutz. Synchronization in a wideband optical data transmission system. *IBM Journal of Research and Development*, 15(5):408–412, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Preisinger:1966:REM

[Pre66] M. Preisinger. Resonant excitation of magnetostrictive driven print wires for high-speed printing. *IBM Journal of Research and Development*, 10(4):321–332, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392034.

Price:1957:LHE

[Pri57a] P. J. Price. The linear Hall effect. *IBM Journal of Research and Development*, 1(3):239–248, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392685.

Price:1957:LN

[Pri57b] P. J. Price. The Lorenz number. *IBM Journal of Research and Development*, 1(2):147–157, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392734.

Price:1958:BRL

[Pri58a] P. J. Price. The bipolar righi-leduc effect. *IBM Journal of Research and Development*, 2(3):249–251, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392628.

Price:1958:SMI

[Pri58b] P. J. Price. On the statistical mechanics of impurity conduction in semiconductors. *IBM Journal of Research and Development*, 2(2): 123–129, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392668`.

Price:1958:PIM

[Pri58c] P. J. Price. The physical interpretation of mean free path and the integral method. *IBM Journal of Research and Development*, 2(3): 200–203, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392622`.

Price:1959:NTH

[Pri59] P. J. Price. Noise theory for hot electrons. *IBM Journal of Research and Development*, 3 (2):191–193, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392611`.

Price:1960:ACS

[Pri60] P. J. Price. Anisotropic conduction in solids near surfaces. *IBM Journal of Research and Development*, 4(2): 152–157, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392544`.

Price:1964:F

[Pri64] P. J. Price. Foreword. *IBM Journal of Research and Development*, 8(3):214–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Price:1965:ASH

[Pri65] P. J. Price. Amplification of sound by hot electrons. *IBM Journal of Research and Development*, 9(1):69–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Price:1966:QME

[Pri66] P. J. Price. The quantum mechanical extension of the Boltzmann equation. *IBM Journal of Research and Development*, 10(5):395–400, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392048`.

Price:1970:THE

[Pri70] P. J. Price. The theory of hot electrons. *IBM Journal of Research and Development*, 14 (1):12–24, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Price:1973:TPS

[Pri73] P. J. Price. Transport properties of the semiconductor superlattice. *IBM Journal of Research and Development*, 17 (1):39–46, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pritt:1994:ASI

[Pri94] M. D. Pritt. Automated subpixel image registration of remotely sensed imagery. *IBM Journal of Research and Development*, 38(2):157–166 (or 157–165??), February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#four`.

Price:2007:MVP

[Pri07] Cyril Price. Message from the Vice President, System z Program Management, IBM Systems and Technology Group. *IBM Journal of Research and Development*, 51(1/2):??, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Polgar:1965:DSG

[PRY65] P. Polgar, M. M. Roy, and T.-H. Yeh. A drive scheme for the GaAs–Si light-activated switch. *IBM Journal of Research and Development*, 9(3): 200–??, May 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Parikh:1980:PPE

[PS80] Mihir Parikh and Donald E. Schreiber. Pattern partitioning for enhanced proximity-effect corrections in electron-beam lithography. *IBM Journal of Research and Development*, 24(5):530–536, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Prisgrove:1986:SSP

[PS86] Lindsay A. Prisgrove and Gerald S. Shedler. Symmetric stochastic Petri nets. *IBM Journal of Research and Development*, 30(3):278–293, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Paolini:1991:IGT

[PS91] G. V. Paolini and P. Santangelo. An interactive graphic tool to plot the structure of large sparse matrices. *IBM Journal of Research and Development*, 35(1/2):231–237, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Price:2009:MVP

[PS09] Cyril Price and Carla Shultis. Message from the Vice President, System Z Program Management and the Vice President, System Z Operating System Development. *IBM Journal of Research and Development*, 53(1):1–3, January/February

2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/message.pdf`.

Pantazi:2008:PBU

[PSA+08] A. Pantazi, A. Sebastian, T. A. Antonakopoulos, P. Bächtold, A. R. Bonaccio, J. Bonan, G. Cherubini, M. Despont, R. A. DiPietro, U. Drechsler, U. Dürig, B. Gotsmann, W. Häberle, C. Hagleitner, J. L. Hedrick, D. Jubin, A. Knoll, M. A. Lantz, J. Pentarakis, H. Pozidis, R. C. Pratt, H. Rothuizen, R. Stutz, M. Varsamou, D. Wiesmann, and E. Eleftheriou. Probe-based ultrahigh-density storage technology. *IBM Journal of Research and Development*, 52 (4/5):493–511, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/pantazi.html`.

Pham:2017:RTU

[PSD+17] K. T. Pham, P. Sattigeri, A. Dhurandhar, A. C. Jacob, M. Vukovic, P. Chataigner, J. Freire, A. Mojsilovi, and K. R. Varshney. Real-time understanding of humanitarian crises via targeted information retrieval. *IBM Journal of Research and Development*, 61(6): 7:1–7:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pole:1980:IWM

[PSH80] R. V. Pole, A. J. Spiekerman, and T. W. Hansch. Interferometric wavelength measurements through post-detection signal processing. *IBM Journal of Research and Development*, 24(1):85–88, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peirce:2006:MBI

[PSP06] S. M. Peirce, T. C. Skalak, and J. A. Papin. Multiscale biosystems integration: Coupling intracellular network analysis with tissue-patterning simulations. *IBM Journal of Research and Development*, 50(6): 601–615, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/peirce.html`.

Pugh:1967:DAD

[PSS67] E. W. Pugh, V. T. Shahan, and W. T. Siegle. Device and array design for a 120-nanosecond magnetic film main memory. *IBM Journal of Research and Development*, 11(2): 169–178, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391977`.

Poindexter:2007:OST

[PSW+07] D. J. Poindexter, S. R. Stiffler, P. T. Wu, P. D. Agnello,

T. Ivers, S. Narasimha, T. B. Faure, J. H. Rankin, D. A. Grosch, M. D. Knox, D. Edelstein, M. Khare, G. B. Bronner, H.-J. Nam, and S. A. Butt. Optimization of silicon technology for the IBM System z9. *IBM Journal of Research and Development*, 51(1/2):5–??, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Park:2016:DCS

[PTRC16] Y. Park, W. Teiken, J. R. Rao, and S. N. Chari. Data classification and sensitivity estimation for critical asset discovery. *IBM Journal of Research and Development*, 60(4):2:1–2:12, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523364/`.

Pugh:1960:F

[Pug60] E. W. Pugh. Foreword. *IBM Journal of Research and Development*, 4(2):94–95, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392538`.

Pulleyblank:2003:MSN

[Pul03] W. R. Pulleyblank. Mathematical sciences in the nineties. *IBM Journal of Research and Development*, 47(1):89–96, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/pulleyblank.pdf`.

Pulleyblank:2007:MVP

[Pul07] William R. Pulleyblank. Message from the Vice President, Center for Business Optimization, IBM global business services. *IBM Journal of Research and Development*, 51 (3/4):??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/message.html`.

Phillips:1993:PCH

[PV93] J. E. Phillips and S. Vassiliadis. Proof of correctness of high-performance 3-1 interlock collapsing ALUs. *IBM Journal of Research and Development*, 37 (1):12–21, January 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Probst:2002:FCC

[PVAK02] J. Probst, B. D. Valentine, C. Axnix, and K. Kuehl. Flexible configuration and concurrent upgrade for the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):551–558, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/probst.`

html; http://www.research.ibm.com/journal/rd/464/probst.pdf.

Park:1995:FOR

[PVDF95] J. Park, S. Vassiliadis, and J. G. Delgado-Frias. Flexible oblivious router architecture. *IBM Journal of Research and Development*, 39(3):315–329, May 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-3.html#three.

Palmer:1967:VDW

[PW67] W. Palmer and R. A. Willoughby. On the velocity of a domain wall in an applied magnetic field. *IBM Journal of Research and Development*, 11(3):284–290, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391993.

Pliskin:1968:RTC

[PW68] W. A. Pliskin and R. A. Wesson. Reflectivity thickness corrections for silicon dioxide films on silicon for VAMFO (variable angle monochromatic fringe observation). *IBM Journal of Research and Development*, 12(2):792–794, March 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peterson:1972:ICG

[PW72] T. I. Peterson and P. N. Wahi. Interactive computer-based game for decision-making in ecology. *IBM Journal of Research and Development*, 16(2):154–161, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Park:1978:EEG

[PW78] K. C. Park and E. J. Weitzman. E-beam evaporated glass and MgO layers for gas panel fabrication. *IBM Journal of Research and Development*, 22(6):607–612, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pierson:1983:LTT

[PW83] Roland L. Pierson and Thomas B. Williams. LT1280 for through-the-pins testing of the thermal conduction module. *IBM Journal of Research and Development*, 27(1):35–40, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Peskin:1991:IQV

[PWFB91] R. L. Peskin, S. S. Walther, A. M. Froncioni, and T. I. Boubez. Interactive quantitative visualization. *IBM Journal of Research and Development*, 35(1/2):205–226, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Paraszczak:2013:PDR

[PWW13] J. Paraszczak, H. Watanabe, and P. Williams. Preface: Disaster recovery and resilient

computing. *IBM Journal of Research and Development*, 57(5): ??, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Piccolo:1991:GWS

[PZGL91] F. Piccolo, V. Zecca, A. Grimaudo, and C. Loiodice. Graphic workstations and supercomputers: an integrated environment for simulation of fluid dynamics problems. *IBM Journal of Research and Development*, 35(1/2):167–183, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Plouchart:2003:ASM

[PZK+03] J.-O. Plouchart, N. Zamdmer, J. Kim, M. Sherony, Y. Tan, A. Ray, M. Talbi, L. F. Wagner, K. Wu, N. E. Lustig, S. Narasimha, P. O'Neil, N. Phan, M. Rohn, J. Strom, D. M. Friend, S. V. Kosonocky, D. R. Knebel, S. Kim, K. A. Jenkins, and M. M. Rivier. Application of an SOI 0.12-μm CMOS technology to SoCs with low-power and high-frequency circuits. *IBM Journal of Research and Development*, 47 (5/6):611–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/plouchart.pdf`.

Queiroz:2013:PMQ

[QGT13] C. Queiroz, S. K. Garg, and Z. Tari. A probabilistic model for quantifying the resilience of networked systems. *IBM Journal of Research and Development*, 57(5):3:1–3:9, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Quarles:1967:CMG

[QS67] D. A. Quarles, Jr. and K. Spielberg. A computer model for global study of the general circulation of the atmosphere. *IBM Journal of Research and Development*, 11(3): 312–336, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391996`.

Raabe:1976:FBC

[Raa76] H. P. Raabe. Fast beamforming with circular receiving arrays. *IBM Journal of Research and Development*, 20(4):398–408, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rabedeau:1969:STI

[Rab69] M. E. Rabedeau. Switchable total internal reflection light deflector. *IBM Journal of Research and Development*, 13(2): 179–183, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rado:1962:CPF

[Rad62] T. Rado. Comments on the presence function of Gazalé [letter to the editor]. *IBM Journal of Research and Development*, 6(2):268–269, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392366`.

Radin:1983:M

[Rad83] George Radin. The 801 minicomputer. *IBM Journal of Research and Development*, 27 (3):237–246, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Radin:2000:M

[Rad00] George Radin. The 801 minicomputer. *IBM Journal of Research and Development*, 44 (1/2):37–46, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/radin.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Rajamony:2011:PIP

[RAG11] R. Rajamony, L. B. Arimilli, and K. Gildea. PERCS: The IBM POWER7-IH high-performance computing system. *IBM Journal of Research and Development*, 55(3):3:1–3:12, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Raimond:1969:MPD

[Rai69] J.-F. Raimond. Minimaximal paths in disjunctive graphs by direct search. *IBM Journal of Research and Development*, 13 (4):391–399, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ray:2019:CTG

[RAMD19] A. Ray, P. Agarwal, C. K. Maurya, and G. B. Dasgupta. Creative tagline generation framework for product advertisement. *IBM Journal of Research and Development*, 63(1):6:1–6:10, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rao:2016:PSI

[Rao16] J. R. Rao. Preface: Security intelligence. *IBM Journal of Research and Development*, 60(4): 0:1–0:5, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rios:2014:FSF

[RAR+14] J. Rios, K. Anikeev, M. J. Richard, S. Kapoor, B. K. Ray, C. Toft-Nielsen, D. Subramanian, C. Jiang, Y. Drissi, and J. Fu. A framework for strategic financial risk management. *IBM Journal of Research and Development*, 58(4): 1:1–1:11, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Ratajski:1968:FCS

[Rat68] J. M. Ratajski. Force-frequency coefficient of singly rotated vibrating quartz crystals. *IBM Journal of Research and Development*, 12(1):92–9, January 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Raymond:1969:HAT

[Ray69] T. C. Raymond. Heuristic algorithm for the traveling-salesman problem. *IBM Journal of Research and Development*, 13(4):400–407, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ratiu:1990:PBS

[RB90] I. M. Ratiu and H. B. Bakoglu. Pseudorandom built-in self-test methodology and implementation for the IBM RISC System/6000 processor. *IBM Journal of Research and Development*, 34 (1):78–84, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401I.pdf`.

Rubloff:1992:IPM

[RB92] G. W. Rubloff and D. T. Bordonaro. Integrated processing for microelectronics science and technology. *IBM Journal of Research and Development*, 36 (2):233–276, March 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rodgers:2002:IRL

[RBB+02] G. P. Rodgers, I. G. Bendrihem, T. J. Bucelot, B. D. Burchett, and J. C. Collins. Infrastructure requirements for a large-scale, multi-site VLSI development project. *IBM Journal of Research and Development*, 46 (1):87–95, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/461/rodgers.html; http://www.research.ibm.com/journal/rd/461/rodgers.pdf`.

Raoux:2008:PCR

[RBB+08] Simone Raoux, Geoffrey W. Burr, Matthew J. Breitwisch, Charles T. Rettner, Yi-Chou Chen, Robert M. Shelby, Martin Salinga, Daniel Krebs, Shih-Hung Chen, Hsiang-Lan Lung, and Chung H. Lam. Phase-change random access memory: a scalable technology. *IBM Journal of Research and Development*, 52(4/5):465–479, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/raoux.html`.

Rowe:2011:SAL

[RBB+11] A. Rowe, M. E. Berges, G. Bhatia, E. Goldman, R. Rajkumar, J. H. Garrett, J. M. F. Moura, and L. Soibelman. Sensor Andrew: Large-scale campus-wide sensing and actuation. *IBM*

Journal of Research and Development, 55(1–2):6:1–6:14, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reisman:1978:SGP

[RBC78] A. Reisman, M. Berkenblit, and S. A. Chan. Single-cycle gas panel assembly. *IBM Journal of Research and Development*, 22(6):596–600, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rivers:2008:PPM

[RBK+08] J. A. Rivers, P. Bose, P. Kudva, J.-D. Wellman, P. N. Sanda, E. H. Cannon, and L. C. Alves. Phaser: Phased methodology for modeling the system-level effects of soft errors. *IBM Journal of Research and Development*, 52(3):293–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/rivers.html`.

Rochwerger:2009:RMA

[RBL+09] B. Rochwerger, D. Breitgand, E. Levy, A. Galis, K. Nagin, I. M. Llorente, R. Montero, Y. Wolfsthal, E. Elmroth, J. Cáceres, M. Ben-Yehuda, W. Emmerich, and F. Galán. The Reservoir model and architecture for open federated cloud computing. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/rochwerger.html`.

Roscher:2018:ISI

[RBL+18] S. Roscher, V. Bönisch, J. Lee, D. Zeisberg, and J. Schweflinghaus. Integrating solutions on IBM Z with Secure Service Container. *IBM Journal of Research and Development*, 62(2–3):3:1–3:6, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8281496/`.

Ries:1993:ASB

[RBWH93] M. D. Ries, D. R. Banks, D. P. Watson, and K. G. Hoebener. Attachment of Solder Ball Connect (SBC) packages to circuit cards. *IBM Journal of Research and Development*, 37(5):597–608, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reason:2009:AIF

[RC09] J. M. Reason and R. Crepaldi. Ambient intelligence for freight railroads. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/reason.html`.

Rish:2017:HBD

[RC17] I. Rish and G. A. Cecchi. Holographic brain: Distributed versus local activation patterns in fMRI. *IBM Journal of Research and Development*, 61(2–3):3:1–3:9, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921647/`.

Rabinovici-Cohen:2008:PDN

[RCFN+08] Simona Rabinovici-Cohen, Michael E. Factor, Dalit Naor, Leeat Ramati, Petra Reshef, Shahar Ronen, Julian Satran, and David L. Giaretta. Preservation DataStores: New storage paradigm for preservation environments. *IBM Journal of Research and Development*, 52 (4/5):389–399, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/524/rabinovici.html`.

Ringger:1986:SAA

[RCH+86] M. Ringger, B. W. Corb, H.-R. Hidber, R. Schloegl, R. Wiesendanger, A. Stemmer, L. Rosenthaler, A. J. Brunner, P. C. Oelhafen, and H.-J. Guentherodt. STM activity at the University of Basel. *IBM Journal of Research and Development*, 30(5): 500–508, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ratha:2015:BDA

[RCP15] N. K. Ratha, J. H. Connell, and S. Pankanti. Big Data approach to biometric-based identity analytics. *IBM Journal of Research and Development*, 59(2–3):4:1–4:11, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rao:2016:SES

[RCP+16] J. R. Rao, S. N. Chari, D. Pendarakis, R. Sailer, M. Ph. Stoecklin, W. Teiken, and A. Wespi. Security 360°: Enterprise security for the cognitive era. *IBM Journal of Research and Development*, 60(4):1:1–1:13, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523350/`.

Robertson-Dunn:2012:BZF

[RD12] B. Robertson-Dunn. Beyond the Zachman framework: Problem-oriented system architecture. *IBM Journal of Research and Development*, 56(5): 10:1–10:9, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261582`.

Rosenbluth:1998:CPR

[RDD+98] A. E. Rosenbluth, D. B. Dove, F. E. Doany, R. N. Singh, K. H. Yang, and M. Lu. Contrast properties of reflective liquid

crystal light valves in projection displays. *IBM Journal of Research and Development*, 42 (3/4):359–386, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/rosenbluth.html`.

Rodriguez:2019:BGS

[RDL19] M. Y. Rodriguez, D. DePanfilis, and P. Lanier. Bridging the gap: Social work insights for ethical algorithmic decision-making in human services. *IBM Journal of Research and Development*, 63 (4–5):8:1–8:8, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruehli:1971:NCM

[RE71] A. E. Ruehli and D. M. Ellis. Numerical calculation of magnetic fields in the vicinity of a magnetic body. *IBM Journal of Research and Development*, 15(6):478–482, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Redfield:1957:TRP

[Red57] A. G. Redfield. On the theory of relaxation processes. *IBM Journal of Research and Development*, 1(1):19–31, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392713`.

Reeber:1959:GES

[Ree59] M. D. Reeber. Geometric effects in the superconducting transition of thin films. *IBM Journal of Research and Development*, 3(2):140–146, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392604`.

Rees:1969:TRH

[Ree69] H. D. Rees. Time response of the high-field electron distribution function in GaAs. *IBM Journal of Research and Development*, 13(5):537–542, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reid:1966:DTR

[Rei66] F. A. Reid. Dynamic thermal response and voltage feedback in junction transistors. *IBM Journal of Research and Development*, 10 (1):95–97, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392108`.

Reich:1969:EST

[Rei69] H. A. Reich. An experimental system for time-shared, on-line data acquisition. *IBM Journal of Research and Development*, 13(1):114–118, January 1969. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic).

Remley:1967:STF

[Rem67] W. R. Remley. Synthesis of transfer functions in a prescribed frequency band. *IBM Journal of Research and Development*, 11(6):638–642, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391909`.

Raghavan:2015:IPP

[RES+15] R. Raghavan, R. J. Eickemeyer, A. C. Sawdey, J. B. Griswell, D. Parikh, S. Ramani, D. M. Daly, N. Ni, B. Rogers, A. Mericas, L. Maurice, and K. Vu. IBM POWER8 performance and energy modeling. *IBM Journal of Research and Development*, 59(1):10:1–10:10, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reynier:1969:ESN

[Rey69] R. E. Reynier. Electronic switching network of the IBM 2750. *IBM Journal of Research and Development*, 13(4):416–427, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Raider:1978:XPS

[RF78] Stanley I. Raider and Richard Flitsch. X-ray photoelectron spectroscopy of SiO_2-Si interfacial regions: Ultrathin oxide films. *IBM Journal of Research and Development*, 22 (3):294–303, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reynolds:2003:DCR

[RFB+03] S. K. Reynolds, B. A. Floyd, T. J. Beukema, T. Zwick, U. R. Pfeiffer, and H. A. Ainspan. A direct-conversion receiver integrated circuit for WCDMA mobile systems. *IBM Journal of Research and Development*, 47 (2/3):337–353, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/reynolds.pdf`.

Rizzolo:2007:ISZ

[RFC+07] R. F. Rizzolo, T. G. Foote, J. M. Crafts, D. A. Grosch, T. O. Leung, D. J. Lund, B. L. Mechtly, B. J. Robbins, T. J. Slegel, M. J. Tremblay, and G. A. Wiedemeier. IBM System z9 eFUSE applications and methodology. *IBM Journal of Research and Development*, 51(1/2):65–??, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rothschild:1997:LWN

[RFK+97] M. Rothschild, A. R. Forte, R. R. Kunz, S. C. Palmateer, and J. H. C. Sedlacek. Lithography at a wavelength

of 193 nm. *IBM Journal of Research and Development*, 41 (1/2):49–55, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/rothschild.html`.

Restle:1990:IPS

[RG90] Phillip Restle and Antonio Gnudi. Internal probing of submicron FETs and photoemission using individual oxide traps. *IBM Journal of Research and Development*, 34(2/3):227–242, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rohrer:2009:ANR

[RG09] J. Rohrer and L. Gong. Accelerating 3D nonrigid registration using the Cell Broadband Engine processor. *IBM Journal of Research and Development*, 53(5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/rohrer.html`.

Rideout:1975:DDC

[RGL75] V. L. Rideout, F. H. Gaensslen, and A. LeBlanc. Device design considerations for ion implanted n-channel MOSFETs. *IBM Journal of Research and Development*, 19(1):50–59, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rao:1997:IPE

[RGP+97] G. S. Rao, T. A. Gregg, C. A. Price, C. L. Rao, and S. J. Repka. IBM S/390 Parallel Enterprise Servers G3 and G4. *IBM Journal of Research and Development*, 41 (4/5):397–403, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/rao.html`.

Ryan:1995:EIT

[RGPP95] J. G. Ryan, R. M. Geffken, N. R. Poulin, and J. R. Paraszczak. The evolution of interconnection technology at IBM. *IBM Journal of Research and Development*, 39 (4):371–381, July 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-4.html#two`.

Rosenbaum:1975:MOP

[RH75] W. S. Rosenbaum and J. J. Hilliard. Multifont OCR postprocessing system. *IBM Journal of Research and Development*, 19(4):398–421, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rodriguez:1990:DUV

[RH90] C. W. Rodriguez and D. E. Hoffman. The development of ultra-high-frequency VLSI device test systems. *IBM Jour-*

nal of Research and Development, 34(2/3):260–275, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rutz:1973:ASM

[RHC73] R. F. Rutz, E. P. Harris, and J. J. Cuomo. An AlN switchable memory resistor capable of a 20-MHz cycling rate and 500-picosecond switching time. *IBM Journal of Research and Development*, 17(1):61–5, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rudge:1963:FEL

[RHM63] W. E. Rudge, W. E. Harding, and W. E. Mutter. Fly's-eye lens technique for generating semiconductor device fabrication masks. *IBM Journal of Research and Development*, 7 (2):146–150, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392291`.

Rizzolo:1999:SPM

[RHM+99] R. F. Rizzolo, G. Hinkel, S. Michnowski, T. J. McPherson, and A. J. Sutcliffe. System performance management for the S/390 Parallel Enterprise Server G5. *IBM Journal of Research and Development*, 43(5/6):651–660, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/rizzolo.html`.

Ryu:2013:IBG

[RIB+13] K. D. Ryu, T. A. Inglett, R. Bellofatto, M. A. Blocksome, T. Gooding, S. Kumar, A. R. Mamidala, M. G. Megerian, S. Miller, M. T. Nelson, B. Rosenburg, B. Smith, J. Van Oosten, A. Wang, and R. W. Wisniewski. IBM Blue Gene/Q system software stack. *IBM Journal of Research and Development*, 57(1/2):5:1–5:12, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Riordan:1960:ETH

[Rio60] J. Riordan. The enumeration of trees by height and diameter. *IBM Journal of Research and Development*, 4(5): 473–478, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392460`.

Rissanen:1972:REP

[Ris72] J. Rissanen. Recursive evaluation of Padé approximants for matrix sequences. *IBM Journal of Research and Development*, 16(4):401–406, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Rissanen:1973:BWB

[Ris73] J. Rissanen. Bounds for weight balanced trees. *IBM Journal of Research and Development*, 17 (2):101–105, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rissanen:1976:GKI

[Ris76] J. J. Rissanen. Generalized Kraft inequality and arithmetic coding. *IBM Journal of Research and Development*, 20 (3):198–203, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ris:1984:EAF

[Ris84] Frederic N. Ris. Experience with access functions in an experimental compiler. *IBM Journal of Research and Development*, 28(1):40–51, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ritsko:2013:PMC

[Rit13] J. J. Ritsko. Preface: Mobile computing and IBM POWER7+ technologies. *IBM Journal of Research and Development*, 57(6):??, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rivlin:1987:VAT

[Riv87] T. J. Rivlin. A view of approximation theory. *IBM Journal of Research and Development*, 31 (2):162–168, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Roth:1962:MBG

[RK62] J. Paul Roth and R. M. Karp. Minimization over Boolean graphs. *IBM Journal of Research and Development*, 6(2): 227–238, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392357`.

Ravi:1966:EKT

[RK66] C. G. Ravi and G. G. Koerber. Effects of a keeper on thin film magnetic bits. *IBM Journal of Research and Development*, 10 (2):130–134, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392061`.

Route:1969:AAI

[RK69] R. K. Route and G. S. Kino. Acoustoelectric amplification in InSb. *IBM Journal of Research and Development*, 13(5): 507–509, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Randolph:1972:DFH

[RK72] J. B. Randolph and F. K. King. Design and fabrication of heat transfer surfaces from superplastic material. *IBM Journal of Research and Development*,

16(3):283–291, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reiser:1974:ADA

[RK74] M. Reiser and H. Kobayashi. Accuracy of the diffusion approximation for some queuing systems. *IBM Journal of Research and Development*, 18(2): 110–124, March 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reiser:1975:QNM

[RK75] M. Reiser and H. Kobayashi. Queuing networks with multiple closed chains: Theory and computational algorithms. *IBM Journal of Research and Development*, 19(3):283–294, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Papers on system performance evaluation.

Rafaeli:2015:NSD

[RK15] S. Rafaeli and C. Kent. Network-structured discussions for collaborative concept mapping and peer learning. *IBM Journal of Research and Development*, 59(6):7:1–7:13, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruoff:1988:DDP

[RKL88a] Arthur L. Ruoff, Edward J. Kramer, and Che-Yu Li. Developer-induced debonding of photoresist from copper. *IBM Journal of Research and Development*, 32(5):631–635, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruoff:1988:IAC

[RKL88b] Arthur L. Ruoff, Edward J. Kramer, and Che-Yu Li. Improvement of adhesion of copper on polyimide by reactive ion-beam etching. *IBM Journal of Research and Development*, 32(5):626–630, September 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rooney:2002:IRD

[RKMY02] W. J. Rooney, J. P. Kubala, J. Maergner, and P. B. Yocom. Intelligent Resource Director. *IBM Journal of Research and Development*, 46(4/5):567–586, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/rooney.html`; `http://www.research.ibm.com/journal/rd/464/rooney.pdf`.

Rao:1999:ICB

[RKW99] C. L. Rao, G. M. King, and B. A. Weiler. Integrated Cluster Bus performance for the IBM S/390 Parallel Sysplex. *IBM Journal of Research and Development*, 43(5/6): 855–862, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/435/rao.html.

Russell:1970:IAL

[RL70] S. S. Russell and S. L. Levine. Indium-mercury alloy as a low-toxicity liquid electrode. *IBM Journal of Research and Development*, 14(1):70–71, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rissanen:1979:AC

[RL79] Jorma J. Rissanen and Glen G. Langdon, Jr. Arithmetic coding. *IBM Journal of Research and Development*, 23(2):149–162, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rojahn:2014:TCW

[RLP14] T. Rojahn, R. Lebsack, and C. Pavlovski. Toward a computing workload classifier. *IBM Journal of Research and Development*, 58(5/6):19:1–19:12, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rice:1970:MTT

[RM70] T. M. Rice and D. B. McWhan. Metal-insulator transition in transition metal oxides. *IBM Journal of Research and Development*, 14(3):251–257, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Renegar:2009:PVC

[RM09] B. D. Renegar and K. Michael. Privacy-value-control harmonization for RFID adoption in retail. *IBM Journal of Research and Development*, 53 (2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/532/renegar.html.

Ray:2010:PBI

[RM10] B. Ray and K. McAuliffe. Preface: Business integrity and risk management. *IBM Journal of Research and Development*, 54 (3):1–2, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rusu:2003:MSV

[RMM03] C. A. Rusu, R. Melhem, and D. Mossé. Maximizing the system value while satisfying time and energy constraints. *IBM Journal of Research and Development*, 47(5/6):689–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/475/rusu.pdf.

Roberts:2020:RIP

[RMM20] S. Roberts, C. Mann, and C. Marroquin. Redefining IBM power system design for CORAL. *IBM Journal of Research and Development*, 64 (3/4):2:1–2:10, May/July 2020.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rudd:1994:STB

[RMR94] J. G. Rudd, R. A. Marsh, and J. A. Roecker. Surveillance and tracking of ballistic missile launches. *IBM Journal of Research and Development*, 38(2): 195–216, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#seven`.

Robbins:1967:GLC

[Rob67] H. M. Robbins. A generalized legendre-clebsch condition for the singular cases of optimal control. *IBM Journal of Research and Development*, 11 (4):361–372, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391941`.

Roehr:1966:INI

[Roe66] K. M. Roehr. Influence of non-ideal filters on the transmission characteristics of resonant transfer switching systems. *IBM Journal of Research and Development*, 10(5): 416–419, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392053`.

Rogers:1966:PCP

[Rog66] W. F. Rogers. A practical class of polynomial codes. *IBM Journal of Research and Development*, 10(2):158–161, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392064`.

Rosenberger:1959:CO

[Ros59] G. B. Rosenberger. A cryogenic oscillator. *IBM Journal of Research and Development*, 3(2):189–190, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392610`.

Rosenberg:1966:MHF

[Ros66] A. L. Rosenberg. On multi-head finite automata. *IBM Journal of Research and Development*, 10(5):388–394, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392047`.

Roshon:1978:EDC

[Ros78] D. D. Roshon. Electroplated diamond-composite coatings for abrasive wear resistance. *IBM Journal of Research and Development*, 22(6):681–686, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rossnagel:1999:SDS

[Ros99] S. M. Rossnagel. Sputter deposition for semiconductor manufacturing. *IBM Journal of Research and Development*, 43 (1/2):163–179, ???? 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/431/rossnagel.html`.

Ross:2000:GPP

[Ros00] F. M. Ross. Growth processes and phase transformations studied by in situ transmission electron microscopy. *IBM Journal of Research and Development*, 44(4):489–501, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/ross.html`.

Rosenfield:2003:MDA

[Ros03] Michael G. Rosenfield. Message from the Director, Austin Research Laboratory, IBM Research Division. *IBM Journal of Research and Development*, 47(5/6):??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/message.pdf`.

Roth:1960:MBT

[Rot60a] J. Paul Roth. Minimization over Boolean trees. *IBM Journal of Research and Development*, 4(5):543–558, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392469`.

Roth:1960:PMB

[Rot60b] J. Paul Roth. Minimization over Boolean trees. *IBM Journal of Research and Development*, 4(??):543–558, 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Roth:1966:DAF

[Rot66a] J. Paul Roth. Diagnosis of automata failures: a calculus and a method. *IBM Journal of Research and Development*, 10 (4):278–291, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392030`.

Rothauser:1966:IVA

[Rot66b] E. H. Rothauser. The integrated vocoder and its application in computer systems. *IBM Journal of Research and Development*, 10(6): 455–461, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392005`.

Rottmann:1974:PIC

[Rot74] H. R. Rottmann. Photolithography in integrated circuit mask metrology. *IBM Journal of*

Research and Development, 18 (3):225–231, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rottmann:1980:OL

[Rot80] Hans R. Rottmann. Overlay in lithography. *IBM Journal of Research and Development*, 24(4):361–368 (or 461–468??), July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rottmann:1982:MMM

[Rot82] H. R. Rottmann. Metrology in mask manufacturing (for LSI). *IBM Journal of Research and Development*, 26(5): 553–556, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rutz-Philipp:1966:DTH

[RP66] E. M. Rutz-Philipp. Design technique for high-efficiency frequency doublers based on the manley and rowe energy relations. *IBM Journal of Research and Development*, 10 (1):13–25, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392101`.

Rutz-Philipp:1967:PCN

[RP67] E. M. Rutz-Philipp. Power conversion in nonlinear resistive elements related to interference phenomena. *IBM Journal of Research and Development*, 11 (5):544–552, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391963`.

Rocher:1970:AEH

[RP70] E. Y. Rocher and R. L. Pickholtz. Analysis of the effectiveness of hybrid transmission schemes. *IBM Journal of Research and Development*, 14 (4):426–433, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reisman:1978:AGD

[RP78] A. Reisman and K. C. Park. AC gas discharge panels: Some general considerations. *IBM Journal of Research and Development*, 22(6):589–595, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ram:2014:OSI

[RP14] R. Ram and Y. Peres. Online shop for integrated software, hardware, and human services. *IBM Journal of Research and Development*, 58 (5/6):17:1–17:10, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Raman:2008:ARP

[RQBW08] S. Raman, B. Qian, D. Baker, and R. C. Walker. Advances in Rosetta protein structure

prediction on massively parallel systems. *IBM Journal of Research and Development*, 52(1/2):7–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/raman.html`.

Rocher:1969:RTT

[RR69] E. Y. Rocher and R. E. Reynier. Response time of thyristors: theoretical study and application to electronic switching networks. *IBM Journal of Research and Development*, 13 (4):447–455, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rao:1983:IMO

[RR83] Gururaj S. Rao and Philip L. Rowenfeld. Integration of machine organization and control program design — review and direction. *IBM Journal of Research and Development*, 27 (3):247–256, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rossignac:1987:PCG

[RR87] Jaroslaw R. Rossignac and Aristides A. G. Requicha. Piecewise-circular curves for geometric modeling. *IBM Journal of Research and Development*, 31(3):296–313, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reeves:2002:P

[RR02] Thomas M. Reeves and Timothy K. Raveys. Preface. *IBM Journal of Research and Development*, 46(6):647, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/preface.pdf`.

Riess:2001:ITI

[RRB+01] W. Riess, H. Riel, T. Beierlein, W. Brütting, P. Müller, and P. F. Seidler. Influence of trapped and interfacial charges in organic multilayer light-emitting devices. *IBM Journal of Research and Development*, 45(1):77–88, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/riess.html`.

Ramakrishna:2017:PEE

[RRMD17] V. Ramakrishna, N. Rajput, S. Mukherjea, and K. Dey. A platform for end-to-end mobile application infrastructure analytics using system log correlation. *IBM Journal of Research and Development*, 61(1): 2:17–2:26, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877288/`.

Rhodes:1961:MFC

[RRSW61] W. H. Rhodes, L. A. Russell, F. E. Sakalay, and R. M. Whalen. A 0.7-microsecond ferrite core memory. *IBM Journal of Research and Development*, 5(3):174–182, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392445`.

Rabin:1959:FAT

[RS59a] M. O. Rabin and D. Scott. Finite automata and their decision problems. *IBM Journal of Research and Development*, 3(2):114–125, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392601`. This paper shows the equivalence of deterministic and nondeterministic finite automata.

Rutz:1959:SPE

[RS59b] R. F. Rutz and D. F. Singer. Some properties of experimental 1000-Mc transistors. *IBM Journal of Research and Development*, 3(3):230–236, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392561`.

Roberts:1966:KTT

[RS66] S. M. Roberts and J. S. Shipman. The Kantorovich theorem and two-point boundary value problems. *IBM Journal of Research and Development*, 10(5):402–406, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392050`.

Roberts:1967:SRT

[RS67] S. M. Roberts and J. S. Shipman. Some results in two-point boundary value problems. *IBM Journal of Research and Development*, 11(4):383–388, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391943`.

Robinson:1969:CME

[RS69] B. B. Robinson and G. A. Swartz. Coherent microwave emission from an electron-hole plasma. *IBM Journal of Research and Development*, 13(5):601–606, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reed:1979:ISA

[RS79] Martin A. Reed and Terence D. Smetanka. Implications of a selective acknowledgment scheme on satellite performance. *IBM Journal of Research and Development*, 23(2):189–196, March 1979. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Rayfield:1985:ADC

[RS85] James T. Rayfield and Harvey F. Silverman. Approach to DFT calculations using standard microprocessors. *IBM Journal of Research and Development*, 29(2):170–176, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Raghavan:1994:MVR

[RS94] P. Raghavan and M. Snir. Memory versus randomization in on-line algorithms. *IBM Journal of Research and Development*, 38(6):683–707, November 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-6.html#four`.

Ray:2014:PSF

[RS14] B. K. Ray and K. Saxton. Preface: Smarter finance. *IBM Journal of Research and Development*, 58(4):1–3, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Radio:1970:PAM

[RSL+70] M. R. Radio, S. A. Schmitt, S. H. Lewis, T. G. Merry, and J. L. Evjen. Precision automatic measuring of X-Y coordinates. *IBM Journal of Research and Development*, 14(6):641–651, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reilly:1982:PCI

[RSNG82] John Reilly, Arthur Sutton, Robert Nasser, and Robert Griscom. Processor Controller for the IBM 3081. *IBM Journal of Research and Development*, 26(1):22–29, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reuter:1991:MSB

[RSS91] R. Reuter, U. Scharffenberger, and J. Schule. Multiplication of a symmetric banded matrix by a vector on a vector multiprocessor computer. *IBM Journal of Research and Development*, 35(5/6):697–706, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reddy:2015:PLP

[RSS+15] V. K. Reddy, L. Said, B. Sengupta, M. Chetlur, J. P. Costantino, A. Gopinath, S. Flynt, P. Balunaini, and S. Vedula. Personalized Learning Pathways: Enabling intervention creation and tracking. *IBM Journal of Research and Development*, 59(6):4:1–4:14, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rabolt:1982:IOR

[RSSS82] J. F. Rabolt, R. Santo, N. E. Schlotter, and J. D. Swalen.

Integrated optics and Raman scattering: Molecular orientation in thin polymer films and Langmuir-Blodgett monolayers. *IBM Journal of Research and Development*, 26(2): 209–216, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rosenberg:1975:WMA

[RT75] A. L. Rosenberg and J. W. Thatcher. What is a multilevel array? *IBM Journal of Research and Development*, 19 (2):163–169, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Reed:1999:PVE

[RT99] C. A. Reed and D. J. Thygesen. Pseudorandom verification and emulation of an MPEG-2 transport demultiplexor. *IBM Journal of Research and Development*, 43(4):533–544, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/reed.html`.

Rosier:1969:SC

[RTL69] L. L. Rosier, C. Turrel, and W. K. Liebmann. Semiconductor crosspoints. *IBM Journal of Research and Development*, 13(4):439–446, July 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Roehr:1965:FPI

[RTM65] K. M. Roehr, P. M. Thrasher, and D. J. McAuliffe, Jr. Filter performance in integrated switching and multiplexing. *IBM Journal of Research and Development*, 9(4):282–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rubin:1990:EAM

[Rub90] B. J. Rubin. An electromagnetic approach for modeling high-performance computer packages. *IBM Journal of Research and Development*, 34 (4):585–600, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruehli:1972:ICC

[Rue72] A. E. Ruehli. Inductance calculations in a complex integrated circuit environment. *IBM Journal of Research and Development*, 16(5):470–481, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruehli:1979:SCE

[Rue79] Albert E. Ruehli. Survey of computer-aided electrical analysis of integrated circuit interconnections. *IBM Journal of Research and Development*, 23(6):626–639, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ruskai:2004:SBS

[Rus04] M. B. Ruskai. Some bipartite states do not arise from

channels. *IBM Journal of Research and Development*, 48 (1):111–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/ruskai.pdf`.

Rutz:1957:TCT

[Rut57] R. F. Rutz. Two-collector transistor for binary full addition. *IBM Journal of Research and Development*, 1(3): 212–222, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392682`.

Rutz:1959:MLP

[Rut59] R. F. Rutz. A 3000-Mc lumped-parameter oscillator using an Esaki negative-resistance diode. *IBM Journal of Research and Development*, 3(4):372–374, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392577`.

Rutz:1964:NRT

[Rut64] R. F. Rutz. Negative resistance tunnel diodes in silicon carbide. *IBM Journal of Research and Development*, 8(5): 539–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

RadicatidiBrozolo:1989:CGS

[RV89] Giuseppe Radicati di Brozolo and Marcello Vitaletti. Conjugate-gradient subroutines for the IBM 3090 Vector Facility. *IBM Journal of Research and Development*, 33(2):125–135, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rogstadius:2013:CCS

[RVT+13] J. Rogstadius, M. Vukovic, C. A. Teixeira, V. Kostakos, E. Karapanos, and J. A. Laredo. CrisisTracker: Crowdsourced social media curation for disaster awareness. *IBM Journal of Research and Development*, 57(5):4:1–4:13, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Risken:1988:BTE

[RVV88] H. Risken, K. Vogel, and H. D. Vollmer. Boundary-layer theory for the extremely underdamped Brownian motion in a metastable potential. *IBM Journal of Research and Development*, 32(1):112–118, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Roth:1959:ATM

[RW59] J. Paul Roth and E. G. Wagner. Algebraic topological methods for the synthesis of switching systems. III. Minimization of nonsingular Boolean

trees. *IBM Journal of Research and Development*, 3(4): 326–344, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392573`.

Ratakonda:2010:ITP

[RWB+10] K. Ratakonda, R. Williams, J. Bisceglia, R. W. Taylor, and J. Graham. Identifying trouble patterns in complex IT services engagements. *IBM Journal of Research and Development*, 54(2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/ratakonda-williams.html`.

Rideout:1980:OMC

[RWC80] V. Leo Rideout, John J. Walker, and Alice Cramer. One-device memory cell using a single layer of polysilicon and a self-registering metal-to-polysilicon contact. *IBM Journal of Research and Development*, 24(3):339–347, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Rymaszewski:1981:SLT

[RWL81] E. J. Rymaszewski, J. L. Walsh, and G. W. Leehan. Semiconductor logic technology in IBM. *IBM Journal of Research and Development*, 25(5): 603–616, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ritzdorf:2005:DME

[RWM+05] T. L. Ritzdorf, G. J. Wilson, P. R. McHugh, D. J. Woodruff, K. M. Hanson, and D. Fulton. Design and modeling of equipment used in electrochemical processes for microelectronics. *IBM Journal of Research and Development*, 49(1):65–77, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/ritzdorf.pdf`.

Reinprecht:2016:EEE

[RWP16] N. B. Reinprecht, G. White, and M. Peters. Enabling European electrical transmission and distribution smart grids by standards. *IBM Journal of Research and Development*, 60 (1):3:1–3:11, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Riley:2007:CBE

[RWW07] M. W. Riley, J. D. Warnock, and D. F. Wendel. Cell Broadband Engine processor: Design and implementation. *IBM Journal of Research and Development*, 51(5): 545–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/515/riley.html.

Smith:1966:INM

[SA66] A. W. Smith and J. A. Armstrong. Intensity noise in multimode GaAs laser emission. *IBM Journal of Research and Development*, 10(3): 225–232, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392075.

Sanuki:1998:DVS

[SA98] T. Sanuki and Y. Asakawa. Design of a video-server complex for interactive television. *IBM Journal of Research and Development*, 42(2):199–218, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/422/sanuki.html.

Stohr:2000:XRS

[SA00] J. Stöhr and S. Anders. X-ray spectro-microscopy of complex materials and surfaces. *IBM Journal of Research and Development*, 44(4):535–551, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/444/stohr.html.

Schubert:2018:AVC

[SAA+18] K. D. Schubert, S. S. Abrar, D. Averill, E. Bauman, A. C. Brown, R. Cash, D. Chatterjee, J. Gullickson, M. Nelson, K. A. Pasnik, and K. Sugavanam. Addressing verification challenges of heterogeneous systems based on IBM POWER9. *IBM Journal of Research and Development*, 62(4–5):11:1–11:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL https://ieeexplore.ieee.org/document/8387435/.

Singh:2002:PPC

[SAB+02] P. Singh, S. J. Ahladas, W. D. Becker, F. E. Bosco, J. P. Corrado, G. F. Goth, S. Iruvanti, M. A. Nobile, B. D. Notohardjono, J. H. Quick, E. J. Seminaro, K. M. Soohoo, and C. Wu. A power, packaging, and cooling overview of the IBM eServer z900. *IBM Journal of Research and Development*, 46 (6):711–738, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/466/singh.pdf.

Srikrishnan:2007:SFA

[SAB+07] J. Srikrishnan, S. Amann, G. Banzhaf, F. W. Brice, R. Dugan, G. R. Frazier, G. P. Kuch, and J. Leopold. Sharing FCP adapters through virtualization. *IBM Journal of Research and Development*, 51 (1/2):103–118, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.research.ibm.com/journal/rd/511/srikrishnan.html`.

Sedgwick:1970:DFG

[SAK70] T. O. Sedgwick, J. A. Aboaf, and S. Krongelb. Dielectric films for Ge planar devices. *IBM Journal of Research and Development*, 14(1):2–11, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sakkas:1979:PDM

[Sak79] Constantine M. Sakkas. Potential distribution and multiterminal DC resistance computations for LSI technology. *IBM Journal of Research and Development*, 23(6):640–651, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stevenson:1963:LWP

[SAL63] M. J. Stevenson, J. D. Axe, and J. R. Lankard. Line widths and pressure shifts in mode structure of stimulated emission from GaAs junctions. *IBM Journal of Research and Development*, 7(2): 155–156, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392294`.

Samuel:1959:SSM

[Sam59] A. L. Samuel. Some studies in machine learning using the game of checkers. *IBM Journal of Research and Development*, 3(3):210–229, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392560`. Reprinted in E. A. Feigenbaum and J. Feldman (Eds.) 1963, *Computers and Thought*, McGraw-Hill, New York.

Samuel:1964:FIS

[Sam64] Arthur L. Samuel. Foreword: The IBM System/360. *IBM Journal of Research and Development*, 8(2):86, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802B.pdf`.

Samuel:1967:SSM

[Sam67] A. L. Samuel. Some studies in machine learning using the game of checkers. II — recent progress. *IBM Journal of Research and Development*, 11(6): 601–617, November 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391906`.

Sammet:1981:HIT

[Sam81] Jean E. Sammet. History of IBM's technical contributions to high level programming languages. *IBM Journal of Research and Development*, 25(5):

520–534, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Samuel:2000:SSM

[Sam00] A. L. Samuel. Some studies in machine learning using the game of checkers. *IBM Journal of Research and Development*, 44(1/2):206–226, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/samuel.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Sanborn:1983:PNC

[San83a] Malcolm A. Sanborn. Precise numerical control for the thermal conduction module. *IBM Journal of Research and Development*, 27(1):20–26, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Santisteban:1983:PCS

[San83b] Antonio Santisteban. Perceptual color space of digital image display terminals. *IBM Journal of Research and Development*, 27(2):127–132, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sanford:2012:MSV

[San12] L. S. Sanford. Message from the Senior Vice President, Enterprise Transformation. *IBM Journal of Research and Development*, 56 (6):0:1, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353931`.

Smith:2001:MET

[SAPT01] T. B. Smith, B. Abali, D. E. Poff, and R. B. Tremaine. Memory Expansion Technology (MXT): Competitive impact. *IBM Journal of Research and Development*, 45(2): 303–309, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/smith.html`.

Shatzkes:1981:SB

[SAR81] M. Shatzkes and M. Av-Ron. Statistics of breakdown. *IBM Journal of Research and Development*, 25(2/3):167–175, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sarkar:1991:APP

[Sar91a] V. Sarkar. Automatic partitioning of a program dependence graph into parallel tasks. *IBM Journal of Research and Development*, 35(5/6): 779–804, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sarma:1991:EST

[Sar91b] S. Sarma. Enhanced self-test techniques for VLSI systems applied to the IBM Enterprise System/9000 Type 9121 processor. *IBM Journal of Research and Development*, 35(3):390–399, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sarkar:1997:ASH

[Sar97] V. Sarkar. Automatic selection of high-order transformations in the IBM XL FORTRAN compilers. *IBM Journal of Research and Development*, 41(3):233–264, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/sarkar.html`.

Shatzkes:1980:DBC

[SARG80] Morris Shatzkes, Moshe Av-Ron, and Robert A. Gdula. Defect-related breakdown and conduction in SiO_2. *IBM Journal of Research and Development*, 24(4):469–479, July 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sato:1963:PTD

[Sat63] Yasuo Sato. Propagation of torsional disturbances in a homogeneous elastic sphere. *IBM Journal of Research and Development*, 7(2):117–120, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392286`.

Sakuma:2008:CST

[SAT+08] Katsuyuki Sakuma, Paul S. Andry, Cornelia K. Tsang, Steven L. Wright, Bing Dang, Chirag S. Patel, Bucknell C. Webb, Joana Maria, Edmund J. Sprogis, Sung K. Kang, Robert J. Polastre, Raymond R. Horton, and John U. Knickerbocker. 3D chip-stacking technology with through-silicon vias and low-volume lead-free interconnections. *IBM Journal of Research and Development*, 52(6): 611–622, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/sakuma.html`.

Sauer:1981:ASQ

[Sau81] Charles H. Sauer. Approximate solution of queueing networks with simultaneous resource possession. *IBM Journal of Research and Development*, 25(6): 894–903, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Savir:1969:MCT

[Sav69] D. Savir. Model of competition in a two-seller market. *IBM Journal of Research and Development*, 13(4):366–372, July

1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Savage:1970:TMD

[Sav70] J. E. Savage. Three measures of decoder complexity. *IBM Journal of Research and Development*, 14(4):417–425, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Savir:1990:ICA

[Sav90] J. Savir. Improved cutting algorithm. *IBM Journal of Research and Development*, 34(2/3):381–388, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1962:OMC

[SB62] A. W. Smith and N. Braslau. Optical mixing of coherent and incoherent light [letter to the editor]. *IBM Journal of Research and Development*, 6(3): 361–362, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392378`.

Sorokin:1964:STA

[SB64] P. P. Sorokin and N. Braslau. Some theoretical aspects of a proposed double quantum stimulated emission device. *IBM Journal of Research and Development*, 8(2):177–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802J.pdf`.

Schroer:1986:CAS

[SB86] Peter H. Schroer and Jordan Becker. Computer automation for scanning tunneling microscopy. *IBM Journal of Research and Development*, 30(5): 543–552, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Silva:2009:SDC

[SBB+09] M. Silva, M. Banikazemi, M. Butrico, D. Daly, S. Guthridge, J. E. Moreira, and W. V. Ruggiero. Scalable data center provisioning and control. *IBM Journal of Research and Development*, 53 (4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/silva.html`.

Stigliani:2002:IEZ

[SBC+02] D. J. Stigliani, Jr., T. E. Bubb, D. F. Casper, J. H. Chin, S. G. Glassen, J. M. Hoke, V. A. Minassian, J. H. Quick, and C. H. Whitehead. IBM eServer z900 I/O subsystem. *IBM Journal of Research and Development*, 46(4/5):421–445, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/stigliani.html`;

http://www.research.ibm.com/journal/rd/464/stigliani.pdf.

Strach:2012:EPI

[SBC+12] T. Strach, F. Bosco, K. L. Christian, K. R. Covi, M. Eckert, G. R. Edlund, R. Frech, H. Harrer, A. Huber, D. Kaller, M. Kindscher, A. Z. Muszynski, G. A. Peterson, C. Siviero, J. Supper, O. A. Torreiter, and T.-M. Winkel. Electronic packaging of the IBM System z196 enterprise-class server processor cage. *IBM Journal of Research and Development*, 56(1–2):2:1–2:19, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shafti:2010:SOC

[SBD+10] F. Shafti, T. Bedford, L. A. Deleris, J. R. M. Hosking, N. Serban, H. Shen, and L. Walls. Service operation classification for risk management. *IBM Journal of Research and Development*, 54(3): 7:1–7:17, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seraphim:1964:EPT

[SBdF64] D. P. Seraphim, A. E. Brennemann, F. M. d'Heurle, and H. L. Friedman. Electrochemical phenomena in thin films of silicon dioxide on silicon. *IBM Journal of Research and Development*, 8(4):400–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shum:2009:DMI

[SBDT+09] C.-L. K. Shum, F. Busaba, S. Dao-Trong, G. Gerwig, C. Jacobi, T. Koehler, E. Pfeffer, B. R. Prasky, J. G. Rell, and A. Tsai. Design and microarchitecture of the IBM System z10 microprocessor. *IBM Journal of Research and Development*, 53(1):1:1–1:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/531/shum.pdf.

Schlipf:1997:FVM

[SBF+97] T. Schlipf, T. Buechner, R. Fritz, M. Helms, and J. Koehl. Formal verification made easy. *IBM Journal of Research and Development*, 41 (4/5):567–576, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/414/schlipf.html.

Seki:1971:QAE

[SBG+71] H. Seki, I. P. Batra, W. D. Gill, K. K. Kanazawa, and B. H. Schechtman. A quasi-steady-state analysis for the electrophotographic discharge process. *IBM Journal of Research and Development*, 15(3):213–221, May 1971. CODEN IBM-

JAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sbirlea:2013:ADI

[SBG+13] D. Sbirlea, M. G. Burke, S. Guarnieri, M. Pistoia, and V. Sarkar. Automatic detection of inter-application permission leaks in Android applications. *IBM Journal of Research and Development*, 57(6):10:1–10:12, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1982:BCH

[SBH82] Gordon L. Smith, Ralph J. Bahnsen, and Harry Halliwell. Boolean comparison of hardware and flowcharts. *IBM Journal of Research and Development*, 26(1):106–116, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stuecheli:2015:CCA

[SBJS15] J. Stuecheli, B. Blaner, C. R. Johns, and M. S. Siegel. CAPI: A Coherent Accelerator Processor Interface. *IBM Journal of Research and Development*, 59(1):7:1–7:7, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shafi:2003:DVP

[SBP+03] H. Shafi, P. J. Bohrer, J. Phelan, C. A. Rusu, and J. L. Peterson. Design and validation of a performance and power simulator for PowerPC systems. *IBM Journal of Research and Development*, 47 (5/6):641–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/shafi.pdf`.

Smith:1964:EFH

[SBR64] G. E. Smith, G. A. Baraff, and J. M. Rowell. The effective g-factor of holes in bismuth. *IBM Journal of Research and Development*, 8(3):228–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shield:1987:DFD

[SBT87] T. W. Shield, D. B. Bogy, and F. E. Talke. Drop formation by DOD ink-jet nozzles: a comparison of experiment and numerical simulation. *IBM Journal of Research and Development*, 31 (1):96–110, January 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sauer:1975:AAC

[SC75] C. H. Sauer and K. M. Chandy. Approximate analysis of central server models. *IBM Journal of Research and Development*, 19 (3):301–313, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Street:1981:CPR

[SC81] G. B. Street and T. C. Clarke. Conducting polymers: a review

of recent work. *IBM Journal of Research and Development*, 25 (1):51–57, January 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sorbello:1988:RRD

[SC88] R. S. Sorbello and C. S. Chu. Residual resistivity dipoles, electromigration, and electronic conduction in metallic microstructures. *IBM Journal of Research and Development*, 32 (1):58–62, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sharkawi:2020:CPO

[SC20] S. S. Sharkawi and G. A. Chochia. Communication protocol optimization for enhanced GPU performance. *IBM Journal of Research and Development*, 64(3/4):9:1–9:9, May/ July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shepard:1997:DMP

[SCC+97] K. L. Shepard, S. M. Carey, E. K. Cho, B. W. Curran, R. F. Hatch, D. E. Hoffman, S. A. McCabe, G. A. Northrop, and R. Seigler. Design methodology for the S/390 Parallel Enterprise Server G4 microprocessors. *IBM Journal of Research and Development*, 41 (4/5):515–547, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/shepard.html`.

Smith:2015:MSL

[SCC+15] J. R. Smith, L. Cao, N. C. F. Codella, M. L. Hill, M. Merler, Q. Nguyen, E. Pring, and R. A. Uceda-Sosa. Massive-scale learning of image and video semantic concepts. *IBM Journal of Research and Development*, 59(2–3):7:1–7:13, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sugavanam:2013:DLP

[SCG+13] K. Sugavanam, C.-Y. Cher, J. A. Gunnels, R. A. Haring, P. Heidelberger, H. M. Jacobson, M. K. McManus, D. P. Paulsen, D. L. Satterfield, Y. Sugawara, and R. Walkup. Design for low power and power management in IBM Blue Gene/Q. *IBM Journal of Research and Development*, 57 (1/2):3:1–3:11, January–March 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schaffert:1962:CTM

[Sch62a] R. M. Schaffert. Charge transport mechanisms in the transfer of latent electrostatic images to dielectric surfaces. *IBM Journal of Research and Development*, 6(2):192–199, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392354.

Schay:1962:AMM

[Sch62b] G. Schay, Jr. Approximate methods for a multiqueueing problem. *IBM Journal of Research and Development*, 6(2): 246–249, April 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392359.

Schay:1963:QPA

[Sch63] Gaza Schay, Jr. On a queueing problem arising in recirculating memories. *IBM Journal of Research and Development*, 7(4): 350–352, October 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392265.

Schillinger:1964:NOC

[Sch64] W. Schillinger. Non-ohmic conduction in bismuth. *IBM Journal of Research and Development*, 8(3):295–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schneider:1967:NED

[Sch67] Peter R. Schneider. On the necessity to examine D-chains in diagnostic test generation — an example [letter to the editor]. *IBM Journal of Research and Development*, 11 (1):114, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392023.

Schaffert:1971:NHO

[Sch71] R. M. Schaffert. A new high-sensitivity organic photoconductor for electrophotography. *IBM Journal of Research and Development*, 15(1):75–89, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schneider:1975:AGF

[Sch75] J. Schneider. Amorphous GdCoCr films for bubble domain applications. *IBM Journal of Research and Development*, 19 (6):587–590, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schmookler:1980:DLA

[Sch80] Martin S. Schmookler. Design of large ALUs using multiple PLA macros. *IBM Journal of Research and Development*, 24 (1):2–14, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schatzoff:1981:DEC

[Sch81] Martin Schatzoff. Design of experiments in computer performance evaluation. *IBM Journal of Research and Development*, 25(6):848–859, November 1981.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schubert:1984:DGC

[Sch84] Steven A. Schubert. Determination of Gafac in complex solution matrices. *IBM Journal of Research and Development*, 28(6):741–747, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schneider:1985:WEH

[Sch85] Richard C. Schneider. Write equalization in high-linear-density magnetic recording. *IBM Journal of Research and Development*, 29(6):563–568, November 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schneider:1989:CTG

[Sch89] T. Schneider. Critical temperature and the Ginzburg–Landau theory of layered high-temperature superconductors. *IBM Journal of Research and Development*, 33(3):351–355, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schlig:1991:STI

[Sch91] E. S. Schlig. A 3072 × 32-stage TDI imaging device. *IBM Journal of Research and Development*, 35(1/2):283–287, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schlatter:1996:CTA

[Sch96a] B. Schlatter. Computer-aided 3D tolerance analysis of disk drives. *IBM Journal of Research and Development*, 40(5):537–542, September 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-5.html#two`.

Schlig:1996:CSC

[Sch96b] E. S. Schlig. Charge-metering sampling circuits and their applications. *IBM Journal of Research and Development*, 40(6):631–640, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-6.html#five`.

Schmidt:2004:P

[Sch04] Rolf Schmidt. Preface. *IBM Journal of Research and Development*, 48(3/4):293–294, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/preface.html; http://www.research.ibm.com/journal/rd/483/preface.pdf`.

Schieber:2007:P

[Sch07] B. M. Schieber. Preface. *IBM Journal of Research and Development*, 51(3/4):247–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL http://www.research.ibm.com/journal/rd/513/preface.html.

Sourirajan:2009:CMA

[SCH+09] K. Sourirajan, P. Centonze, M. E. Helander, K. Katircioglu, M. Ben-Hamida, and C. Boucher. Carbon management in assembly manufacturing logistics. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/abstracts/rd/533/sourirajan.html.

Sorokin:1966:EPS

[SCHL66] P. P. Sorokin, W. H. Culver, E. C. Hammond, and J. R. Lankard. End-pumped stimulated emission from a thiacarbocyanine dye. *IBM Journal of Research and Development*, 10(5):401, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392049.

Schmidt:2005:CDC

[SCI05] R. R. Schmidt, E. E. Cruz, and M. K. Iyengar. Challenges of data center thermal management. *IBM Journal of Research and Development*, 49 (4/5):709–723, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/494/schmidt.html.

Stapper:1982:EAV

[SCM+82] C. H. Stapper, P. P. Castrucci, R. A. Maeder, W. E. Rowe, and R. A. Verheilst. Evolution and accomplishments of VLSI yield management at IBM. *IBM Journal of Research and Development*, 26(5): 532–545, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Swope:2001:P

[SCR01] William C. Swope, James M. Coffin, and Barry Robsons. Preface. *IBM Journal of Research and Development*, 45 (3/4):363–365, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/453/preface.html; http://www.research.ibm.com/journal/rd/453/preface.pdf.

Sguazzero:1978:HNM

[SCRV78] P. Sguazzero, C. Chignoli, R. Rabagliati, and G. Volpi. Hydrodynamic numeric modeling of the Lagoon of Venice. *IBM Journal of Research and Development*, 22(5):472–480, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schwarz:2002:MIE

[SCS+02] E. M. Schwarz, M. A. Check, C.-L. K. Shum, T. Koehler,

S. B. Swaney, J. D. MacDougall, and C. A. Krygowski. The microarchitecture of the IBM eServer z900 processor. *IBM Journal of Research and Development*, 46 (4/5):381–395, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/schwarz.html; http://www.research.ibm.com/journal/rd/464/schwarz.pdf`.

Stanford-Clark:2010:APS

[SCW10] A. J. Stanford-Clark and G. R. Wightwick. The application of publish/subscribe messaging to environmental, monitoring, and control systems. *IBM Journal of Research and Development*, 54(4):1–7, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schwuttke:1978:LCS

[SCYK78] Guenter H. Schwuttke, Ted F. Ciszek, Kuei H. Yang, and Alexander Kran. Low cost silicon for solar energy conversion applications. *IBM Journal of Research and Development*, 22 (4):335–345, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shine:1971:AEE

[SD71] M. C. Shine and F. M. D'Heurle. Activation energy for electromigration in aluminium films alloyed with copper. *IBM Journal of Research and Development*, 15(5):378–383, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shih:1985:EPR

[SD85] Kwang Kuo Shih and Derek B. Dove. Electrical properties of resistive ribbon. *IBM Journal of Research and Development*, 29(5):519–526, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Succi:1989:LHI

[SdS89] Sauro Succi, Dominique d'Humieres, and Ferenc Szelenyi. Lattice-gas hydrodynamics on the IBM 3090 vector facility. *IBM Journal of Research and Development*, 33(2):136–148, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Starke:2018:IPM

[SDS+18] W. J. Starke, J. S. Dodson, J. Stuecheli, E. Retter, B. W. Michael, S. J. Powell, and J. A. Marcella. IBM POWER9 memory architectures for optimized systems. *IBM Journal of Research and Development*, 62(4–5):3:1–3:13, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8383687/`.

Seader:1957:SCS

[Sea57] L. D. Seader. A self-clocking system for information transfer. *IBM Journal of Research and Development*, 1(2): 181–184, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392738`.

Seader:1958:MRH

[Sea58] L. D. Seader. Magnetic-recording-head selection switch. *IBM Journal of Research and Development*, 2(1):36–42, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392656`.

Sechler:1995:IDV

[Sec95] R. F. Sechler. Interconnect design with VLSI CMOS. *IBM Journal of Research and Development*, 39(1/2):23–31, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#three`.

Sedore:1967:SPA

[Sed67] S. R. Sedore. SCEPTRE: a program for automatic network analysis. *IBM Journal of Research and Development*, 11(6): 627–637, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391908`.

Seeger:1993:RMP

[See93] David Seeger. Resist materials and processes for X-ray lithography. *IBM Journal of Research and Development*, 37 (3):435–448, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Segmuller:1962:DLS

[Seg62] A. Segmuller. Determination of lattice strain and crystallite size in thin films [letter to the editor]. *IBM Journal of Research and Development*, 6 (4):464–466, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392322`.

Segmuller:1968:XDT

[Seg68] A. Segmuller. X-ray diffraction topography of germanium wafers. *IBM Journal of Research and Development*, 12(6): 448–457, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seki:1993:SIS

[Sek93] H. Seki. In situ infrared spectroscopy of the electrode-electrolyte interface. *IBM Journal of Research and Development*, 37(2):227–241, March 1993. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Selby:2007:MEO

[Sel07] D. A. Selby. Marketing event optimization. *IBM Journal of Research and Development*, 51 (3/4):409–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/selby.html`.

Seraphim:1982:NSP

[Ser82] Donald P. Seraphim. New set of printed-circuit technologies for the IBM 3081 processor unit. *IBM Journal of Research and Development*, 26(1):37–44, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seraphim:1981:EPE

[SF81] D. P. Seraphim and I. Feinberg. Electronic packaging evolution in IBM. *IBM Journal of Research and Development*, 25(5):617–630 (or 617–629??), September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schrott:1993:AXS

[SF93] A. G. Schrott and G. S. Frankel. Application of X-ray spectroscopy to the study of electrochemically formed surface oxide films. *IBM Journal of Research and Development*, 37 (2):191–206, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shaw:1977:TAP

[SFD77] Jane M. Shaw, Margaret A. Frisch, and Frederick H. Dill. Thermal analysis of positive photoresist films by mass spectrometry. *IBM Journal of Research and Development*, 21 (3):219–226, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shang:2006:GCM

[SFG+06] H. Shang, M. M. Frank, E. P. Gusev, J. O. Chu, S. W. Bedell, K. W. Guarini, and M. Ieong. Germanium channel MOSFETs: Opportunities and challenges. *IBM Journal of Research and Development*, 50 (4/5):377–386, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/shang.html`.

Schreiner:1965:ADC

[SFH65] K. E. Schreiner, H. L. Funk, and E. Hopner. Automatic distortion correction for efficient pulse transmission. *IBM Journal of Research and Development*, 9(1):20–??, January 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Singhee:2016:PNG

[SFH+16] A. Singhee, U. Finkler, S. Hirsch, M. A. Lavin, F. Heng, A. P.

Kumar, J. M. Qu, and E. Pelletier. A platform for the next generation of smarter energy applications. *IBM Journal of Research and Development*, 60 (1):1:1–1:15, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sibuya:1978:NMN

[SFT78] M. Sibuya, T. Fujisaki, and Y. Takao. Noun-phrase model and natural query language. *IBM Journal of Research and Development*, 22(5):533–540, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Swalen:1964:CAE

[SG64] J. D. Swalen and H. M. Gladney. Computer analysis of electron paramagnetic resonance spectra. *IBM Journal of Research and Development*, 8(5): 515–??, November 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schechtman:1971:ADA

[SG71] B. H. Schechtman and P. M. Grant. Automation of data acquisition in transient photoconductive decay experiments. *IBM Journal of Research and Development*, 15(4):296–306, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Street:1977:PPS

[SG77] G. Bryan Street and Richard L. Greene. Preparation and properties of $(SN)_x$. *IBM Journal of Research and Development*, 21 (2):99–110, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shippy:1994:PFD

[SG94a] D. J. Shippy and T. W. Griffith. POWER2 fixed-point, data cache, and storage control units. *IBM Journal of Research and Development*, 38(5): 503–524, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#three`.

Stiles:1994:HPR

[SG94b] P. N. Stiles and I. S. Glickstein. Highly parallelizable route planner based on cellular automata algorithms. *IBM Journal of Research and Development*, 38(2):167–181, February 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-2.html#five`.

Sechler:1995:DAS

[SG95] R. F. Sechler and G. F. Grohoski. Design at the system level with VLSI CMOS. *IBM Journal of Research and Development*, 39(1/2):5–22, January/March 1995. CODEN IBMJAE. ISSN 0018-

8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd39-1.html#two.

Spainhower:1999:IPE

[SG99] L. Spainhower and T. A. Gregg. IBM S/390 Parallel Enterprise Server G5 fault tolerance: a historical perspective. *IBM Journal of Research and Development*, 43(5/6): 863–873, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/435/spainhower.html.

Stork:1987:EMI

[SGC+87] J. M. C. Stork, E. Ganin, J. D. Cressler, G. L. Patton, and G. A. Sai-Halasz. Electrical and microstructural investigation of polysilicon emitter contacts for high-performance bipolar VLSI. *IBM Journal of Research and Development*, 31(6):617–626, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shen:2010:PTE

[SGESR10] X. Shen, M. Gupta, H. El-Shishiny, and J. J. Ritsko. Preface: Technology from emerging-market countries. *IBM Journal of Research and Development*, 54(6):0:1–0:2, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Siegel:2004:LPM

[SGK04] I. G. Siegel, B. A. Glendening, and J. P. Kubala. Logical partition mode physical resource management on the IBM eServer z990. *IBM Journal of Research and Development*, 48(3/4):535–541, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/483/siegel.html; http://www.research.ibm.com/journal/rd/483/siegel.pdf.

Shaw:1997:NPO

[SGL+97] J. M. Shaw, J. D. Gelorme, N. C. LaBianca, W. E. Conley, and S. J. Holmes. Negative photoresists for optical lithography. *IBM Journal of Research and Development*, 41 (1/2):81–94, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/411/shaw.html.

Sayah:1996:DPH

[SGS+96] J. Y. Sayah, R. Gupta, D. D. Sherlekar, P. S. Honsinger, J. M. Apte, S. W. Bollinger, H. H. Chen, S. DasGupta, E. P. Hsieh, A. D. Huber, E. J. Hughes, Z. M. Kurzum, V. B. Rao, T. Tabtieng, V. Valijan, and D. Y. Yang. Design planning for high performance ASICs. *IBM Journal of Research and Development*, 40

(4):431–452, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#five`.

Srinivasan:2009:TIW

[SGS+09] K. Srinivasan, S. Goyal, T. Siegmund, G. Subbarayan, and Q. Lin. Thermally induced wrinkling in thin-film stacks on patterned substrates. *IBM Journal of Research and Development*, 53 (3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/srinivasan.html`.

Stunkel:2020:HSN

[SGS+20] C. B. Stunkel, R. L. Graham, G. Shainer, M. Kagan, S. S. Sharkawi, B. Rosenburg, and G. A. Chochia. The high-speed networks of the Summit and Sierra supercomputers. *IBM Journal of Research and Development*, 64(3/4):3:1–3:10, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Simonyi:1978:OEF

[SGT78] Eva E. Simonyi, Josef F. Graczyk, and Jerry B. Torrance. Oriented epitaxial films of (NMP) (TCNQ). *IBM Journal of Research and Development*, 22(3):315–320, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sanford:1998:OMR

[SGY+98] J. L. Sanford, P. F. Greier, K. H. Yang, M. Lu, R. S. Olyha, Jr., C. Narayan, J. A. Hoffnagle, P. M. Alt, and R. L. Melcher. A one-megapixel reflective spatial light modulator system for holographic storage. *IBM Journal of Research and Development*, 42 (3/4):411–426, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/greier.html`.

Sarley:1957:RIC

[SH57a] J. M. Sarley and R. J. Hendry. Radio-interference control as applied to business machines. *IBM Journal of Research and Development*, 1(4): 363–372, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392703`.

Schatzhoff:1957:MMD

[SH57b] M. Schatzhoff and W. B. Harding. A mathematical model for determining the probabilities of undetected errors in magnetic tape systems. *IBM Journal of Research and Development*, 1 (2):177–??, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schatzoff:1957:MMD

[SH57c] M. Schatzoff and W. B. Harding. A mathematical model for determining the probabilities of undetected errors in magnetic tape systems. *IBM Journal of Research and Development*, 1 (2):177–180, ???? 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392737`.

Shah:1963:IEO

[SH63] M. J. Shah and C. M. Hart. Investigations of the electro-optical birefringence of polydisperse bentonite suspensions. *IBM Journal of Research and Development*, 7(1): 44–57, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392336`.

Streetman:1969:COD

[SH69] B. G. Streetman and N. Holonyak, Jr. Current oscillations in deep-level doped semiconductors. *IBM Journal of Research and Development*, 13(5):529–532, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Strom:1984:NPM

[SH84] Robert Strom and Nagui Halim. New programming methodology for long-lived software systems. *IBM Journal of Research and Development*, 28 (1):52–59, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Scoggin:1987:F

[SH87] Donald M. Scoggin and James E. Hall, Jr. Ferroresonance. *IBM Journal of Research and Development*, 31(6):665–678, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shafer:1958:PEF

[Sha58a] M. W. Shafer. Phase equilibria in the ferrite region of the system manganese-iron-oxygen. *IBM Journal of Research and Development*, 2(3): 193–199, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392621`.

Shannon:1958:CSI

[Sha58b] C. E. Shannon. Channels with side information at the transmitter. *IBM Journal of Research and Development*, 2(4): 289–293, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392641`.

Shahidi:2002:STG

[Sha02] G. G. Shahidi. SOI technology for the GHz era. *IBM*

Journal of Research and Development, 46(2/3):121–132, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/shahidi.html`; `http://www.research.ibm.com/journal/rd/462/shahidi.pdf`.

Shabo:2012:MUP

[Sha12] A. Shabo. Meaningful use of patient-centric health records for healthcare transformation. *IBM Journal of Research and Development*, 56 (5):1:1–1:7, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261583`.

Shieh:1972:AQD

[SHC+72] L. J. Shieh, P. K. Halpern, B. A. Clemens, H. H. Wang, and F. F. Abraham. Air quality diffusion model: application to New York City. *IBM Journal of Research and Development*, 16 (2):162–170, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sun:2005:TPM

[SHCS05] L. Sun, Y. Hao, C.-L. Chien, and P. C. Searson. Tuning the properties of magnetic nanowires. *IBM Journal of Research and Development*, 49 (1):79–102, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/sun.pdf`.

Sattigeri:2019:FGG

[SHCV19] P. Sattigeri, S. C. Hoffman, V. Chenthamarakshan, and K. R. Varshney. Fairness GAN: Generating datasets with fairness properties using a generative adversarial network. *IBM Journal of Research and Development*, 63(4–5):3:1–3:9, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sunaga:1995:DGA

[SHDK95] T. Sunaga, K. Hosokawa, S. H. Dhong, and K. Kitamura. A 64Kb × 32 DRAM for graphics applications. *IBM Journal of Research and Development*, 39(1/2):43–50, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#five`.

Shepherdson:1959:RTW

[She59a] J. C. Shepherdson. The reduction of two-way automata to one-way automata. *IBM Journal of Research and Development*, 3(2):198–200, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392614`.

Shevel:1959:ORS

[She59b] W. Lee Shevel. Observations of rotational switching in ferrites. *IBM Journal of Research and Development*, 3(1): 93–95, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392595`.

Shir:1972:NIA

[Shi72] C.-C. Shir. Numerical investigation of the atmospheric dispersion of stack effluents. *IBM Journal of Research and Development*, 16(2):171–178, March 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shimizu:1973:NCS

[Shi73] F. Shimizu. Numerical calculation of self-focusing and trapping of a short light pulse in Kerr liquids. *IBM Journal of Research and Development*, 17 (4):286–298, July 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shichman:1985:PIP

[Shi85] G. Shichman. Personal Instrument (PI) — a PC-based signal processing system. *IBM Journal of Research and Development*, 29(2):158–169, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shimizu:2007:CBE

[SHL07] K. Shimizu, H. P. Hofstee, and J. S. Liberty. Cell Broadband Engine processor vault security architecture. *IBM Journal of Research and Development*, 51(5):521–??, September 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/515/shimizu.html`.

Solt:2020:SFT

[SHL+20] D. Solt, J. Hursey, A. Lauria, D. Guo, and X. Guo. Scalable, fault-tolerant job step management for high-performance systems. *IBM Journal of Research and Development*, 64(3/4):8:1–8:9, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sylvia:2012:TIT

[SHM+12] M. J. Sylvia, R. C. Hughes, J. E. Moore, J. W. Murray, B. L. Peterson, and S. R. Uniack. Transforming the information technology infrastructure of IBM. *IBM Journal of Research and Development*, 56 (6):4:1–4:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353955`.

Shor:2004:ACC

[Sho04] P. W. Shor. The adaptive classical capacity of a quantum channel, or information capacities of

three symmetric pure states in three dimensions. *IBM Journal of Research and Development*, 48(1):115–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/shor.pdf`.

Schlipf:2009:DVI

[SHR+09] T. Schlipf, M. M. Helms, J. Ruf, M. Klein, R. Dorsch, B. Hoppe, W. Lipponer, S. Boekholt, T. Röwer, M. Walz, and S. Junghans. Design and verification of the IBM System z10 I/O subsystem chips. *IBM Journal of Research and Development*, 53(1):7:1–7:11, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/schlipf.pdf`.

Speriosu:1990:MTF

[SHSY90] V. S. Speriosu, D. A. Herman, Jr., I. L. Sanders, and T. Yogi. Magnetic thin films in recording technology. *IBM Journal of Research and Development*, 34(6): 884–902, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Speriosu:2000:MTF

[SHSY00] V. S. Speriosu, D. A. Herman, Jr., I. L. Sanders, and T. Yogi. Magnetic thin films in recording technology. *IBM Journal of Research and Development*, 44 (1/2):186–204, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/speriosu.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Sun:2011:HUS

[SHTP11] J. Sun, J. B. Hannon, R. M. Tromp, and K. Pohl. Highly uniform step and terrace structures on SiC(0001) surfaces. *IBM Journal of Research and Development*, 55(4):7:1–7:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shub:1994:IFT

[Shu94] M. Shub. The implicit function theorem revisited. *IBM Journal of Research and Development*, 38(3):259–264, March 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#four`.

Salapura:2013:RCC

[SHV13] V. Salapura, R. Harper, and M. Viswanathan. Resilient cloud computing. *IBM Journal of Research and Development*, 57(5):10:1–10:12, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sai-Halasz:1990:ETP

[SHWK+90] G. A. Sai-Halasz, M. R. Wordeman, D. P. Kern, S. A. Rishton, E. Ganin, T. H. P. Chang, and R. H. Dennard. Experimental technology and performance of 0.1-μm-gate-length FETs operated at liquid-nitrogen temperature. *IBM Journal of Research and Development*, 34(4):452–465, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schmidt:2009:TIT

[SI09] R. Schmidt and M. Iyengar. Thermodynamics of information technology data centers. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/533/schmidt.html`.

Sierra:1963:IMR

[Sie63] H. M. Sierra. Increased magnetic recording read-back resolution by means of a linear passive network. *IBM Journal of Research and Development*, 7(1):22–33, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392333`.

Siemons:1970:HMM

[Sie70] W. J. Siemons. Hall mobility measurements on magnetite above and below the electronic ordering temperature. *IBM Journal of Research and Development*, 14(3):245–247, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Suneja:2016:TAC

[SIKdL16] S. Suneja, C. Isci, R. Koller, and E. de Lara. Touchless and always-on cloud analytics as a service. *IBM Journal of Research and Development*, 60(2–3):11:1–11:10, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Simbeck:2019:HAE

[Sim19] K. Simbeck. HR analytics and ethics. *IBM Journal of Research and Development*, 63(4–5):9:1–9:12, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sitton:1971:DTI

[Sit71] G. A. Sitton. Direct technique for improving a matrix inverse. *IBM Journal of Research and Development*, 15(??):413–417, 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sitaram:1987:IIM

[Sit87] Dinkar Sitaram. The inconsistency index method for estimating the accuracy of Schweitzer's approximation. *IBM Journal of Research and Development*, 31

(4):475–483, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schwartz:1970:ACS

[SJ70] G. C. Schwartz and R. E. Jones. Argon content of SiO_2 films deposited by RF sputtering in argon. *IBM Journal of Research and Development*, 14(1):52–60, January 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Srinivasan:1989:GTI

[SJ89] Vijay Srinivasan and Rangarajan Jayaraman. Geometric tolerancing. II. Conditional tolerances. *IBM Journal of Research and Development*, 33(2): 105–124, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schmackpfeffer:1970:HPG

[SJK70] A. Schmackpfeffer, W. Järisch, and W. W. Kulcke. High-efficiency phase-hologram gratings. *IBM Journal of Research and Development*, 14(5): 533–538, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sri-Jayantha:2008:TME

[SJMBK08] Sri M. Sri-Jayantha, Gerard McVicker, Kerry Bernstein, and John U. Knickerbocker. Thermomechanical modeling of 3D electronic packages. *IBM Journal of Research and Development*, 52(6):623–634, ???? 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/526/sri-jayantha.html`.

Schales:2016:SAD

[SJW+16] D. L. Schales, J. Jang, T. Wang, X. Hu, D. Kirat, B. Wuest, and M. Ph. Stoecklin. Scalable analytics to detect DNS misuse for establishing stealthy communication channels. *IBM Journal of Research and Development*, 60(4):3:1–3:14, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523348/`.

Su:2015:LFB

[SJZ+15] F. Su, W. Jiang, J. Zhang, H. Wang, and M. Zhang. A local features-based approach to all-sky image prediction. *IBM Journal of Research and Development*, 59(2–3):6:1–6:10, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sawatzky:1969:CDR

[SK69] E. Sawatzky and E. Kay. Cation deficiencies in RF sputtered gadolinium iron garnet films. *IBM Journal of Research and Development*, 13(6):696–702, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Scarborough:1980:IOF

[SK80] Randolph G. Scarborough and Harwood G. Kolsky. Improved optimization of FORTRAN object programs. *IBM Journal of Research and Development*, 24(6):660–676, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Scarborough:1986:VFC

[SK86] Randolph G. Scarborough and Harwood G. Kolsky. A vectorizing Fortran compiler. *IBM Journal of Research and Development*, 30(2):163–171, March 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Slattery:1998:DCA

[SK98] M. J. Slattery and F. A. Kampf. Design considerations for the ALDC cores. *IBM Journal of Research and Development*, 42 (6):747–752, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/slattery.html`.

Schwarz:1999:GFP

[SK99] E. M. Schwarz and C. A. Krygowski. The S/390 G5 floating-point unit. *IBM Journal of Research and Development*, 43(5/6):707–721, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/schwarz.html`.

Stok:1996:BLS

[SKB+96] L. Stok, D. S. Kung, D. Brand, A. D. Drumm, A. J. Sullivan, L. N. Reddy, N. Hieter, D. J. Geiger, H. H. Chao, and P. J. Osler. BooleDozer: Logic synthesis for ASICs. *IBM Journal of Research and Development*, 40(4):407–430, July 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-4.html#four`.

Schramm:2011:LEE

[SKB+11] S. M. Schramm, J. Kautz, A. Berghaus, O. Schaff, R. M. Tromp, and S. J. van der Molen. Low-energy electron microscopy and spectroscopy with ESCHER: Status and prospects. *IBM Journal of Research and Development*, 55 (4):1:1–1:7, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schwarz:2009:DFP

[SKC09] E. M. Schwarz, J. S. Kapernick, and M. F. Cowlishaw. Decimal floating-point support on the IBM System z10 processor. *IBM Journal of Research and Development*, 53(1):4:1–4:10, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/531/schwarz.pdf.

Spangler:2010:SPS

[SKC+10] W. S. Spangler, J. T. Kreulen, Y. Chen, L. Proctor, A. Alba, A. Lelescu, and A. Behal. A smarter process for sensing the information space. *IBM Journal of Research and Development*, 54(4):1–13, July/August 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Surman:2018:IZP

[SKE+18] D. H. Surman, G. L. Kurdt, R. K. Errickson, P. D. Driever, A. M. Clayton, S. N. Goss, and P. K. Szwed. IBM z14 Parallel Sysplex and coupling technology. *IBM Journal of Research and Development*, 62(2–3):15:1–15:8, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL https://ieeexplore.ieee.org/document/8281498/.

Sun:1998:MDM

[SKEG+98] J. Z. Sun, L. Krusin-Elbaum, A. Gupta, Gang Xiao, P. R. Duncombe, and S. S. P. Parkin. Magnetotransport in doped manganate perovskites. *IBM Journal of Research and Development*, 42(1):89–102, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/421/sun.html.

Sanda:2008:SER

[SKK+08] P. N. Sanda, J. W. Kellington, P. Kudva, R. Kalla, R. B. McBeth, J. Ackaret, R. Lockwood, J. Schumann, and C. R. Jones. Soft-error resilience of the IBM POWER6 processor. *IBM Journal of Research and Development*, 52(3):275–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/523/sanda.html.

Schlenker:2014:OWS

[SKK14] H. Schlenker, R. Kluge, and J. Koehl. Optimization of the worldwide supply chain at Continental Tires: A case study. *IBM Journal of Research and Development*, 58 (5/6):11:1–11:11, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sklaroff:1976:RMT

[Skl76] Joel R. Sklaroff. Redundancy management technique for space shuttle computers. *IBM Journal of Research and Development*, 20(1):20–28, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Somasundaram:2020:PPP

[SKLC20] M. Somasundaram, J. P. Kubala, S. E. Lederer, and J. Chan. Partition placement

by PR/SM. *IBM Journal of Research and Development*, 64 (5/6):11:1–11:7, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Skov:1958:PTD

[Sko58] R. A. Skov. Pulse time displacement in high-density magnetic tape. *IBM Journal of Research and Development*, 2 (2):130–141, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392669`.

Schwarz:2015:SAB

[SKP+15] E. M. Schwarz, R. B. Krishnamurthy, C. J. Parris, J. D. Bradbury, I. M. Nnebe, and M. Gschwind. The SIMD accelerator for business analytics on the IBM z13. *IBM Journal of Research and Development*, 59(4–5):2:1–2:16, July/ September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sinharoy:2011:IPM

[SKS+11] B. Sinharoy, R. Kalla, W. J. Starke, H. Q. Le, R. Cargnoni, J. A. Van Norstrand, B. J. Ronchetti, J. Stuecheli, J. Leenstra, G. L. Guthrie, D. Q. Nguyen, B. Blaner, C. F. Marino, E. Retter, and P. Williams. IBM POWER7 multicore server processor. *IBM Journal of Research and Development*, 55(3): 1:1–1:29, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sofia:2020:IZP

[SKS+20] A. T. Sofia, M. Klein, B. D. Stilwell, S. Weishaupt, Q. Y. Chen, and R. W. S. John. Integration of z15 processor-based DEFLATE acceleration into IBM z/OS. *IBM Journal of Research and Development*, 64(5/6):10:1–10:8, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shetty:2006:HHT

[SKSP06] R. Shetty, M. Kharbutli, Y. Solihin, and M. Prvulovic. HeapMon: a helper-thread approach to programmable, automatic, and low-overhead memory bug detection. *IBM Journal of Research and Development*, 50(2/3):261–275, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/shetty.html`.

Sinharoy:2005:PSM

[SKT+05] B. Sinharoy, R. N. Kalla, J. M. Tendler, R. J. Eickemeyer, and J. B. Joyner. POWER5 system microarchitecture. *IBM Journal of Research and Development*, 49(4/5):505–521, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/sinharoy.html`.

Sorokin:1966:SEO

[SL66] P. P. Sorokin and J. R. Lankard. Stimulated emission observed from an organic dye, chloro-aluminum phthalocyanine. *IBM Journal of Research and Development*, 10(2): 162–163, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392065`.

Sorokin:1967:FEO

[SL67] P. P. Sorokin and J. R. Lankard. Flashlamp excitation of organic dye lasers: a short communication. *IBM Journal of Research and Development*, 11 (2):148, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391974`.

Schweitzer:1976:BOS

[SL76] Paul J. Schweitzer and Simon S. Lam. Buffer overflow in a store-and-forward network node. *IBM Journal of Research and Development*, 20(6): 542–550, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schubert:2015:SIP

[SLA+15] K. Schubert, J. M. Ludden, S. Ayub, J. Behrend, B. Brock, F. Copty, S. M. German, O. Hershkovitz, H. Horbach, J. R. Jackson, K. Keuerleber, J. Koesters, L. S. Leitner, G. B. Meil, C. Meissner, R. Morad, A. Nahir, V. Paruthi, R. D. Peterson, R. R. Pratt, M. Rimon, and J. A. Schumann. Solutions to IBM POWER8 verification challenges. *IBM Journal of Research and Development*, 59(1): 11:1–11:17, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sandon:1997:NBD

[SLC+97] P. A. Sandon, Y.-C. Liao, T. E. Cook, D. M. Schultz, and P. Martin de Nicolas. NStrace: a bus-driven instruction trace tool for PowerPC microprocessors. *IBM Journal of Research and Development*, 41(3): 331–344, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/413/sandon.html`.

Seshadri:2009:RSR

[SLC09] S. Seshadri, L. Liu, and L. Chiu. Recovery scopes, recovery groups, and fine-grained recovery in enterprise storage controllers with multi-core processors. *IBM Journal of Research and Development*, 53 (2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/seshadri.html`.

Schild:1978:CDA

[SLG78] W. Schild, B. Lunenfeld, and B. Gavish. Computer-aided diagnosis with an application to endocrinology. *IBM Journal of Research and Development*, 22(5):518–532, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sorokin:1967:LPS

[SLHM67] P. P. Sorokin, J. R. Lankard, E. C. Hammond, and V. L. Moruzzi. Laser-pumped stimulated emission from organic dyes: Experimental studies and analytical comparisons. *IBM Journal of Research and Development*, 11(2): 130–148, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391973`.

Sofia:2015:IHP

[SLJ+15] A. T. Sofia, C. C. Lewis, C. Jacobi, D. A. Jamsek, D. F. Riedy, J. Vogt, P. Sutton, and R. W. St. John. Integrated high-performance data compression in the IBM z13. *IBM Journal of Research and Development*, 59(4–5):7:1–7:10, July/ September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seeger:1997:TFI

[SLK+97] D. E. Seeger, D. C. La Tulipe, Jr., R. R. Kunz, C. M. Garza, and M. A. Hanratty. Thin-film imaging: Past, present, prognosis. *IBM Journal of Research and Development*, 41 (1/2):105–118, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/seeger.html`.

Singhee:2016:OPE

[SLK+16] A. Singhee, Z. Li, A. Koc, H. Wang, J. P. Cipriani, Y. Kim, A. P. Kumar, L. A. Treinish, R. Mueller, G. Labut, R. A. Foltman, and G. M. Gauthier. OPRO: Precise emergency preparedness for electric utilities. *IBM Journal of Research and Development*, 60 (1):6:1–6:15, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sorokin:1964:RLS

[SLLP64] P. P. Sorokin, J. J. Luzzi, J. R. Lankard, and G. D. Pettit. Ruby laser Q-switching elements using phthalocyanine molecules in solution. *IBM Journal of Research and Development*, 8(2):182–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802L.pdf`.

Slonczewski:1966:TDW

[Slo66] J. C. Slonczewski. Theory of domain-wall structure

in multiple magnetic films. *IBM Journal of Research and Development*, 10(5):377–387, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392046`.

Surman:2020:SRB

[SLP+20] D. H. Surman, S. Lederer, D. B. Petersen, M. Gubitz, and P. J. Relson. System recovery boost on IBM z15. *IBM Journal of Research and Development*, 64(5/6):6:1–6:10, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Silvestri:1972:GER

[SLYR72] V. J. Silvestri, T. B. Light, H. N. Yu, and A. Reisman. Ge epitaxial refill deposition techniques for fabricating pedestal transistor structures. *IBM Journal of Research and Development*, 16(1):71–5, January 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shim:2018:SAD

[SLZL18] J. Shim, H. Luo, P. Zhang, and Y. Li. Systematic analysis of drug combinations that mitigate adverse drug reactions. *IBM Journal of Research and Development*, 62(6):7:1–7:9, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seraphim:1962:FSO

[SM62] D. P. Seraphim and P. M. Marcus. First- and second-order stress effects on the superconducting transitions of tantalum and tin. *IBM Journal of Research and Development*, 6 (1):94–111, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392422`.

Stuiver:1963:ANC

[SM63] W. Stuiver and R. S. McDuffie. Analysis and numerical calculations of the dynamic behavior of plane pivoted slider bearings. *IBM Journal of Research and Development*, 7(4): 303–316, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392257`.

Speliotis:1966:TAS

[SM66] D. E. Speliotis and J. R. Morrison. A theoretical analysis of saturation magnetic recording. *IBM Journal of Research and Development*, 10(3):233–243, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392076`.

Smart:1971:RMS

[SM71] J. S. Smart and V. L. Moruzzi. Random-walk model of stream network development. *IBM Journal of Research and Development*, 15(3):197–203, May 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Santisteban:1978:PCM

[SM78] A. Santisteban and L. Munoz. Principal components of a multispectral image: Application to a geological problem. *IBM Journal of Research and Development*, 22(5):444–454, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Slattery:1998:QC

[SM98] M. J. Slattery and J. L. Mitchell. The Qx-coder. *IBM Journal of Research and Development*, 42(6):767–784, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/426/mitchell.html`.

Salapura:2016:EEL

[SM16] V. Salapura and R. Mahindru. Enabling enterprise-level workloads in the enterprise-class cloud. *IBM Journal of Research and Development*, 60(2–3):3:1–3:8, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Seshadri:2014:SDJ

[SMC+14] S. Seshadri, P. H. Muench, L. Chiu, I. Koltsidas, N. Ioannou, R. Haas, Y. Liu, M. Mei, and S. Blinick. Software defined just-in-time caching in an enterprise storage system. *IBM Journal of Research and Development*, 58(2–3):7:1–7:13, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1980:YMP

[SMD80] C. H. Stapper, Andrew N. McLaren, and Martin Dreckmann. Yield model for productivity optimization of VLSI memory chips with redundancy and partially good product. *IBM Journal of Research and Development*, 24(3):398–409, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1957:MAM

[Smi57] W. V. Smith. Microwave amplification by MASER techniques. *IBM Journal of Research and Development*, 1(3): 232–238, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392684`.

Smith:1960:MCS

[Smi60] R. S. Smith. Measurement of crystallite size and strain of electroplated films [letter to the

editor]. *IBM Journal of Research and Development*, 4(2): 205–207, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392553`.

Smith:1977:SRP

[Smi77] Thor L. Smith. Strength and related properties of elastomeric block copolymers. *IBM Journal of Research and Development*, 21(2):154–167, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Song:1999:GCM

[SMK+99] P. Song, F. Motika, D. R. Knebel, R. F. Rizzolo, and M. P. Kusko. S/390 G5 CMOS microprocessor diagnostics. *IBM Journal of Research and Development*, 43(5/6): 899–914, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/song.html`.

Smolin:2004:EDE

[Smo04] J. A. Smolin. The early days of experimental quantum cryptography. *IBM Journal of Research and Development*, 48 (1):47–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/smolin.pdf`.

Schubert:2004:ASI

[SMP+04] K.-D. Schubert, E. C. McCain, H. Pape, K. Rebmann, P. M. West, and R. Winkelmann. Accelerating system integration by enhancing hardware, firmware, and co-simulation. *IBM Journal of Research and Development*, 48(3/4):569–581, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/schubert.html; http://www.research.ibm.com/journal/rd/483/schubert.pdf`.

Sauer:1980:LEQ

[SMS80] Charles H. Sauer, Edward A. MacNair, and Silvio Salza. A language for extended queueing network models. *IBM Journal of Research and Development*, 24(6):747–755, November 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sun:2014:DPC

[SMSC14] W. Sun, P. Murali, A. Sheopuri, and Y. Chee. Designing promotions: Consumers' surprise and perception of discounts. *IBM Journal of Research and Development*, 58(5/6):2:1–2:10, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smura:1957:BWC

[Smu57] E. J. Smura. A binary-weighted current decoder. *IBM Journal of Research and Development*, 1 (4):356–362, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392702`.

Shareef:1990:TBX

[SMVK90] I. A. Shareef, J. R. Maldonado, Y. Vladimirsky, and D. L. Katcoff. Thermoelastic behavior of X-ray lithography masks during irradiation. *IBM Journal of Research and Development*, 34(5): 718–735, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sun:2014:IFB

[SMX+14] N. Sun, J. G. Morris, J. Xu, X. Zhu, and M. Xie. iCARE: A framework for big data-based banking customer analytics. *IBM Journal of Research and Development*, 58(5/6):4:1–4:9, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Srinivasan:1987:VDM

[SN87] Vijay Srinivasan and Lee R. Nackman. Voronoi diagram for multiply-connected polygonal domains. I: Algorithm. *IBM Journal of Research and Development*, 31(3):361–372, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stohr:1998:MPT

[SN98] J. Stohr and R. Nakajima. Magnetic properties of transition-metal multilayers studied with X-ray magnetic circular dichroism spectroscopy. *IBM Journal of Research and Development*, 42(1):73–89, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/stohr.html`.

Schmidt:2002:HES

[SN02] R. R. Schmidt and B. D. Notohardjono. High-end server low-temperature cooling. *IBM Journal of Research and Development*, 46(6):739–751, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/466/schmidt.pdf`.

Sundararajan:2015:DEI

[SN15] S. C. Sundararajan and S. V. Nitta. Designing engaging intelligent tutoring systems in an age of cognitive computing. *IBM Journal of Research and Development*, 59(6):10:1–10:9, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Silverio:2002:HID

[SNA02] J. F. Silverio, Y. M. Ng, and D. F. Anderson. Hierarchical indexing data structure method for verifying the functionality

of the STI-to-PCI bridge chips of the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):617–629, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/silverio.html`; `http://www.research.ibm.com/journal/rd/464/silverio.pdf`.

Smith:2009:P

[SNB+09] T. Basil Smith, M. Naghshineh, N. Bowen, P. Gupta, and K. Schultzs. Preface. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/preface.html`.

Smith:1969:NCE

[SNM69] J. E. Smith, Jr., M. I. Nathan, and J. C. McGroddy. Negative conductivity effects and related phenomena in germanium. II. *IBM Journal of Research and Development*, 13(5): 554–561, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schoeberl:2006:MBD

[SNP06] B. Schoeberl, U. B. Nielsen, and R. Paxson. Model-based design approaches in drug discovery: a parallel to traditional engineering approaches. *IBM Journal of Research and Development*, 50(6):645–651, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/schoeberl.html`.

Smith:1959:MRG

[SOC59] W. V. Smith, J. Overmeyer, and B. A. Calhoun. Microwave resonance in gadolinium-iron garnet crystals. *IBM Journal of Research and Development*, 3(2):153–162, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392606`.

Soffer:2013:PMS

[Sof13] A. Soffer. Preface: Massive-scale analytics. *IBM Journal of Research and Development*, 57 (3/4):??, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sohoni:1976:ROA

[Soh76] Vinay Shridhar Sohoni. Real-time orbiter abort guidance. *IBM Journal of Research and Development*, 20(1):84–88, January 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Solomon:2002:P

[Sol02] Paul M. Solomon. Preface. *IBM Journal of Research and Development*, 46(2/3):119–120, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.research.ibm.com/journal/rd/462/preface.html`.

Shimizu:1991:DCT

[SON+91] S. Shimizu, N. Oba, T. Nakada, M. Ohara, and A. Moriwaki. Design choices for the TOP-1 multiprocessor workstation. *IBM Journal of Research and Development*, 35(5/6):591–602, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sopka:1959:AAI

[Sop59] J. J. Sopka. An analysis of adequate inventory levels. *IBM Journal of Research and Development*, 3(1): 54–57, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392591`.

Sorokin:1979:CIL

[Sor79] P. P. Sorokin. Contributions of IBM to laser science-1960 to the present. *IBM Journal of Research and Development*, 23(5): 476–489, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sorokin:2000:CIL

[Sor00] P. P. Sorokin. Contributions of IBM to laser science — 1960 to the present. *IBM Journal of Research and Development*, 44 (1/2):294–308, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/sorokin.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Soule:1964:CFS

[Sou64] D. E. Soule. Change in Fermi surfaces of graphite by dilute acceptor doping. *IBM Journal of Research and Development*, 8(3):268–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Soult:1996:AVA

[Sou96] S. S. Soult. Architectural verification of advanced storage controllers. *IBM Journal of Research and Development*, 40(6): 623–630, November 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-6.html#four`.

Sowa:1976:CGD

[Sow76] John F. Sowa. Conceptual graphs for a data base interface. *IBM Journal of Research and Development*, 20(4):336–357, July 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sowa:1984:ILI

[Sow84] John F. Sowa. Interactive language implementation system. *IBM Journal of Research and*

Development, 28(1):28–39, January 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Small:1990:OWV

[SP90] M. B. Small and D. J. Pearson. On-chip wiring for VLSI: Status and directions. *IBM Journal of Research and Development*, 34(6):858–867, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Szakal:2014:OIS

[SP14] A. R. Szakal and K. J. Pearsall. Open industry standards for mitigating risks to global supply chains. *IBM Journal of Research and Development*, 58 (1):11–113, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Saon:2017:RAC

[SP17] G. Saon and M. Picheny. Recent advances in conversational speech recognition using convolutional and recurrent neural networks. *IBM Journal of Research and Development*, 61 (4–5):1:1–1:10, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8030294/`.

Sherchan:2017:HTI

[SPB+17] W. Sherchan, S. Pervin, C. J. Butler, J. C. Lai, L. Ghahremanlou, and B. Han. Harnessing Twitter and Instagram for disaster management. *IBM Journal of Research and Development*, 61(6):8:1–8:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Spears:1969:BSS

[Spe69] D. L. Spears. Brillouin scattering study of acoustoelectric domain formation in *n*-GaAs. *IBM Journal of Research and Development*, 13(5): 499–502, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Spiller:1993:EHX

[Spi93] E. Spiller. Early history of X-ray lithography at IBM. *IBM Journal of Research and Development*, 37(3):291–297, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Slegel:2004:IEZ

[SPM04] T. J. Slegel, E. Pfeffer, and J. A. Magee. The IBM eServer z990 microprocessor. *IBM Journal of Research and Development*, 48(3/4):295–310, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/slegel.html`; `http://www.research.ibm.com/journal/rd/483/slegel.pdf`.

Spool:1994:SAS

[Spo94] A. M. Spool. Studies of adhesion by secondary ion mass spectrometry. *IBM Journal of Research and Development*, 38 (4):391–411, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#five`.

Schuessler:1972:DWS

[SPP72] P. W. H. Schuessler, H. G. Peters, and R. M. Poliak. Development of water-soluble systems for use in industrial soldering processes. *IBM Journal of Research and Development*, 16(6):592–597, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Speidell:1997:MLA

[SPP97] J. L. Speidell, D. P. Pulaski, and R. S. Patel. Masks for laser ablation technology: New requirements and challenges. *IBM Journal of Research and Development*, 41 (1/2):143–149, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/speidell.html`.

Suits:2005:OMD

[SPP+05] F. Suits, M. C. Pitman, J. W. Pitera, W. C. Swope, and R. S. Germain. Overview of molecular dynamics techniques and early scientific results from the Blue Gene project. *IBM Journal of Research and Development*, 49(2/3):475–487, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/suits.pdf`.

Sprokel:1961:URD

[Spr61] G. J. Sprokel. The use of radioisotopes to determine the chemistry of solder flux. *IBM Journal of Research and Development*, 5(3): 218–225, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392450`.

Sprokel:1963:LSC

[Spr63] G. J. Sprokel. A liquid scintillation counter using anticoincidence shielding. *IBM Journal of Research and Development*, 7(2):135–145, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392290`.

Sprokel:1971:FPM

[Spr71] G. J. Sprokel. Fabrication and properties of monolithic laser diode arrays. *IBM Journal of Research and Development*, 15 (4):265–271, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shin:1995:CDC

[SPR+95] H. J. Shin, D. J. Pearson, S. K. Reynolds, A. C. Megdanis, S. Gowda, and K. R. Wrenner. Custom design of CMOS low-power high-performance digital signal-processing macro for hard-disk-drive applications. *IBM Journal of Research and Development*, 39(1/2):83–91, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#nine`.

Sorokin:2006:PET

[SPS+06] A. Sorokin, K. Paliy, A. Selkov, O. V. Demin, S. Dronov, P. Ghazal, and I. Goryanin. The Pathway Editor: a tool for managing complex biological networks. *IBM Journal of Research and Development*, 50(6):561–573, November 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/506/sorokin.html`.

Schay:1963:MKA

[SR63] G. Schay, Jr. and N. Raver. A method for key-to-address transformation. *IBM Journal of Research and Development*, 7(2):121–126, April 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392287`.

Sandhu:1971:ASV

[SR71] J. S. Sandhu and J. L. Reuter. Arsenic source vapour pressure kinetics and capsule diffusion. *IBM Journal of Research and Development*, 15(6):464–471, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Srivastava:2019:RAS

[SR19] B. Srivastava and F. Rossi. Rating AI systems for bias to promote trustable applications. *IBM Journal of Research and Development*, 63(4–5):5:1–5:9, July 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Singh:1997:HNA

[SRCW97] R. N. Singh, A. E. Rosenbluth, G. L.-T. Chiu, and J. S. Wilczynski. High-numerical-aperture optical designs. *IBM Journal of Research and Development*, 41(1/2):39–48, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/411/singh.html`.

Saraf:1994:TSM

[SRD94] R. F. Saraf, J. M. Roldan, and T. Derderian. Tailoring the surface morphology of polyimide for improved adhesion. *IBM Journal of Research and Development*, 38(4):441–456, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556

(electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#eight`.

Stiffler:2018:PTI

[SRH+18] S. R. Stiffler, R. Ramachandran, W. K. Henson, N. D. Zamdmer, K. McStay, G. La Rosa, K. M. Boyd, S. Lee, C. Ortolland, and P. C. Parries. Process technology for IBM 14-nm processor designs featuring silicon-on-insulator FinFETs. *IBM Journal of Research and Development*, 62(2–3):11:1–11:7, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8276292/`.

Srinivasan:1996:MCS

[Sri96] G. R. Srinivasan. Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview. *IBM Journal of Research and Development*, 40 (1):77–89, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#seven`.

Saporito:2020:DIZ

[SRJ+20] A. Saporito, M. Recktenwald, C. Jacobi, G. Koch, D. P. D. Berger, R. J. Sonnelitter, C. R. Walters, J.-S. Lee, C. Lichtenau, U. Mayer, E. Herkel, S. Payer, S. M. Mueller, V. K. Papazova, E. M. Ambroladze, and T. C. Bronson. Design of the IBM z15 microprocessor. *IBM Journal of Research and Development*, 64(5/6):7:1–7:18, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schubert:2011:FVI

[SRL+11] K.-D. Schubert, W. Roesner, J. M. Ludden, J. Jackson, J. Buchert, V. Paruthi, M. Behm, A. Ziv, J. Schumann, C. Meissner, J. Koesters, J. Hsu, and B. Brock. Functional verification of the IBM POWER7 microprocessor and POWER7 multiprocessor systems. *IBM Journal of Research and Development*, 55(3):10:1–10:17, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Silverman:1993:XLB

[SRO93] J. P. Silverman, R. P. Rippstein, and J. M. Oberschmidt. X-ray lithography beamlines in the IBM Advanced Lithography Facility. *IBM Journal of Research and Development*, 37 (3):395–410, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shapiro:1959:MTE

[SS59a] H. S. Shapiro and D. L. Slotnick. On the mathematical theory of error-correcting codes. *IBM Journal of Research and Development*, 3(1): 25–34, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392588.

Swanson:1959:DAPb

[SS59b] J. A. Swanson and K. Y. Sih. Diffusion attenuation, Part II. *IBM Journal of Research and Development*, 3(1): 18–24, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392587.

Sorokin:1961:SSO

[SS61] P. P. Sorokin and M. J. Stevenson. Solid-state optical maser using divalent samarium in calcium fluoride [letter to the editor]. *IBM Journal of Research and Development*, 5(1): 56–58, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392477.

Shedler:1976:DMR

[SS76] G. S. Shedler and D. R. Slutz. Derivation of miss ratios for merged access streams. *IBM Journal of Research and Development*, 20(5):505–517, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schlig:1978:CVC

[SS78] E. S. Schlig and G. R. Stilwell, Jr. Characterization of voltage and charge transfer in AC gas discharge displays. *IBM Journal of Research and Development*, 22(6):634–640, November 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shedler:1982:RSN

[SS82] Gerald S. Shedler and Jonathan Southard. Regenerative simulation of networks of queues with general service times: Passage through subnetworks. *IBM Journal of Research and Development*, 26(5):625–633, September 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stone:1986:ACD

[SS86] Harold S. Stone and Paolo Sipala. The average complexity of depth-first search with backtracking and cutoff. *IBM Journal of Research and Development*, 30(3):242–258, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smolka:1987:CSN

[SS87a] Scott A. Smolka and Robert E. Strom. A CCS semantics for NIL. *IBM Journal of Research and Development*, 31(5): 556–570, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stone:1987:EST

[SS87b] Harold S. Stone and Janice M. Stone. Efficient search tech-

niques — an empirical study of the N-Queens problem. *IBM Journal of Research and Development*, 31(4):464–474, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stone:1988:WMW

[SS88] S. Douglas Stone and Aaron Szafer. What is measured when you measure a resistance? — the Landauer formula revisited. *IBM Journal of Research and Development*, 32(3):384–413, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1993:XLN

[SS93] Henry I. Smith and M. L. Schattenburg. X-ray lithography, from 500 to 30 nm: X-ray nanolithography. *IBM Journal of Research and Development*, 37(3):319–329, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schlig:2000:SRL

[SS00] E. S. Schlig and J. L. Sanford. An SXGA reflective liquid crystal projection light valve incorporating inversion by pixel bootstrapping. *IBM Journal of Research and Development*, 44(6):909–918, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/schlig.html`.

Shaw:2001:OEI

[SS01] J. M. Shaw and P. F. Seidlers. Organic electronics: Introduction. *IBM Journal of Research and Development*, 45 (1):3–10, January 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/451/shaw.html`.

Soffer:2015:PMV

[SS15] A. Soffer and H. Su. Preface: Multimedia and visual analytics. *IBM Journal of Research and Development*, 59(2–3):1–5, March/May 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shiri:2020:OOF

[SS20] D. Shiri and F. S. Salman. Online optimization of first-responder routes in disaster response logistics. *IBM Journal of Research and Development*, 64(1/2):13:1–13:9, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sow:2012:RTA

[SSB+12] D. M. Sow, J. Sun, A. Biem, J. Hu, M. L. Blount, and S. Ebadollahi. Real-time analysis for short-term prognosis in intensive care. *IBM Journal of Research and Development*, 56 (5):3:1–3:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261584`.

Starke:2015:CMS

[SSD+15] W. J. Starke, J. Stuecheli, D. M. Daly, J. S. Dodson, F. Auernhammer, P. M. Sagmeister, G. L. Guthrie, C. F. Marino, M. Siegel, and B. Blaner. The cache and memory subsystems of the IBM POWER8 processor. *IBM Journal of Research and Development*, 59(1):3:1–3:13, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Speckmann:2011:ASI

[SSFF11] M. Speckmann, T. Schmidt, J. I. Flege, and J. Falta. In adsorption on Si(112) and its impact on Ge growth. *IBM Journal of Research and Development*, 55(4):11:1–11:8, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shaw:1969:IBC

[SSG69] M. P. Shaw, P. R. Solomon, and H. L. Grubin. Influence of boundary conditions on current instabilities in GaAs. *IBM Journal of Research and Development*, 13(5):587–590, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stuecheli:2018:IPO

[SSI+18] J. Stuecheli, W. J. Starke, J. D. Irish, L. B. Arimilli, D. Dreps, B. Blaner, C. Wollbrink, and B. Allison. IBM POWER9 opens up a new era of acceleration enablement: OpenCAPI. *IBM Journal of Research and Development*, 62(4–5):8:1–8:8, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8413085/`.

Stoecklin:2016:PSI

[SSK+16] M. Ph. Stoecklin, K. Singh, L. Koved, X. Hu, S. N. Chari, J. R. Rao, P.-C. Cheng, M. Christodorescu, R. Sailer, and D. L. Schales. Passive security intelligence to analyze the security risks of mobile/BYOD activities. *IBM Journal of Research and Development*, 60(4):9:1–9:13, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523356/`.

Schechtman:1973:IUT

[SSL73] B. H. Schechtman, S. S. So, and E. W. Luttman. Interactive use of a time-shared process control computer in electrophotographic sensitometry. *IBM Journal of Research and Development*, 17(6):500–508, November 1973. CODEN IBMJAE.

ISSN 0018-8646 (print), 2151-8556 (electronic).

Schwarz:1997:CFP

[SSM97] E. M. Schwarz, L. Sigal, and T. J. McPherson. CMOS floating-point unit for the S/390 Parallel Enterprise Server G4. *IBM Journal of Research and Development*, 41(4/5): 475–488, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/schwarz.html`.

Sciampacone:2010:EMS

[SSMGD10] R. A. Sciampacone, V. Sundaresan, D. Maier, and T. Gray-Donald. Exploitation of multicore systems in a Java virtual machine. *IBM Journal of Research and Development*, 54 (5):1:1–1:11, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shapiro:1962:SET

[SSN+62] S. Shapiro, P. H. Smith, J. Nicol, J. L. Miles, and P. F. Strong. Superconductivity and electron tunneling. *IBM Journal of Research and Development*, 6(1): 34–43, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392409`.

Sinharoy:2015:AFI

[SSN+15] B. Sinharoy, R. Swanberg, N. Nayar, B. Mealey, J. Stuecheli, B. Schiefer, J. Leenstra, J. Jann, P. Oehler, D. Levitan, S. Eisen, D. Sanner, T. Pflueger, C. Lichtenau, W. E. Hall, and T. Block. Advanced features in IBM POWER8 systems. *IBM Journal of Research and Development*, 59(1):1:1–1:18, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sechler:1967:ACD

[SST67] R. F. Sechler, A. R. Strube, and J. R. Turnbull. ASLT circuit design. *IBM Journal of Research and Development*, 11 (1):74–85, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392019`.

Sugerman:1969:STD

[SST69] A. Sugerman, S. Schmidt, and Y. O. Tu. Strain and temperature distributions in a thermally-activated cantilever. *IBM Journal of Research and Development*, 13(6):711–716, November 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sanford:1998:SLV

[SST+98] J. L. Sanford, E. S. Schlig, T. Tomooka, K. Enami, and

F. R. Libsch. Silicon light-valve array chip for high-resolution reflective liquid crystal projection displays. *IBM Journal of Research and Development*, 42 (3/4):347–358, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/sanford.html`. See addendum [SW98].

Swalen:1977:PPT

[SSTF77] Jerome D. Swalen, Randolph Santo, Maurus Tacke, and Josef Fischer. Properties of polymeric thin films by integrated optical techniques. *IBM Journal of Research and Development*, 21 (2):168–175, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sagnis:1965:CMM

[SSW65] J. C. Sagnis, Jr., P. E. Stuckert, and R. L. Ward. The chain magnetic memory element. *IBM Journal of Research and Development*, 9(5/6):412–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Scarborough:1991:CIE

[SSW91] L. J. Scarborough, R. G. Scarborough, and S. W. White. Clustering IBM Enterprise System/3090 computers for parallel execution of FORTRAN programs. *IBM Journal of Research and Development*, 35(5/6):667–679, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schaffer:2012:EII

[SSY12] J. S. Schaffer, M. L. Stokes, and N. Yan. Enabling an integrated identity from disparate sources. *IBM Journal of Research and Development*, 56(6): 6:1–6:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6355654`.

Sha:1972:NCA

[ST72] R. T. Sha and D. T. Tang. A new class of automatic equalizers. *IBM Journal of Research and Development*, 16(6): 556–566, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Schatzoff:1975:DES

[ST75] M. Schatzoff and C. C. Tillman. Design of experiments in simulator validation. *IBM Journal of Research and Development*, 19(3):252–262, May 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1989:DEC

[ST89] W. E. Smith and K. S. Trivedi. Dependability evaluation of a class of multi-loop topologies for local area networks. *IBM Journal of Research and Development*, 33(5):511–523,

September 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sarkar:2017:EST

[ST17] S. Sarkar and B. Tak. Entity search techniques for expediting entitlement resolution in technology support services. *IBM Journal of Research and Development*, 61(1): 8:86–8:97, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7877284/`.

Standish:1967:TRR

[Sta67] C. J. Standish. Two remarks on the reconstruction of sampled non-bandlimited functions. *IBM Journal of Research and Development*, 11(6): 648–649, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391911`.

Stacy:1973:QLE

[Sta73] E. W. Stacy. Quasimaximum likelihood estimators for two-parameter gamma distributions. *IBM Journal of Research and Development*, 17(2): 115–124, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stacy:1975:CBQ

[Sta75] E. W. Stacy. Comment on: "Bulk queue model for computer system analysis" (IBM J. Res. Develop. **18** (1974), 370–372) by W. Chang. *IBM Journal of Research and Development*, 19(4):424, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [Cha74].

Stapper:1976:LYM

[Sta76] C. H. Stapper. LSI yield modeling and process monitoring. *IBM Journal of Research and Development*, 20(3):228–234, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1983:MIC

[Sta83] C. H. Stapper. Modeling of integrated circuit defect sensitivities. *IBM Journal of Research and Development*, 27(6): 549–557, November 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1984:MDI

[Sta84a] C. H. Stapper. Modeling of defects in integrated circuit photolithographic patterns. *IBM Journal of Research and Development*, 28(4):461–475 (or 461–474??), July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1984:YMF

[Sta84b] Charles H. Stapper. Yield model for fault clusters within integrated circuits. *IBM Journal of Research and Development*, 28(5):636–640, Septem-

ber 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stanley:1985:MB

[Sta85a] Robert C. Stanley. Microprocessors in brief. *IBM Journal of Research and Development*, 29 (2):110–131, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1985:EWW

[Sta85b] C. H. Stapper. Effects of wafer to wafer defect density variations on integrated circuit defect and fault distributions. *IBM Journal of Research and Development*, 29(1):87–97, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1986:YFD

[Sta86] C. H. Stapper. On yield, fault distributions, and clustering of particles. *IBM Journal of Research and Development*, 30(3):326–338, May 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1987:CAP

[Sta87] C. H. Stapper. Correlation analysis of particle clusters on integrated circuit wafers. *IBM Journal of Research and Development*, 31(6):641–650, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1989:FPI

[Sta89a] C. H. Stapper. Fault-simulation programs for integrated-circuit yield estimations. *IBM Journal of Research and Development*, 33(6):647–652, November 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1989:LFC

[Sta89b] Charles H. Stapper. Large-area fault clusters and fault tolerance in VLSI circuits: a review. *IBM Journal of Research and Development*, 33(2): 162–173, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stapper:1989:SFC

[Sta89c] Charles H. Stapper. Small-area fault clusters and fault tolerance in VLSI circuits. *IBM Journal of Research and Development*, 33(2):174–177, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Starke:1990:DTD

[Sta90] Cordt W. Starke. Design for testability and diagnosis in a VLSI CMOS System/ 370 processor. *IBM Journal of Research and Development*, 34(2/3):355–362, March/ May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stanich:1997:PQE

[Sta97] M. J. Stanich. Print-quality enhancement in electrophotographic printers. *IBM Journal of Research and Development*, 41(6):669–678, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/stanich.html`.

Stapper:2000:LYM

[Sta00] C. H. Stapper. LSI yield modeling and process monitoring. *IBM Journal of Research and Development*, 44(1/2):112–118, January/March 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/441/stapper.pdf`. Special issue: reprints on Evolution of information technology 1957–1999.

Stathis:2002:RLG

[Sta02] J. H. Stathis. Reliability limits for the gate insulator in CMOS technology. *IBM Journal of Research and Development*, 46 (2/3):265–286, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/stathis.html; http://www.research.ibm.com/journal/rd/462/stathis.pdf`.

Seraphim:1984:PAM

[STCR84] Donald P. Seraphim, Patrick A. Toole, William T. Chen, and Robert Rosenberg. Preface: Advances in materials and processes for printed circuit packaging technology. *IBM Journal of Research and Development*, 28(6):652–654, November 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stevens:1981:EMS

[Ste81] L. D. Stevens. The evolution of magnetic storage. *IBM Journal of Research and Development*, 25(5):663–675, September 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Steele:2001:UBB

[Ste01] S. W. Steele. Uninterruptible battery backup for IBM AS/400 systems. *IBM Journal of Research and Development*, 45(6):763–770, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/456/steele.html; http://www.research.ibm.com/journal/rd/456/steele.pdf`.

Stillman:1979:SMB

[Sti79] R. Stillman. Simulation of a moving bed gasifier for a western coal. *IBM Journal of Research and Development*, 23 (3):240–252, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stoll:1991:PPT

[Sto91] E. P. Stoll. Picture processing and three-dimensional visualization of data from scanning tunneling and atomic force microscopy. *IBM Journal of Research and Development*, 35 (1/2):67–77, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Strickland:1959:TEC

[Str59] P. R. Strickland. The thermal equivalent circuit of a transistor. *IBM Journal of Research and Development*, 3(1): 35–45, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392589`.

Strong:1968:AGR

[Str68] H. R. Strong. Algebraically generalized recursive function theory. *IBM Journal of Research and Development*, 12(6): 465–475, November 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stroebel:1981:MRT

[Str81] Gary Stroebel. Message reassembly times in a packet network. *IBM Journal of Research and Development*, 25(6): 930–933, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Strole:1983:LCN

[Str83] Norman C. Strole. Local communications network based on interconnected token-access rings: a tutorial. *IBM Journal of Research and Development*, 27(5):481–496, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stuehler:1970:IMP

[Stu70] J. E. Stuehler. An integrated manufacturing process control system: implementation in IBM manufacturing. *IBM Journal of Research and Development*, 14(6):605–613, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shave:2008:LDM

[STW+08] S. R. Shave, P. Taylor, M. Walkinshaw, L. Smith, J. Hardy, and A. Trew. Ligand discovery on massively parallel systems. *IBM Journal of Research and Development*, 52(1/2):57–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/521/shave.html`.

Sugai:1959:NSL

[Sug59] I. Sugai. Numerical solution of Laplace's equation, given Cauchy conditions. *IBM Journal of Research and Development*, 3(2):

187–188, April 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392609`.

Suits:1975:FBT

[Sui75] J. C. Suits. Ferromagnetism in Bi- and Te-substituted MnRh. *IBM Journal of Research and Development*, 19(4):422–423, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sun:2006:SAM

[Sun06] J. Z. Sun. Spin angular momentum transfer in current-perpendicular nanomagnetic junctions. *IBM Journal of Research and Development*, 50(1): 81–100, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/sun.html`.

Surkan:1969:SPO

[Sur69] A. J. Surkan. Symbolic polynomial operations with APL. *IBM Journal of Research and Development*, 13(2):209–211, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Surman:2015:IZS

[Sur15] D. H. Surman. The IBM z Systems Coupling Facility exploitation of storage-class memory. *IBM Journal of Research and Development*, 59(4–5):8:1–8:9, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Slegel:1991:DPI

[SV91] T. J. Slegel and R. J. Veracca. Design and performance of the IBM Enterprise System/9000 Type 9121 Vector Facility. *IBM Journal of Research and Development*, 35(3):367–381, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Swanson:1992:MEC

[SV92] M. D. Swanson and C. P. Vignola. MVS/ESA coupled-systems considerations. *IBM Journal of Research and Development*, 36(4):667–682, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stetter:2004:IEZ

[SvBC+04] M. Stetter, J. von Buttlar, P. T. Chan, D. Decker, H. Elfering, P. M. Gioquindo, T. Hess, S. Koerner, A. Kohler, H. Lindner, K. Petri, and M. Zee. IBM eServer z990 improvements in firmware simulation. *IBM Journal of Research and Development*, 48(3/4):583–594, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/stetter.html`; `http://www.research.ibm.com/journal/rd/483/stetter.pdf`.

Svendsen:1978:PPO

[Sve78] R. G. Svendsen. Paper path of an on-line computer-output printer. *IBM Journal of Research and Development*, 22(1): 13–18, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sinharoy:2015:IPP

[SVE+15] B. Sinharoy, J. A. Van Norstrand, R. J. Eickemeyer, H. Q. Le, J. Leenstra, D. Q. Nguyen, B. Konigsburg, K. Ward, M. D. Brown, J. E. Moreira, D. Levitan, S. Tung, D. Hrusecky, J. W. Bishop, M. Gschwind, M. Boersma, M. Kroener, M. Kaltenbach, T. Karkhanis, and K. M. Fernsler. IBM POWER8 processor core microarchitecture. *IBM Journal of Research and Development*, 59(1):2:1–2:21, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sips:2013:CEB

[SvNH13] R.-J. Sips, A. van der Vlis, R. Nagel, and B. Havers. A case for evidence-based levee management using sensor technology. *IBM Journal of Research and Development*, 57(5):5:1–5:12, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Stuehler:1967:COM

[SW67] J. E. Stuehler and R. V. Watkins. A computer-operated manufacturing and test system. *IBM Journal of Research and Development*, 11(4): 452–460, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391949`.

Su:1974:NDD

[SW74] J. L. Su and M. L. Williams. Noise in disk data-recording media. *IBM Journal of Research and Development*, 18(6): 570–575, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1983:TNA

[SW83] F. D. Smith and C. H. West. Technologies for network architecture and implementation. *IBM Journal of Research and Development*, 27(1):68–78, January 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sowa:1986:ISI

[SW86] John F. Sowa and Eileen C. Way. Implementing a semantic interpreter using conceptual graphs. *IBM Journal of Research and Development*, 30(1): 57–69, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Steele:1990:HPF

[SW90] Guy L. Steele Jr. and Jon L. White. How to print floating-point numbers accurately. *ACM*

SIGPLAN Notices, 25(6):112–126, June 1990. CODEN SINODQ. ISBN 0-89791-364-7. ISSN 0362-1340 (print), 1523-2867 (print), 1558-1160 (electronic). URL `http://www.acm.org:80/pubs/citations/proceedings/pldi/93542/p112-steele/`. See also input algorithm in [Cli90, **?**], and a faster output algorithm in [BD96] and [Knu90], IBM S/360 algorithms in [ABC+99b] for both IEEE 754 and S/360 formats, and a twenty-year retrospective in [**?**]. In electronic mail dated Wed, 27 Jun 1990 11:55:36 EDT, Guy Steele reported that an intrepid pre-SIGPLAN 90 conference implementation of what is stated in the paper revealed 3 mistakes:

1. Table 5 (page 124):
   insert `k <-- 0` after assertion, and also delete `k <-- 0` from Table 6.
2. Table 9 (page 125):
   for `-1:USER!("");`
   substitute `-1:USER!("0");`
   and delete the comment.
3. Table 10 (page 125):
   for `fill(-k, "0")`
   substitute `fill(-k-1, "0")`.

[Swa57]

[Swa59]

[Swa60]

Sanford:1998:ASL

[SW98] J. L. Sanford and H. S. P. Wong. Addendum: Silicon light-valve array chip for high-resolution reflective liquid-crystal projection displays (vol 42, pg 347, 1998). *IBM Journal of Research and Development*, 42(6):874, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [SST+98].

Swanson:1957:CFO

J. A. Swanson. Clarification of first-order semiconduction effects through use of electrochemical potentials. *IBM Journal of Research and Development*, 1(1):39–43, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392715`.

Swanson:1959:DAPa

J. A. Swanson. Diffusion attenuation, Part I. *IBM Journal of Research and Development*, 3(1):13–17, ???? 1959. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392586`.

Swanson:1960:PVL

J. A. Swanson. Physical versus logical coupling in memory systems. *IBM Journal of Research and Development*, 4 (3):305–310, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392500`.

Swanson:1961:NCP

[Swa61] John A. Swanson. Notes on cumulative photovoltages. *IBM Journal of Research and Development*, 5(3):210–217, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392449`.

Shea:1991:IVV

[SWB+91] D. G. Shea, W. W. Wilcke, R. C. Booth, D. H. Brown, Z. D. Christidis, M. E. Giampapa, G. B. Irwin, T. T. Murakami, V. K. Naik, F. T. Tong, P. R. Varker, and D. J. Zukowski. The IBM Victor V256 partitionable multiprocessor. *IBM Journal of Research and Development*, 35(5/6):573–590, September/November 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Shahidi:1995:CSM

[SWC+95] G. G. Shahidi, J. D. Warnock, S. Comfort, S. Fischer, P. A. McFarland, A. Acovic, T. I. Chappell, B. A. Chappell, T. H. Ning, C. J. Anderson, R. H. Dennard, J. Y.-C. Sun, M. R. Polcari, and B. Davari. CMOS scaling in the 0.1-μm, 1.X-volt regime for high performance applications. *IBM Journal of Research and Development*, 39 (1/2):229–244, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#nineteen`.

Sigal:1997:CDT

[SWC+97] L. Sigal, J. D. Warnock, B. W. Curran, Y. H. Chan, P. J. Camporese, M. D. Mayo, W. V. Huott, D. R. Knebel, C. T. Chuang, J. P. Eckhardt, and P. T. Wu. Circuit design techniques for the high-performance CMOS IBM S/390 Parallel Enterprise Server G4 microprocessor. *IBM Journal of Research and Development*, 41 (4/5):489–503, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/sigal.html`.

Stahl:1974:DRS

[SWD74] K. J. Stahl, J. W. White, and K. L. Deckert. Dynamic response of self-acting foil bearings. *IBM Journal of Research and Development*, 18(6): 513–520, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Swenson:1962:TPD

[Swe62] C. A. Swenson. The temperature and pressure dependence of critical field curves. *IBM Journal of Research and Development*, 6(1):82–83, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.`

ieee.org/stamp/stamp.jsp?tp=&arnumber=5392419.

Salem:2009:SFT

[SWF+09] G. Salem, D. W. Wittig, T. G. Foote, B. J. Robbins, C. Hirko, D. O. Forlenza, F. Motika, J. A. Kyle, M. P. Kusko, O. P. Forlenza, R. J. Frishmuth, R. Yaari, S. Michnowski, and U. Baur. Structural and functional test of IBM System z10 chips. *IBM Journal of Research and Development*, 53 (1):5:1–5:11, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/531/salem.pdf.

Swihart:1962:SBI

[Swi62] J. C. Swihart. Solutions of the BCS integral equation and deviations from the law of corresponding states. *IBM Journal of Research and Development*, 6(1):14–23, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392405.

Shi:2013:SCD

[SXW+13] J. Shi, W. Xue, W. Wang, Y. Zhang, B. Yang, and J. Li. Scalable community detection in massive social networks using MapReduce. *IBM Journal of Research and Development*, 57(3/4):12:1–12:14, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Sun:2012:FOS

[SXYP12] X. Sun, L. Xu, Y. Yu, and Y. Pan. Facilitating observational study for comparative effectiveness research. *IBM Journal of Research and Development*, 56(5):5:1–5:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6261585.

Silverman:1973:RTC

[SY73] H. F. Silverman and P. C. Yue. Response time characterization of an information retrieval system. *IBM Journal of Research and Development*, 17(5): 394–403, September 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Smith:1992:ICF

[SY92] R. M. Smith, Sr. and P. C. Yeh. Integrated Cryptographic Facility of the Enterprise Systems Architecture/390: design considerations. *IBM Journal of Research and Development*, 36 (4):683–693, July 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Szelenyi:1991:VPE

[SZ91] F. Szelenyi and V. Zecca. Visualizing parallel execution of FORTRAN programs. *IBM*

Journal of Research and Development, 35(1/2):270–282, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Theurich:2007:AFV

[TAE+07] K. Theurich, A. Albus, F. Eickhoff, D. Immel, A. Kohler, E. Lange, and J. von Buttlar. Advanced firmware verification using a code simulator for the IBM System z9. *IBM Journal of Research and Development*, 51 (1/2):207–216, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/theurich.html`.

Tagg:2009:ISC

[Tag09] B. S. Tagg. The IBM Services Connection: Service delivery through self-service portal technologies. *IBM Journal of Research and Development*, 53(6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/tagg.html`.

Takagi:1987:EAR

[Tak87] Hideaki Takagi. Exact analysis of round-robin scheduling of services. *IBM Journal of Research and Development*, 31 (4):484–488, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Talley:2020:DMD

[Tal20] J. W. Talley. Disaster management in the digital age. *IBM Journal of Research and Development*, 64(1/2):1:1–1:5, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tang:1974:SAG

[Tan74] T. Tang. Stress analysis of glass-bonded ferrite recording heads. *IBM Journal of Research and Development*, 18(3):274–278, May 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tang:1996:NPC

[Tan96] H. H. K. Tang. Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective. *IBM Journal of Research and Development*, 40(1): 91–108, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#eight`.

Tang:2008:SNG

[Tan08] H. H. K. Tang. SEMM-2: a new generation of single-event-effect modeling tools. *IBM Journal of Research and Development*, 52(3):233–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.`

research.ibm.com/journal/rd/523/tang.html.

Tappert:1982:CSR

[Tap82] C. C. Tappert. Cursive script recognition by elastic matching. *IBM Journal of Research and Development*, 26(6):765–771, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tarnawsky:1963:TTI

[Tar63] G. O. Tarnawsky. Tagging techniques for incorporating microglossaries in an automatic dictionary. *IBM Journal of Research and Development*, 7 (4):337–339, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392261.

Tryon:1984:SFA

[TAR84] D. R. Tryon, F. M. Armstrong, and M. R. Reiter. Statistical failure analysis of system timing. *IBM Journal of Research and Development*, 28(4):340–355, July 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tasman:1957:LDP

[Tas57] P. Tasman. Literary data processing. *IBM Journal of Research and Development*, 1(3): 249–256, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392686.

Taur:2002:CDN

[Tau02] Y. Taur. CMOS design near the limit of scaling. *IBM Journal of Research and Development*, 46 (2/3):213–222, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/462/taur.html; http://www.research.ibm.com/journal/rd/462/taur.pdf.

Taylor:1957:MHL

[Tay57] R. Taylor. A mechanical heart-lung apparatus. *IBM Journal of Research and Development*, 1 (4):330–340, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392699.

Taylor:1979:PES

[Tay79] Russel H. Taylor. Planning and execution of straight line manipulator trajectories. *IBM Journal of Research and Development*, 23(4):424–436, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Taylor:1981:LGS

[Tay81] R. L. Taylor. Low-end general-purpose systems. *IBM Journal of Research and Development*, 25(5):429–440, September 1981.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Taylor:1984:SAM

[Tay84] Richard L. Taylor. Software architecture for a mature design automation system. *IBM Journal of Research and Development*, 28(5):501–511, September 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tam:1982:LE

[TB82] Andrew C. Tam and Richard D. Balanson. Lasers in electrophotography. *IBM Journal of Research and Development*, 26(2): 186–197, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thompson:2000:FMD

[TB00] D. A. Thompson and J. S. Best. The future of magnetic data storage technology. *IBM Journal of Research and Development*, 44(3):311–322, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/thompson.html`.

Torok:2009:PDI

[TBB+09] J. G. Torok, F. E. Bosco, W. L. Brodsky, E. F. Furey, G. F. Goth, D. J. Kearney, J. J. Loparco, M. T. Peets, K. L. Pizzolato, D. W. Porter, G. Ruehle, and W. H. White. Packaging design of the IBM System z10 enterprise class platform central electronic complex. *IBM Journal of Research and Development*, 53(1):9:1–9:15, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/torok.pdf`.

Torok:2015:MPP

[TBG+15] J. G. Torok, F. E. Bosco, G. F. Goth, J. J. Loparco, M. Peets, D. Porter, S. G. Shevach, B. C. Tucker, A. C. VanDeventer, X. Wei, P. A. Wendling, Y. Yu, and R. J. Zoodsma. Mechanical packaging, power, and cooling design for the IBM z13. *IBM Journal of Research and Development*, 59(4–5):14:1–14:15, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tao:2017:EPD

[TBH+17] Y. Tao, D. Bhattacharjya, A. R. Heching, A. Vempaty, M. Singh, F. Lam, J. Houdek, M. Abubakar, A. Abdulwahab, T. Braimoh, N. Ihebuzor, A. Mojsilovi, and K. R. Varshney. Effectiveness of peer detailing in a diarrhea program in Nigeria. *IBM Journal of Research and Development*, 61(6): 1:1–1:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tzortzatos:2009:ISZ

[TBS09] E. Tzortzatos, J. Bartik, and

P. Sutton. IBM System z10 support for large pages. *IBM Journal of Research and Development*, 53(1):17:1–17:8, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/tzortzatos.pdf`.

Tu:1963:TMS

[TC63] Yih-O. Tu and H. Cohen. A theoretical model for separation in the fluid jet amplifier. *IBM Journal of Research and Development*, 7(4): 288–296, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392255`.

Tang:1984:IEP

[TC84] D. T. Tang and C. L. Chen. Iterative exhaustive pattern generation for logic testing. *IBM Journal of Research and Development*, 28(2):212–219, March 1984. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Takatsuji:1998:EAN

[TCCH98] H. Takatsuji, E. G. Colgan, C. Cabral, Jr., and J. M. E. Harper. Evaluation of Al(Nd)-alloy films for application to thin-film-transistor liquid crystal displays. *IBM Journal of Research and Development*, 42 (3/4):501–508, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/takatsuji.html`.

Troester:2015:IIF

[TCK+15] M. Troester, P. J. Clas, M. Kuenzel, I. Leoshkevich, P. Schulz, B. D. Valentine, M. Becht, V. Gorbik, P. M. Lobo, O. Marquardt, S. Stork, and T. Webel. Innovations in infrastructure firmware for the IBM z13. *IBM Journal of Research and Development*, 59(4–5):12:1–12:11, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Treinish:2016:ECM

[TCP+16] L. A. Treinish, J. P. Cipriani, A. Praino, A. Singhee, H. Wang, M. Sinn, V. Lonij, J. Fiot, and B. Chen. Enabling coupled models to predict the business impact of weather on electric utilities. *IBM Journal of Research and Development*, 60(1):5:1–5:10, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tendler:2002:PSM

[TDF+02] J. M. Tendler, J. S. Dodson, J. S. Fields, Jr., H. Le, and B. Sinharoy. POWER4 system microarchitecture. *IBM Journal of Research and Development*, 46(1):5–25, January 2002. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/461/tendler.html; http://www.research.ibm.com/journal/rd/461/tendler.pdf.

Taur:1987:SCS

[TDM+87] Y. Taur, B. Davari, D. Moy, J. Y.-C. Sun, and C. Y. Ting. Study of contact and shallow junction characteristics in submicron CMOS with self-aligned titanium silicide. *IBM Journal of Research and Development*, 31(6):627–633, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tendler:2005:P

[Ten05] Joel M. Tendler. Preface. *IBM Journal of Research and Development*, 49(4/5):503–504, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/494/preface.html.

Terhal:2004:EM

[Ter04] B. M. Terhal. Is entanglement monogamous? *IBM Journal of Research and Development*, 48(1):71–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/481/terhal.pdf.

Taylor:1996:OCI

[TFJ+96] R. H. Taylor, J. Funda, L. Joskowicz, A. D. Kalvin, S. H. Gomory, A. P. Gueziec, and L. M. G. Brown. An overview of computer integrated surgery at the IBM Thomas J. Watson Research Center. *IBM Journal of Research and Development*, 40(2):163–183, March 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd40-2.html#three.

Tran:1982:VDV

[TFL82] Arnold S. Tran, Richard A. Forsberg, and Jack C. Lee. A VLSI design verification strategy. *IBM Journal of Research and Development*, 26(4):475–484, July 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tsang:1998:DFP

[TFL+98] C. H. Tsang, R. E. Fontana, Jr., T. Lin, D. E. Heim, B. A. Gurney, and M. L. Williams. Design, fabrication, and performance of spin-valve read heads for magnetic recording applications. *IBM Journal of Research and Development*, 42(1):103–116, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/421/tsang.html.

Tremaine:2001:IME

[TFR+01] R. B. Tremaine, P. A. Franaszek, J. T. Robinson, C. O. Schulz, T. B. Smith, M. E. Wazlowski, and P. M. Bland. IBM Memory Expansion Technology (MXT). *IBM Journal of Research and Development*, 45(2): 271–285, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/452/tremaine.html`.

Treinish:1991:CVT

[TG91] L. A. Treinish and C. Goettsche. Correlative visualization techniques for multidimensional data. *IBM Journal of Research and Development*, 35(1/2):184–204, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tzou:1980:CDM

[TGB+80] Albert J. Tzou, Y. R. Gopalakrishna, Eugene M. Blaser, Ori Bar-Gadda, and Rodolfo A. Carballo. A 256K-bit charge-coupled device memory. *IBM Journal of Research and Development*, 24(3):328–338, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tesauro:2012:SLO

[TGL+12] G. Tesauro, D. C. Gondek, J. Lenchner, J. Fan, and J. M. Prager. Simulation, learning, and optimization techniques in Watson's game strategies. *IBM Journal of Research and Development*, 56(3–4):16:1–16:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tosima:1964:ESM

[TH64] S. Tosima and R. Hirota. Effect of the self-magnetic field on galvanomagnetic effects in bismuth. *IBM Journal of Research and Development*, 8(3):291–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tromp:2011:PCL

[TH11] R. M. Tromp and J. B. Hannon. Preface: Cathode lens microscopy for nanoscience. *IBM Journal of Research and Development*, 55(4):0:1–0:3, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Theis:2000:FIT

[The00] T. N. Theis. The future of interconnection technology. *IBM Journal of Research and Development*, 44(3):379–390, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/theis.html`.

Thiebaut:1988:FDI

[Thi88] Dominique Thiebaut. From the fractal dimension of the intermiss gaps to the cache-miss

ratio. *IBM Journal of Research and Development*, 32(6): 796–803, November 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Taylor:1985:PME

[THL85] Russell H. Taylor, Ralph L. Hollis, and Mark A. Lavin. Precise manipulation with endpoint sensing. *IBM Journal of Research and Development*, 29 (4):363–376, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thoburn:1970:TCU

[Tho70] F. W. Thoburn. A transmission control unit for high-speed computer-to-computer communication. *IBM Journal of Research and Development*, 14(6): 614–619, November 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thouless:1994:FMT

[Tho94] M. D. Thouless. Fracture mechanics for thin-film adhesion. *IBM Journal of Research and Development*, 38 (4):367–377, July 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-4.html#three`.

Thrasher:1965:NMF

[Thr65] P. M. Thrasher. A new method for frequency-division multiplexing, and its integration with time-division switching. *IBM Journal of Research and Development*, 9(2):137–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thun:1960:DA

[Thu60] R. E. Thun. On dimensional analysis. *IBM Journal of Research and Development*, 4(3): 349–356, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392505`.

Thompson:1970:TSF

[THv70] W. A. Thompson, F. Holtzberg, and S. von Molnar. Tunneling spectroscopy in ferromagnetic semiconductors. *IBM Journal of Research and Development*, 14(3):279–281, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tibbitts:1993:FSC

[Tib93] B. R. Tibbitts. Flexible simulation of a complex semiconductor manufacturing line using a rule-based system. *IBM Journal of Research and Development*, 37(4):507–521, July 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tideman:1962:CAN

[Tid62] M. Tideman. Comment on "A Network Minimization Problem" [letter to the editor]. *IBM Journal of Research and Development*, 6(2):

259, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392363`.

Tiersten:1961:AMS

[Tie61] M. Tiersten. Acoustic-mode scattering of holes. *IBM Journal of Research and Development*, 5(2):122–131, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392437`.

Tinkham:1962:DEG

[Tin62] M. Tinkham. Dependence of the energy gap in superconductors on position and magnetic field. *IBM Journal of Research and Development*, 6 (1):49–54, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392411`.

Tischler:1990:AMV

[Tis90] M. A. Tischler. Advances in metalorganic vapor-phase epitaxy. *IBM Journal of Research and Development*, 34(6): 828–848, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Titcomb:1961:ACI

[Tit61] S. C. Titcomb. Analysis of a constant-input-flow hydraulic system. *IBM Journal of Research and Development*, 5(1): 44–55, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392476`.

Title:1963:PRS

[Tit63] R. S. Title. Paramagnetic resonance of the shallow acceptors Zn and Cd in GaAs [letter to the editor]. *IBM Journal of Research and Development*, 7(1):68–69, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392341`.

Trewhella:2003:EOS

[TJHK03] J. M. Trewhella, G. W. Johnson, W. K. Hogan, and D. L. Karst. Evolution of optical subassemblies in IBM data communication transceivers. *IBM Journal of Research and Development*, 47(2/3):251–258, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/472/trewhella.pdf`.

Taub:1964:DTD

[TK64] D. M. Taub and B. W. Kington. The design of trans-

former (diamond ring) read-only stores. *IBM Journal of Research and Development*, 8(4): 443–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thompson:1969:NEI

[TK69] A. H. Thompson and G. S. Kino. Noise emission from InSb. *IBM Journal of Research and Development*, 13(5): 616–620, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tetzlaff:1989:ABS

[TKG89] William H. Tetzlaff, Martin G. Kienzle, and Juan A. Garay. Analysis of block-paging strategies. *IBM Journal of Research and Development*, 33(1):51–59, January 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tummala:1992:HPG

[TKK+92] R. R. Tummala, J. U. Knickerbocker, S. H. Knickerbocker, L. W. Herron, R. W. Nufer, R. N. Master, M. O. Neisser, B. M. Kellner, C. H. Perry, J. N. Humenik, and T. F. Redmond. High-performance glass-ceramic/copper multilayer substrate with thin-film redistribution. *IBM Journal of Research and Development*, 36(5): 889–904, September 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tsang:2000:PIC

[TKV00] J. C. Tsang, J. A. Kash, and D. P. Vallett. Picosecond imaging circuit analysis. *IBM Journal of Research and Development*, 44(4):583–604, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/tsang.html`.

Tang:1970:ECT

[TL70] D. T. Tang and V. Y. Lum. Error control for terminals with human operators. *IBM Journal of Research and Development*, 14(4):409–416, July 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Todd:1983:GFR

[TLM83] Stephen J. P. Todd, Glen G. Langdon, Jr., and G. Nigel N. Martin. A general fixed rate arithmetic coding method for constrained channels. *IBM Journal of Research and Development*, 27(2):107–115, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Todd:1985:PRC

[TLR85] Stephen Todd, Glen G. Langdon, Jr., and Jorma Rissanen. Parameter reduction and context selection for compression of gray-scale images. *IBM Journal of Research and Development*, 29(2):188–193, March 1985. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Topol:2006:TDI

[TLS+06] A. W. Topol, D. C. La Tulipe, Jr., L. Shi, D. J. Frank, K. Bernstein, S. E. Steen, A. Kumar, G. U. Singco, A. M. Young, K. W. Guarini, and M. Ieong. Three-dimensional integrated circuits. *IBM Journal of Research and Development*, 50(4/5):491–506, July/September 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/504/topol.html`.

Turgeon:1999:GGB

[TMB+99] P. R. Turgeon, P. Mak, M. A. Blake, M. F. Fee, C. B. Ford III, P. J. Meaney, R. Seigler, and W. W. Shen. The S/390 G5/G6 binodal cache. *IBM Journal of Research and Development*, 43(5/6):661–670, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/turgeon.html`.

Taur:1995:CSC

[TMF+95] Y. Taur, Y.-J. Mii, D. J. Frank, H.-S. Wong, D. A. Buchanan, S. J. Wind, S. A. Rishton, G. A. Sai-Halasz, and E. J. Nowak. CMOS scaling into the 21st century: 0.1μm and beyond. *IBM Journal of Research and Development*, 39(1/2):245–260, January/March 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-1.html#twenty`.

Tang:2008:NSM

[TMF+08] H. H. K. Tang, C. E. Murray, G. Fiorenza, K. P. Rodbell, M. S. Gordon, and D. F. Heidel. New simulation methodology for effects of radiation in semiconductor chip structures. *IBM Journal of Research and Development*, 52(3): 245–??, April/May 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/523/murray.html`.

Tanase:1998:NBS

[TMS98] H. Tanase, J. Mamiya, and M. Suzuki. A new backlighting system using a polarizing light pipe. *IBM Journal of Research and Development*, 42 (3/4):527–536, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/tanase.html`.

Tsai:2001:HBB

[TMS+01] C.-J. Tsai, B. Ma, Y. Y. Sham, S. Kumar, H. J. Wolfson, and R. Nussinov. A hierarchical, building-block-based computational scheme for protein struc-

ture prediction. *IBM Journal of Research and Development*, 45(3/4):513–523, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/453/tsai.html; http://www.research.ibm.com/journal/rd/453/tsai.pdf`.

Tiotto:2020:OCO

[TMT+20] E. Tiotto, B. Mahjour, W. Tsang, X. Xue, T. Islam, and W. Chen. OpenMP 4.5 compiler optimization for GPU offloading. *IBM Journal of Research and Development*, 64(3/4):14:1–14:11, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Trong:2017:DSM

[TMW+17] T. M. Hoang Trong, S. E. Motley, J. Wagner, R. R. Kerr, and J. Kozloski. Dendritic spines modify action potential back-propagation in a multicompartment neuronal model. *IBM Journal of Research and Development*, 61(2–3):11:1–11:13, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921703/`.

Tu:1977:MKP

[TO77] Yih-O Tu and Augustus C. Ouano. Model for the kinematics of polymer dissolution. *IBM Journal of Research and Development*, 21(2):131–142, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Todd:1978:AHM

[Tod78a] S. Todd. Algorithm and hardware for a merge sort using multiple processors. *IBM Journal of Research and Development*, 22(5):509–517, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Todini:1978:UDC

[Tod78b] E. Todini. Using a desk-top computer for an on-line flood warning system. *IBM Journal of Research and Development*, 22(5):464–471, September 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Toffoli:1988:ITO

[Tof88] Tommaso Toffoli. Information transport obeying the continuity equation. *IBM Journal of Research and Development*, 32 (1):29–36, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Basic concepts in quantum and stochastic transport.

Toffoli:2004:PIS

[Tof04] T. Toffoli. A pedestrian's introduction to spacetime crystallography. *IBM Journal of Research and Development*, 48 (1):13–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (elec-

tronic). URL http://www.research.ibm.com/journal/rd/481/toffoli.pdf.

Takagi:2018:ESB

[TOKN18] H. Takagi, M. Ohno, M. Kobayashi, and T. Nakada. Evaluating speech-based question–answer interactions for elder-care services. *IBM Journal of Research and Development*, 62(1): 6:1–6:10, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/document/8269769/.

Toledo:1997:IMS

[Tol97] S. Toledo. Improving the memory-system performance of sparse-matrix vector multiplication. *IBM Journal of Research and Development*, 41(6): 711–725, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/416/toledo.html.

Tomasulo:1967:EAE

[Tom67] R. M. Tomasulo. An efficient algorithm for exploiting multiple arithmetic units. *IBM Journal of Research and Development*, 11(1):25–33, January 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392028.

Tomlin:1972:MSI

[Tom72] J. A. Tomlin. Maintaining a sparse inverse in the simplex method. *IBM Journal of Research and Development*, 16 (4):415–423, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Treinish:2013:EHR

[TPC+13] L. A. Treinish, A. P. Praino, J. P. Cipriani, U. T. Mello, K. Mantripragada, L. C. Villa Real, P. A. Sesini, V. Saxena, T. George, and R. Mittal. Enabling high-resolution forecasting of severe weather and flooding events in Rio de Janeiro. *IBM Journal of Research and Development*, 57(5): 7:1–7:11, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Turtur:1991:IID

[TPF+91] A. Turtur, F. Prampolini, M. Fantini, R. Guarda, and M. A. Imperato. IDB: an image database system. *IBM Journal of Research and Development*, 35(1/2):88–96, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Treinish:2020:PIW

[TPTH20] L. Treinish, A. Praino, M. Tewari, and B. Hertell. Predicting impacts of weather-driven urban

disasters in the current and future climate. *IBM Journal of Research and Development*, 64 (1/2):6:1–6:13, January/March 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Traub:1977:PSN

[TR77] R. D. Traub and J. P. Roth. Potential significance to neurophysiology of design algorithms for digital computers. *IBM Journal of Research and Development*, 21(6):572–575, November 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Triebwasser:1958:SSO

[Tri58] S. Triebwasser. Study of the second-order ferroelectric transition in tri-glycine sulfate. *IBM Journal of Research and Development*, 2(3): 212–217, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392624`.

Troutman:1980:VDP

[Tro80] Ronald R. Troutman. VLSI device phenomena in dynamic memory and their application to technology development and device design. *IBM Journal of Research and Development*, 24 (3):299–309, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tromp:2000:LEE

[Tro00a] Rudolf M. Tromp. Low-energy electron microscopy. *IBM Journal of Research and Development*, 44(4):503–516, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/tromp.html`.

Tromp:2000:PPE

[Tro00b] Rudolf M. Tromp. Preface: Papers on emerging analytical techniques. *IBM Journal of Research and Development*, 44 (4):454–455, July 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/444/preface.html`.

Totta:1969:SDM

[TS69] P. A. Totta and R. P. Sopher. SLT device metallurgy and its monolithic extension. *IBM Journal of Research and Development*, 13(3):226–238, May 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tendolkar:1982:ADM

[TS82] Nandakumar N. Tendolkar and Robert L. Swann. Automated diagnostic methodology for the IBM 3081 processor complex. *IBM Journal of Research and Development*, 26(1):78–88, January 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Turgeon:1991:TAA

[TSC91] P. R. Turgeon, A. R. Steel, and M. R. Charlebois. Two approaches to array fault tolerance in the IBM Enterprise System/9000 Type 9121 processor. *IBM Journal of Research and Development*, 35(3):382–389, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Takano:1992:CDG

[TSH92] H. Takano, S. Suzuki, and H. Hatoh. Cell design of gray-scale thin-film-transistor-driven liquid crystal displays. *IBM Journal of Research and Development*, 36(1):23–42, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Takeda:1988:CES

[TSNF88] Koichi Takeda, Emiko Suzuki, Tetsuro Nishino, and Tetsunosuke Fujisaki. CRITAC — an experimental system for Japanese text proofreading. *IBM Journal of Research and Development*, 32(2):201–216, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tsui:1980:JRS

[Tsu80] Frank F. Tsui. JSP — a research signal processor in Josephson technology. *IBM Journal of Research and Development*, 24(2):243–252, March 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tseng:1974:TBL

[TT74] R. C. Tseng and F. E. Talke. Transition from boundary lubrication to hydrodynamic lubrication of slider bearings. *IBM Journal of Research and Development*, 18(6):534–540, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Talke:1975:EST

[TT75] F. E. Talke and R. C. Tseng. Effect of submicrometer transducer spacing on the readback signal in saturation recording. *IBM Journal of Research and Development*, 19(6):591–596, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tsuji:1998:ACS

[TTI98] S. Tsuji, K. Tsujimoto, and H. Iwama. Application of cross-sectional transmission electron microscopy to thin-film-transistor failure analysis. *IBM Journal of Research and Development*, 42(3/4):509–516, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/tsuji.html`.

Tian:2020:SSS

[TTM+20] S. Tian, T. Takken, V. Mahaney, C. Marroquin, M. Schultz, M. Hoffmeyer, Y. Yao, K. O'Connell,

A. Yuksel, and P. Coteus. Summit and Sierra supercomputer cooling solutions. *IBM Journal of Research and Development*, 64(3/4):5:1–5:12, May/July 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tu:1975:TLI

[Tu75] Y. O. Tu. Theory of liquid ink development in electrophotography. *IBM Journal of Research and Development*, 19(6): 514–522, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tu:1990:SIE

[Tu90] K. N. Tu. Surface and interfacial energies of $CoSi_2$ and Si films: Implications regarding formation of three-dimensional silicon-silicide structures. *IBM Journal of Research and Development*, 34(6):868–874, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tucker:1960:FCP

[Tuc60a] A. W. Tucker. Foreword [combinatorial problems]. *IBM Journal of Research and Development*, 4(5):454, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392457`.

Tucker:1960:SMG

[Tuc60b] A. W. Tucker. Solving a matrix game by linear programming. *IBM Journal of Research and Development*, 4(5): 507–517, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392465`.

Tuel:1968:CAS

[Tue68] W. G. Tuel, Jr. Computer algorithm for spectral factorization of rational matrices. *IBM Journal of Research and Development*, 12(??):163–170, 1968. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tuel:1976:ABP

[Tue76] W. G. Tuel, Jr. An analysis of buffer paging in virtual storage systems. *IBM Journal of Research and Development*, 20(5): 518–520, September 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Turner:1969:RAW

[Tur69] C. W. Turner. The role of acoustic wave amplification in the emission of microwave noise from InSb. *IBM Journal of Research and Development*, 13(5): 611–615, September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Turgeon:2002:P

[Tur02] Paul R. Turgeon. Preface. *IBM Journal of Research and Development*, 46(4/5):365–366, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/preface.html; http://www.research.ibm.com/journal/rd/464/preface.pdf`.

Turgeon:2007:P

[Tur07] P. R. Turgeon. Preface. *IBM Journal of Research and Development*, 51(1/2):3–??, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tasini:1962:MIO

[TW62] B. B. Tasini and S. Winograd. Multiple input-output links in computer systems. *IBM Journal of Research and Development*, 6(3):306–328, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392373`.

Tibbetts:1969:HPR

[TW69] R. E. Tibbetts and J. S. Wilczynski. High performance reduction lenses for microelectronic circuit fabrication. *IBM Journal of Research and Development*, 13(2):192–196, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thornley:1974:SSM

[TW74] R. F. M. Thornley and J. A. Williams. Switching speeds in magnetic tapes. *IBM Journal of Research and Development*, 18(6):576–578, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Takagi:1985:HSS

[TW85] N. Takagi and C. K. Wong. A hardware sort-merge system. *IBM Journal of Research and Development*, 29(1):49–67, January 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Twardeck:1977:EPV

[Twa77] T. G. Twardeck. Effect of parameter variations on drop placement in an electrostatic ink jet printer. *IBM Journal of Research and Development*, 21 (1):31–36, January 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Twardeck:1985:CRR

[Twa85] Thomas G. Twardeck. Characterization of a resistive ribbon thermal transfer printing process. *IBM Journal of Research and Development*, 29(5): 470–477, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tiwari:1990:CSH

[TWF90] S. Tiwari, S. L. Wright, and D. J. Frank. Compound

semiconductor heterostructure bipolar transistors. *IBM Journal of Research and Development*, 34(4):550–567, July 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tian:2014:PRS

[TWM+14] C. H. Tian, Y. Wang, W. T. Mo, F. C. Huang, W. S. Dong, and J. Huang. Pre-release sales forecasting: A model-driven context feature extraction approach. *IBM Journal of Research and Development*, 58(5/6):8:1–8:13, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tang:1989:FLS

[TWRW89] C. L. Tang, F. W. Wise, M. J. Rosker, and I. A. Walmsley. Femtosecond laser studies of the relaxation dynamics of semiconductors and large molecules. *IBM Journal of Research and Development*, 33 (4):447–455, July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Teng:2010:TPA

[TWX+10] Q. M. Teng, H. C. Wang, Z. Xiao, P. F. Sweeney, and E. Duesterwald. THOR: a performance analysis tool for Java applications running on multicore systems. *IBM Journal of Research and Development*, 54 (5):4:1–4:17, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Thomas:1964:SCM

[TY64] J. E. Thomas, Jr. and D. R. Young. Space-charge model for surface potential shifts in silicon passivated with thin insulating layers. *IBM Journal of Research and Development*, 8(4): 368–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Takahashi:2014:MPM

[TYM+14] R. Takahashi, T. Yoshizumi, H. Mizuta, N. Abe, R. L. Kennedy, V. J. Jeffs, R. Shah, and R. H. Crites. Multi-period marketing-mix optimization with response spike forecasting. *IBM Journal of Research and Development*, 58(5/6):1:1–1:13, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tateishi:2019:ASC

[TYSS19] T. Tateishi, S. Yoshihama, N. Sato, and S. Saito. Automatic smart contract generation using controlled natural language and template. *IBM Journal of Research and Development*, 63(2–3):6:1–6:12, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Tang:2011:GDS

[TZZ+11] W.-X. Tang, C.-X. Zheng, Z.-Y. Zhou, D. E. Jesson, and J. Tersoff. Ga droplet surface dynam-

ics during Langmuir evaporation of GaAs. *IBM Journal of Research and Development*, 55 (4):10:1–10:7, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Umbach:1988:NHS

[UBK+88] Corwin P. Umbach, Alec N. Broers, Roger H. Koch, C. Grant Wilson, and Robert B. Laibowitz. Nanolithography with a high-resolution STEM. *IBM Journal of Research and Development*, 32(4):454–461, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Uttal:1962:SES

[UC62] W. R. Uttal and L. Cook. Systematics of the evoked somatosensory cortical potential. *IBM Journal of Research and Development*, 6(2): 179–191, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392353`.

Urso:2012:ETI

[UDP+12] D. L. Urso, M. T. Dunham, C. Passi, M. Overstreet, J. Viezel, and N. Harling. Enterprise transformation: The IBM journey to Value Services. *IBM Journal of Research and Development*, 56(6): 1:1–1:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353958`.

Upatnieks:1970:CDH

[UL70] J. Upatnieks and C. D. Leonard. Characteristics of dielectric holograms. *IBM Journal of Research and Development*, 14(5):527–532, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ullman:1965:DCC

[Ull65] J. D. Ullman. Decoding of cyclic codes using position invariant functions. *IBM Journal of Research and Development*, 9(4):233–240, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ungerboeck:1985:ADS

[UMK+85] Gottfried Ungerboeck, Dietrich Maiwald, Hans-Peter Kaeser, Pierre R. Chevillat, and Jean Paul Beraud. Architecture of a digital signal processor. *IBM Journal of Research and Development*, 29(2):132–139, March 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ungerbroeck:1972:TSC

[Ung72] G. Ungerbroeck. Theory on the speed of convergence in adaptive equalizers for digital communications. *IBM Journal of Research and Development*, 16(6):546–555, November 1972.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Urschler:1975:ASP

[Urs75] G. Urschler. Automatic structuring of programs. *IBM Journal of Research and Development*, 19(2):181–194, March 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vanderlinden:2005:BST

[VAB+05] S. L. Vanderlinden, B. O. Anthony, G. D. Batalden, B. K. Gorti, J. Lloyd, J. Macon, Jr., G. Pruett, and B. A. Smith. BladeCenter T system for the telecommunications industry. *IBM Journal of Research and Development*, 49(6): 873–886, November 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/496/vanderlinden.html`.

Vecchiola:2013:ERI

[VAB+13] C. Vecchiola, H. Anjomshoa, Y. Bernstein, I. Dumitrescu, R. Garnavi, J. von Kanel, and G. Wightwick. Engineering resilient information systems for emergency management. *IBM Journal of Research and Development*, 57(5):2:1–2:12, September–October 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanderPool:1972:OSA

[van72] J. A. van der Pool. Optimum storage allocation for initial loading of a file. *IBM Journal of Research and Development*, 16(6):579–586, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanderPool:1973:OSAa

[van73a] J. A. van der Pool. Optimum storage allocation for a file in steady state. *IBM Journal of Research and Development*, 17 (1):27–38, January 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanderPool:1973:OSAb

[van73b] J. A. van der Pool. Optimum storage allocation for a file with open addressing. *IBM Journal of Research and Development*, 17(2):106–114, March 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vandeLindt:1977:DTG

[van77] W. J. van de Lindt. Digital technique for generating synthetic aperture radar images. *IBM Journal of Research and Development*, 21(5): 415–432, September 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanKampen:1988:RSN

[van88] N. G. van Kampen. Relative stability in nonuniform temper-

ature. *IBM Journal of Research and Development*, 32(1): 107–111, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vandenBerg:1989:ODS

[van89] H. A. M. van den Berg. Order in the domain structure in soft-magnetic thin-film elements: a review. *IBM Journal of Research and Development*, 33(5): 540–582, September 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

VanHuben:1997:RTC

[Van97] Gary A. Van Huben. The role of two-cycle simulation in the S/390 verification process. *IBM Journal of Research and Development*, 41(4/5):593–599, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/vanhuben.html`.

vonGutfeld:1982:LPE

[vAR82] R. J. von Gutfeld, R. E. Acosta, and L. T. Romankiw. Laser-enhanced plating and etching: Mechanisms and applications. *IBM Journal of Research and Development*, 26(2): 136–144, March 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Varma:1989:IRC

[Var89] Chaudhra M. Varma. Interim report on the charge-transfer resonance model for the Cu-O superconductors. *IBM Journal of Research and Development*, 33(3):215–219, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Varshney:2019:MLT

[Var19] L. R. Varshney. Mathematical limit theorems for computational creativity. *IBM Journal of Research and Development*, 63(1):2:1–2:12, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vayghan:2012:PIE

[Vay12] J. Vayghan. Preface: IT-enabled business transformation at IBM. *IBM Journal of Research and Development*, 56 (6):0:1–0:3, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353962`.

Buttlar:2002:ZCE

[vBBE+02] J. von Buttlar, H. Böhm, R. Ernst, A. Horsch, A. Kohler, H. Schein, M. Stetter, and K. Theurich. z/CECSIM: An efficient and comprehensive microcode simulator for the IBM eServer z900. *IBM Journal of Research and Development*, 46 (4/5):607–615, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/vonbuttlar.html`;

http://www.research.ibm.com/journal/rd/464/vonbuttlar.pdf.

Vranas:2008:MPQ

[VBC+08] P. Vranas, M. A. Blumrich, D. Chen, A. Gara, M. E. Giampapa, P. Heidelberger, V. Salapura, J. C. Sexton, R. Soltz, and G. Bhanot. Massively parallel quantum chromodynamics. *IBM Journal of Research and Development*, 52 (1/2):189–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/521/vranas.html.

Vereecken:2005:CAD

[VBDA05] P. M. Vereecken, R. A. Binstead, H. Deligianni, and P. C. Andricacos. The chemistry of additives in damascene copper plating. *IBM Journal of Research and Development*, 49 (1):3–18, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/491/vereecken.pdf.

Vassiliadis:1994:SSC

[VBE94] S. Vassiliadis, B. Blaner, and R. J. Eickemeyer. SCISM: a Scalable Compound Instruction Set Machine. *IBM Journal of Research and Development*, 38 (1):59–78, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd38-1.html#five.

Vogel:1971:PCE

[VBM71] M. J. Vogel, E. M. Barrall, and C. P. Mignosa. Polymorphism in cholesteryl esters: cholesteryl palmitate. *IBM Journal of Research and Development*, 15 (1):52–8, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Valentine:2020:DII

[VCM+20] B. D. Valentine, M. A. Clark, B. E. Myers, P. Callaghan, J. A. Wierbowski, and P. J. Clas. Design innovations for IBM Z hardware management appliance. *IBM Journal of Research and Development*, 64 (5/6):13:1–13:9, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Verkuil:1980:CMH

[VCP80] Roger L. Verkuil, Huntington W. Curtis, and Mun S. Pak. Contactless method for high-sensitivity measurement of p-n junction leakage. *IBM Journal of Research and Development*, 24(3):370–377, May 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vettiger:2000:SMT

[VDD+00] P. Vettiger, M. Despont, U. Drechsler, U. Dürig, W. Häberle, M. I. Lutwyche, H. E. Rothuizen, R. Stutz, R. Widmer, and G. K. Binnig. The "millipede": More

than thousand tips for future AFM storage. *IBM Journal of Research and Development*, 44 (3):323–340, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/vettiger.html`.

Viswanathan:2019:BSR

[VDG19] R. Viswanathan, D. Dasgupta, and S. R. Govindaswamy. Blockchain Solution Reference Architecture (BSRA). *IBM Journal of Research and Development*, 63(2–3):1:1–1:12, March/May 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Visegrady:2014:SCV

[VDO14] T. Visegrady, S. Dragone, and M. Osborne. Stateless cryptography for virtual environments. *IBM Journal of Research and Development*, 58 (1):5:1–5:10, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Pool:1972:OSA

[vdP72] J. A. van der Pool. Optimum storage allocation for initial loading of a file. *IBM Journal of Research and Development*, 16(??):579–586, 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vertes:1994:MTT

[VDP94] A. Vertes, R. W. Dreyfus, and D. E. Platt. Modeling the thermal-to-plasma transitions for Cu photoablation. *IBM Journal of Research and Development*, 38(1):3–10, January 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-1.html#one`.

Vergnieres:1980:MGA

[Ver80] Bernard Vergnieres. Macro generation algorithms for LSI custom chip design. *IBM Journal of Research and Development*, 24(5):612–621, September 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Verbruggen:1988:FQT

[Ver88] A. H. Verbruggen. Fundamental questions in the theory of electromigration. *IBM Journal of Research and Development*, 32(1):93–98, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vogel:1974:WLI

[VG74] S. M. Vogel and J. L. Groom. White light interferometry of elastohydrodynamic lubrication of foil bearings. *IBM Journal of Research and Development*, 18(6):521–528, November 1974. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

VanVechten:1979:ERN

[VGC79] J. A. Van Vechten, R. J. Gambino, and J. J. Cuomo. Encapsulation of radioactive noble gas waste in amorphous alloy. *IBM Journal of Research and Development*, 23(3):278–285, May 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Voldman:1981:SC

[VH81] J. Voldman and Lee W. Hoevel. The software-cache connection. *IBM Journal of Research and Development*, 25(6): 877–893, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanKempen:1989:EDA

[vHv+89] Herman van Kempen, Henk F. Hoevers, P. Jan M. van Bentum, A. J. G. Schellingerhout, and D. van der Marel. Energy dependence of the Andreev reflection of $YBa_2Cu_5O_{7-\delta}$. *IBM Journal of Research and Development*, 33(3):389–393, May 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vieira:1986:BCS

[Vie86] S. Vieira. The behavior and calibration of some piezoelectric ceramics used in the STM. *IBM Journal of Research and Development*, 30(5):553–556, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vilkelis:1982:LRA

[Vil82] W. V. Vilkelis. Lead reduction among combinatorial logic circuits. *IBM Journal of Research and Development*, 26(3):342–348, May 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vinal:1981:MSU

[Vin81] Albert W. Vinal. A magnetic sensor utilizing an avalanching semiconductor device. *IBM Journal of Research and Development*, 25(2/3):196–201, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Viveros:2014:MVP

[Viv14] M. S. Viveros. Message from the Vice President, Cyber Security Innovation. *IBM Journal of Research and Development*, 58 (1):??, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vaidyanathan:2007:MNF

[VJA07] B. Vaidyanathan, K. C. Jha, and R. K. Ahuja. Multicommodity network flow approach to the railroad crew-scheduling problem. *IBM Journal of Research and Development*, 51 (3/4):325–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/vaidyanathan.html`.

vonHagenow:1962:IFP

[vK62] K. U. von Hagenow and H. Koppe. On the influence of free path on the Meissner effect. *IBM Journal of Research and Development*, 6 (1):12–13, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392404`.

vonKanel:2010:TKE

[vKCD+10] J. von Kanel, E. W. Cope, L. A. Deleris, N. Nayak, and R. G. Torok. Three key enablers to successful enterprise risk management. *IBM Journal of Research and Development*, 54(3): 1:1–1:15, May/June 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vogt:2009:IBQ

[VLB+09] J.-S. Vogt, R. Land, H. Boettiger, Z. Krnjajic, and H. Baier. IBM BladeCenter QS22: Design, performance, and utilization in hybrid computing systems. *IBM Journal of Research and Development*, 53 (5):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/535/vogt.html`.

Vernizzi:2014:TCF

[VLKW14] G. Vernizzi, M. Y. Lanzerotti, J. Kujawski, and A. Weatherwax. Topological constraints for E. F. Rent's work on microminiature packaging and circuitry. *IBM Journal of Research and Development*, 58 (2–3):13:1–13:17, March–May 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Victor:2005:FVP

[VLP+05] D. W. Victor, J. M. Ludden, R. D. Peterson, B. S. Nelson, W. K. Sharp, J. K. Hsu, B.-L. Chu, M. L. Behm, R. M. Gott, A. D. Romonosky, and S. R. Farago. Functional verification of the POWER5 microprocessor and POWER5 multiprocessor systems. *IBM Journal of Research and Development*, 49 (4/5):541–553, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/victor.html`.

VanHuben:2012:SCD

[VLT+12] G. A. Van Huben, K. D. Lamb, R. B. Tremaine, B. E. Aleman, S. M. Rubow, S. H. Rider, W. E. Maule, and M. E. Wazlowski. Server-class DDR3 SDRAM memory buffer chip. *IBM Journal of Research and Development*, 56(1–2):3:1–3:11, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vonMunch:1966:GAP

[vM66] W. von Munch. Gallium arsenide planar technology.

IBM Journal of Research and Development, 10(6):438–445, ???? 1966. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392003`.

Volker:1979:PHB

[VM79] S. Völker and R. M. Macfarlane. Photochemical hole burning in free-base porphyrin and chlorin in N-alkane matrices. *IBM Journal of Research and Development*, 23(5): 547–555, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vioules:2018:DSR

[VMAB18] M. Johnson Vioulès, B. Moulahi, J. Azé, and S. Bringay. Detection of suicide-related posts in Twitter data streams. *IBM Journal of Research and Development*, 62(1):7:1–7:12, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8269767/`.

VanHuben:1999:PMV

[VMG99] G. A. Van Huben, T. G. McNamara, and T. E. Gilbert. PLL modeling and verification in a cycle-simulation environment. *IBM Journal of Research and Development*, 43(5/6): 915–925, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/vanhuben.html`.

Voldman:1983:FNS

[VMH+83] Jean Voldman, Benoit Mandelbrot, Lee W. Hoevel, Joshua Knight, and Philip L. Rosenfeld. Fractal nature of software-cache interaction. *IBM Journal of Research and Development*, 27(2):164–170, March 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vaden:1994:DCP

[VMM+94] M. T. Vaden, L. J. Merkel, C. R. Moore, T. M. Potter, and R. J. Reese. Design considerations for the PowerPC 601 microprocessor. *IBM Journal of Research and Development*, 38 (5):605–620, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#eleven`.

Vogt:2014:ASP

[VMS+14] A. Vogt, E. R. Mattfeldt, G. Satzger, L. Luders, M. Piper, O. Gehb, and W. L. Jones. Analytical support for predicting cost in complex service delivery environments. *IBM Journal of Research and Development*, 58(4):7:1–7:10, July 2014. CODEN IBMJAE. ISSN 0018-8646.

Vu:2016:FCS

[VNT16] L. Vu, P. Nguyen, and D. Turaga. Firstfilter: A cost-sensitive approach to malicious URL detection in large-scale enterprise networks. *IBM Journal of Research and Development*, 60(4):4:1–4:10, July/August 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7523343/`.

Voit:1965:DPL

[Voi65] W. F. Voit, Jr. Digital pneumatic logic using coded tapes. *IBM Journal of Research and Development*, 9(5/6):418–??, September/November 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vonMolnar:1970:TPE

[Von70] S. Von Molnar. Transport properties of the europium chalcogenides. *IBM Journal of Research and Development*, 14 (3):269–275, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vora:1971:SSI

[Vor71] M. B. Vora. A self-isolation scheme for integrated circuits. *IBM Journal of Research and Development*, 15(6):430–435, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Valentine:2012:IZH

[VOW+12] B. D. Valentine, H. Osterndorf, F. M. Welter, D. Appich, J. A. Wierbowski, and D. T. Simpson. IBM zBX hardware management and operational controls. *IBM Journal of Research and Development*, 56(1–2):17:1–17:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Velardi:1988:CGA

[VPD88] Paola Velardi, Maria Teresa Pazienza, and Mario De'Giovanetti. Conceptual graphs for the analysis and generation of sentences. *IBM Journal of Research and Development*, 32(2): 251–267, March 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vassiliadis:1988:PEA

[VPS88] Stamatis Vassiliadis, Michael Putrino, and Eric M. Schwarz. Parallel encrypted array multipliers. *IBM Journal of Research and Development*, 32(4):536–551, July 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Varshney:2019:BDA

[VPV+19] L. R. Varshney, F. Pinel, K. R. Varshney, D. Bhattacharjya, A. Schörgendorfer, and Y.-M. Chee. A big data approach to computational creativity: The curious case of Chef Watson. *IBM Journal of Research and Development*, 63

(1):7:1–7:18, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vouk:2009:UVT

[VRA+09] M. A. Vouk, A. Rindos, S. F. Averitt, J. Bass, M. Bugaev, A. Kurth, A. Peeler, H. E. Schaffer, E. D. Sills, S. Stein, J. Thompson, and M. Valenzisi. Using VCL technology to implement distributed reconfigurable data centers and computational services for educational institutions. *IBM Journal of Research and Development*, 53(4):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/534/vouk.html`.

Vahaniitty:2010:SSO

[VRL10] J. Vähäniitty, K. Rautiainen, and C. Lassenius. Small software organizations need explicit project portfolio management. *IBM Journal of Research and Development*, 54 (2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/vahaniitty.html`.

vonHorn:1957:DTR

[vS57] H. B. von Horn and W. Y. Stevens. Determination of transient response of a drift transistor using the diffusion equation. *IBM Journal of Research and Development*, 1(2): 189–191, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392740`.

vonGutfeld:1998:EML

[vS98] R. J. von Gutfeld and K. G. Sheppard. Electrochemical microfabrication by laser-enhanced photothermal processes. *IBM Journal of Research and Development*, 42(5): 639–653, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/425/vongutfeld.html`.

VanBlerkom:1965:ASD

[VSF65] R. VanBlerkom, R. E. Sears, and D. G. Freeman. Analysis and simulation of a digital matched filter receiver of pseudo-noise signals. *IBM Journal of Research and Development*, 9(4):264–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Viswanathan:2009:EDD

[VSS+09] M. Viswanathan, H. Shaikh, A. Sailer, Y. Song, X. Fang, Y. H. Wu, Z. L. Zou, K. P. Reddy, A. Deshmukh, M. Gupta, B. Krishnamurthy, M. Sethi, B. Viswanathan, J. G. Gulla, and F. Matar. ER-

MIS: Designing, developing, and delivering a remote managed infrastructure services solution. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/viswanathan-shaikh.html`.

Viecco:2009:PAA

[VTC09] C. Viecco, A. Tsow, and L. J. Camp. A privacy-aware architecture for a Web rating system. *IBM Journal of Research and Development*, 53 (2):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/532/viecco.html`.

Vida-Torku:1990:TGV

[VTMB+90] E. K. Vida-Torku, J. A. Monzel, T. L. Bossis, C. E. Radke, and D. M. Wu. Test generation for VLSI chips with embedded memories. *IBM Journal of Research and Development*, 34(2/3):276–288, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vuillemin:1964:HFG

[Vui64] J. J. Vuillemin. High field galvanomagnetic effects in bismuth. *IBM Journal of Research and Development*, 8(3):232–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vural:1970:HFN

[Vur70] B. Vural. High-field nonohmic behavior of the p-type ferromagnetic semiconductor $Ag_x/Cd_{1-x}/Cr_2/Se_4$. *IBM Journal of Research and Development*, 14(3):292–294, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanEmdeBoas:1986:SEH

[vv86a] Chica van Emde Boas and Peter van Emde Boas. Storing and evaluating Horn-clause rules in a relational database. *IBM Journal of Research and Development*, 30(1):80–92, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

vanKempen:1986:AHS

[vv86b] H. van Kempen and G. F. A. van de Walle. Applications of a high-stability scanning tunneling microscope. *IBM Journal of Research and Development*, 30(5):509–514, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Vlachos:2016:TIP

[VVHL16] M. Vlachos, V. G. Vassiliadis, R. Heckel, and A. Labbi. Toward interpretable predictive models in B2B recommender systems. *IBM Journal of Research and Development*, 60 (5–6):11:1–11:12, September/

November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580713/`.

Vahtra:1978:EPH

[VW78] U. Vahtra and R. F. Wolter. Electrophotographic process in a high speed printer. *IBM Journal of Research and Development*, 22(1):34–39, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Valentine:2002:ASE

[VWE02] B. D. Valentine, H. Weber, and J. D. Eggleston. The alternate support element, a high-availability service console for the IBM eServer z900. *IBM Journal of Research and Development*, 46(4/5):559–566, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/464/valentine.html`; `http://www.research.ibm.com/journal/rd/464/valentine.pdf`.

Vaughn:2011:TEE

[VWJK11] J. M. Vaughn, C. Wan, K. D. Jamison, and M. E. Kordesch. Thermionic electron emission microscopy of metal-oxide multilayers on tungsten. *IBM Journal of Research and Development*, 55(4):14:1–14:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

VanHorn:1990:LIC

[VWPB90] J. J. Van Horn, R. A. Waller, R. J. Prilik, and K. C. Bocash. LAN interface chip and mixed-signal testing developments. *IBM Journal of Research and Development*, 34(2/3):428–441, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wynne:1979:SBA

[WA79] J. J. Wynne and J. A. Armstrong. Systematic behavior in alkaline earth spectra: a multichannel quantum defect analysis. *IBM Journal of Research and Development*, 23(5): 490–503, September 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Woolf:2015:MES

[WA15] B. Park Woolf and I. Arroyo. A mentor for every student: One challenge for instructional software. *IBM Journal of Research and Development*, 59(6): 9:1–9:13, November/December 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wazlowski:2005:VSB

[WAB+05] M. E. Wazlowski, N. R. Adiga, D. K. Beece, R. Bellofatto, M. A. Blumrich, D. Chen, M. B. Dombrowa, A. Gara, M. E. Giampapa, R. A. Haring, P. Heidelberger, D. Hoenicke,

B. J. Nathanson, M. Ohmacht, R. Sharrar, S. Singh, B. D. Steinmacher-Burow, R. B. Tremaine, M. Tsao, A. R. Umamaheshwaran, and P. Vranas. Verification strategy for the Blue Gene/L chip. *IBM Journal of Research and Development*, 49(2/3):303–318, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/wazlowski.pdf`.

Ward:2009:TTB

[WAB+09] C. Ward, S. Agassi, K. Bhattacharya, O. Biran, R. Cocchiara, M. E. Factor, C. T. Hayashi, T. Hochberg, B. Kearney, J. Laredo, D. Loewenstern, A. E. Rodecap, J. K. Skoog, L. Shwartz, M. Thompson, R. Thompson, and Y. Wolfsthal. Toward transforming business continuity services. *IBM Journal of Research and Development*, 53 (6):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/536/ward.html`.

Warren:2016:MUE

[WAC+16] K. Warren, R. Ambrosio, B. Chen, Y. H. Fu, S. Ghosh, D. Phan, M. Sinn, C. H. Tian, and C. Visweswariah. Managing uncertainty in electricity generation and demand forecasting. *IBM Journal of Research and Development*, 60 (1):8:1–8:13, January/February 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wait:2005:IPF

[Wai05] C. D. Wait. IBM PowerPC 440 FPU with complex-arithmetic extensions. *IBM Journal of Research and Development*, 49 (2/3):249–254, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/492/wait.pdf`.

Walsh:1957:STS

[Wal57] J. L. Walsh. A symmetrical-transistor steering circuit. *IBM Journal of Research and Development*, 1(2):185–188, April 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392739`.

Walton:1958:DRP

[Wal58] C. A. Walton. A direct-reading printed-circuit commutator for analog-to-digital data conversion. *IBM Journal of Research and Development*, 2(3): 178–192, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392620`.

Walker:1986:KSP

[Wal86] Adrian Walker. Knowledge systems: Principles and practice. *IBM Journal of Research and Development*, 30(1):2–13, January 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:1960:TMM

[Wan60] Hao Wang. Toward mechanical mathematics. *IBM Journal of Research and Development*, 4(1):2–22, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392526`.

Warten:1963:ASS

[War63] R. M. Warten. Automatic step-size control for Runge–Kutta integration. *IBM Journal of Research and Development*, 7 (4):340–341, ???? 1963. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392262`.

Warran:1990:ISI

[War90] H. S. Warran, Jr. Instruction scheduling for the IBM RISC System/6000 processor. *IBM Journal of Research and Development*, 34(1):85–92, January 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/341/ibmrd3401J.pdf`.

Warlaumont:1993:PXR

[War93] John M. Warlaumont. Preface: X-ray lithography. *IBM Journal of Research and Development*, 37(3):288–289, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Washo:1977:RMS

[Was77] Basil D. Washo. Rheology and modeling of the spin coating process. *IBM Journal of Research and Development*, 21(2): 190–198, March 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Washburn:1988:FEC

[Was88] S. Washburn. Fluctuations in the extrinsic conductivity of disordered metal. *IBM Journal of Research and Development*, 32(3):335–346, May 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Watanabe:1960:ITAa

[Wat60a] Satosi Watanabe. Information theoretical analysis of multivariate correlation. *IBM Journal of Research and Development*, 4(1):66–82, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392532`.

Watanabe:1960:ITAb

[Wat60b] Satosi Watanabe. Information-theoretical aspects of induc-

tive and deductive inference. *IBM Journal of Research and Development*, 4(2):208–231, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392554`.

Wittekoek:1970:MIB

[WB70] S. Wittekoek and P. F. Bongers. Magneto-optical investigation of the band edge of $CdCr_2S_4$ and related absorption measurements on Cr-doped $CdIn_2S_4$. *IBM Journal of Research and Development*, 14(3):312–314, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wendel:2011:IPP

[WBD+11] D. F. Wendel, J. Barth, D. M. Dreps, S. Islam, J. Pille, and J. A. Tierno. IBM POWER7 processor circuit design. *IBM Journal of Research and Development*, 55(3):1:1–1:8, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Winkel:2004:FSL

[WBH+04] T.-M. Winkel, W. D. Becker, H. Harrer, H. Pross, D. Kaller, B. Garben, B. J. Chamberlin, and S. A. Kuppinger. First- and second-level packaging of the z990 processor cage. *IBM Journal of Research and Development*, 48(3/4):379–394, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/winkel.html; http://www.research.ibm.com/journal/rd/483/winkel.pdf`.

Wolpert:2018:IZE

[WBS+18] D. Wolpert, E. Behnen, L. Sigal, Y. Chan, G. E. Téllez, D. Bradley, R. Serton, R. Veerabhadraiah, W. Ansley, A. Bianchi, N. Dhanwada, S. Lee, M. Scheuermann, G. Wiedemeier, J. Davis, T. Werner, L. Darden, K. Barkley, M. Gray, M. Guzowski, M. DeHond, T. Schell, S. Tsapepas, D. Phan, K. Acharya, J. A. Zitz, H. F. Shi, C. Berry, J. Warnock, M. H. Wood, and R. M. Averill III. IBM z14: Enabling physical design in 14-nm technology for high-performance, high-reliability microprocessors. *IBM Journal of Research and Development*, 62(2–3):10:1–10:14, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8276273/`.

Woodward:2010:AMS

[WBT+10] E. V. Woodward, R. Bowers, V. S. Thio, K. Johnson, M. Srihari, and C. J. Bracht. Agile methods for software practice transformation. *IBM Journal of Research and Development*, 54(2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646

(print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/woodward.html`.

Warnock:2015:IZC

[WBW+15] J. Warnock, C. Berry, M. H. Wood, L. Sigal, Y. Chan, G. Mayer, M. Mayo, Y. Chan, F. Malgioglio, G. Strevig, C. Nagarajan, S. Carey, G. Salem, F. Schroeder, H. H. Smith, D. Phan, R. H. Nigaglioni, T. Strach, M. M. Ziegler, N. Fricke, K. Lind, J. L. Neves, S. H. Rangarajan, J. P. Surprise, J. M. Isakson, J. Badar, D. Malone, D. W. Plass, A. Aipperspach, D. F. Wendel, R. M. Averill, and R. Puri. IBM z13 circuit design and methodology. *IBM Journal of Research and Development*, 59(4–5):15:1–15:15, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wilburn:1969:COA

[WC69] N. P. Wilburn and L. D. Coffin. Combination of on-line analysis with collection of multicomponent spectra in an on-line computer. *IBM Journal of Research and Development*, 13(1):46–51, January 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wu:1975:ALT

[WC75] R. M. Wu and Yen Bin Chen. Analysis of a loop transmission system with round-robin scheduling of services. *IBM Journal of Research and Development*, 19(5):486–493, September 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Winarski:1986:MDC

[WCB+86] Daniel J. Winarski, William W. Chow, Joseph G. Bullock, Frederick B. Froehlich, and Thomas G. Osterday. Mechanical design of the cartridge and transport for the IBM 3480 magnetic tape subsystem. *IBM Journal of Research and Development*, 30(6):635–644, November 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wyman:2007:ZZI

[WCK+07] L. W. Wyman, J. Castaño, J. P. Kubala, R. J. Maddison, B. R. Pierce, and R. R. Rogers. zAAPs and zIIPs: Increasing the strategic value of System z. *IBM Journal of Research and Development*, 51(1/2):77–86, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/wyman.html`.

Welbon:1994:PPM

[WCNSH94] E. H. Welbon, C. C. Chan-Nui, D. J. Shippy, and D. A. Hicks. The POWER2 performance monitor. *IBM Journal of Research and Development*, 38(5):545–554, September 1994.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#six`.

Williams:2010:P

[WCRiC10] Clay Williams, Murray Cantors, John J. Ritsko, and Editor in Chief. Preface. *IBM Journal of Research and Development*, 54(2):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/preface.html`.

Wolf:2006:SRP

[WCT06] S. A. Wolf, A. Y. Chtchelkanova, and D. M. Treger. Spintronics—A retrospective and perspective. *IBM Journal of Research and Development*, 50(1):101–110, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/wolf.html`.

Wong:1982:DAS

[WCW82] K. Y. Wong, R. G. Casey, and F. M. Wahl. Document Analysis System. *IBM Journal of Research and Development*, 26(6): 647–656, November 1982. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

White:1994:PNG

[WD94] S. W. White and S. Dhawan. POWER2: Next generation of the RISC System/6000 family. *IBM Journal of Research and Development*, 38(5):493–502, September 1994. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-5.html#two`.

West:2005:EPI

[WDA05] A. C. West, H. Deligianni, and P. C. Andricacos. Electrochemical planarization of interconnect metallization. *IBM Journal of Research and Development*, 49(1):37–48, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/491/west.pdf`.

Webb:2000:MD

[Web00] C. F. Webb. S/390 microprocessor design. *IBM Journal of Research and Development*, 44(6):899–907, November 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/446/webb.html`.

Weeks:1972:MTT

[Wee72] W. T. Weeks. Multiconductor transmission-line theory in the TEM approximation. *IBM Journal of Research and Development*, 16(6):604–611, November 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Weeks:1979:ESE

[Wee79] William T. Weeks. Exploiting symmetry in electrical packaging analysis. *IBM Journal of Research and Development*, 23(6):669–674, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Weiser:1965:PGD

[Wei65] K. Weiser. Properties of GaAs diodes with P–P^0–N structures. *IBM Journal of Research and Development*, 9(4):315–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Weinberger:1979:HPL

[Wei79] Arnold Weinberger. High-speed programmable logic array adders. *IBM Journal of Research and Development*, 23 (2):163–178, March 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Weinberger:1991:ADO

[Wei91] A. Weinberger. An adder design optimized for DCS logic. *IBM Journal of Research and Development*, 35(3):352–356, May 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Welch:1961:DDM

[Wel61] P. D. Welch. A direct digital method of power spectrum estimation. *IBM Journal of Research and Development*, 5 (2):141–156, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392439`.

West:1978:GTC

[Wes78] Colin H. West. General technique for communications protocol validation. *IBM Journal of Research and Development*, 22(4):393–404, July 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wesley:1990:PCM

[Wes90] M. A. Wesley. Preface: Computer modeling of products and processes. *IBM Journal of Research and Development*, 34(5): 634–635, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:2010:SHD

[WET+10] L.-K. Wang, M. A. Erle, C. Tsen, E. M. Schwarz, and M. J. Schulte. A survey of hardware designs for decimal arithmetic. *IBM Journal of Research and Development*, 54 (2):8:1–8:15, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/542/wang-schwarz.html`.

Widmer:1983:DPT

[WF83] A. X. Widmer and P. A. Franaszek. A DC-Balanced,

partitioned-block, 8B/10B transmission code. *IBM Journal of Research and Development*, 27 (5):440–451, September 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wakefield:1987:REP

[WF87] Scott P. Wakefield and Michael J. Flynn. Reducing execution parameters through correspondence in computer architecture. *IBM Journal of Research and Development*, 31(4):420–434, July 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wiltgen:2019:CTE

[WG19] B. J. Wiltgen and A. K. Goel. A computational theory of evaluation in creative design. *IBM Journal of Research and Development*, 63(1):1:1–1:11, January/February 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wu:1993:TSC

[WGC93] T. Y. Wu, Y. Guo, and W. T. Chen. Thermal-mechanical strain characterization for printed wiring boards. *IBM Journal of Research and Development*, 37(5):621–634, September 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wilcke:2006:IIB

[WGF+06] W. W. Wilcke, R. B. Garner, C. Fleiner, R. F. Freitas, R. A. Golding, J. S. Glider, D. R. Kenchammana-Hosekote, J. L. Hafner, K. M. Mohiuddin, KK Rao, R. A. Becker-Szendy, T. M. Wong, O. A. Zaki, M. Hernandez, K. R. Fernandez, H. Huels, H. Lenk, K. Smolin, M. Ries, C. Goettert, T. Picunko, B. J. Rubin, H. Kahn, and T. Loo. IBM Intelligent Bricks project—petabytes and beyond. *IBM Journal of Research and Development*, 50(2/3):181–197, March/May 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/502/wilcke.html`.

Webel:2004:RCM

[WGS04] T. Webel, T. E. Gilbert, and D. Schmunkamp. Run-control migration from single book to multibooks. *IBM Journal of Research and Development*, 48 (3/4):339–346, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/webel.html; http://www.research.ibm.com/journal/rd/483/webel.pdf`.

Winograd:1994:PMS

[WH94] S. Winograd and A. J. Hoffman. Preface: Mathematical Sciences Department, IBM Thomas J. Watson Research Center. *IBM Journal of Research and Development*, 38(3):242, March 1994.

CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd38-3.html#one`.

Walters:2018:PII

[WHC+18] C. R. Walters, D. S. Hutton, E. W. Chencinski, C. Axnix, R. Winkelmann, M. Fee, A. Saporito, and C. Jacobi. Performance innovations in the IBM z14 platform. *IBM Journal of Research and Development*, 62(2–3):7:1–7:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.ieee.org/document/8269266/`.

Wheeler:1988:WSS

[Whe88] John Archibald Wheeler. World as system self-synthesized by quantum networking. *IBM Journal of Research and Development*, 32(1):4–15, January 1988. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

White:1970:MFD

[Whi70] R. M. White. Magnetic field dependence of indirect transitions in ferromagnetic semiconductors. *IBM Journal of Research and Development*, 14 (3):318–320, May 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

White:1972:RNI

[Whi72] J. W. White. Removal of numerical instability in the solution of nonlinear heat exchange equations. *IBM Journal of Research and Development*, 16 (3):277–282, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

White:1993:CMC

[Whi93] J. R. White. Conduction mechanisms in contaminant layers on printed circuit boards. *IBM Journal of Research and Development*, 37(2):243–248, March 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Winkel:2009:PDC

[WHK+09] T.-M. Winkel, H. Harrer, D. Kaller, J. Supper, D. M. Dreps, K. L. Christian, D. Cosmadelis, T. Zhou, T. Strach, J. Ludwig, and D. L. Edwards. Packaging design challenges of the IBM System z10 enterprise class server. *IBM Journal of Research and Development*, 53(1):10:1–10:12, January/February 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/531/winkel.pdf`.

Widlund:1967:DMP

[Wid67] O. B. Widlund. On difference methods for parabolic equations and alternating direction

implicit methods for elliptic equations. *IBM Journal of Research and Development*, 11(2): 239–243, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391987`.

Wiesner:1958:CSU

[Wie58] J. B. Wiesner. Communication sciences in a university environment. *IBM Journal of Research and Development*, 2 (4):268–275, ???? 1958. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392638`.

Wiederhold:1976:COS

[Wie76] Gio Wiederhold. Comment on: "Segment synthesis in logical data base design" (IBM J. Res. Develop. **19** (1975), 71–77) by C. P. Wang and H. H. Wedekind. with a reply by the authors. *IBM Journal of Research and Development*, 20(3):290, May 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See [WW75] and comment [Ber76a].

Wiesenfeld:1990:ESH

[Wie90] J. M. Wiesenfeld. Electro-optic sampling of high-speed devices and integrated circuits. *IBM Journal of Research and Development*, 34(2/3):141–161, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Williams:1985:DIS

[Wil85] Thomas H. Williams. Design and implementation of the Selectric System/2000. *IBM Journal of Research and Development*, 29(5):443–448, September 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wilson:1993:XLI

[Wil93] Alan D. Wilson. X-ray lithography in IBM, 1980–1992, the development years. *IBM Journal of Research and Development*, 37(3):299–318, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wile:1997:DLV

[Wil97] B. Wile. Designer-level verification using TIMEDIAG/GENRAND. *IBM Journal of Research and Development*, 41(4/5): 581–591, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/wile.html`.

Williams:2009:P

[Wil09] R. Peter Williams. Preface. *IBM Journal of Research and Development*, 53(3):??, ???? 2009. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/`

abstracts/rd/533/preface.html.

Winograd:1962:CLO

[Win62] S. Winograd. Coding for logical operations. *IBM Journal of Research and Development*, 6(4):430–436, ???? 1962. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392317.

Winthrop:1970:SSH

[Win70] J. T. Winthrop. Structural-information storage in holograms. *IBM Journal of Research and Development*, 14(5): 501–508, September 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Winters:1978:CEW

[Win78] Harold F. Winters. Chemisorption of ethane on W(111). *IBM Journal of Research and Development*, 22(3):260–264, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wittrock:1985:SAF

[Wit85] Robert J. Wittrock. Scheduling algorithms for flexible flow lines. *IBM Journal of Research and Development*, 29(4):401–412, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

West:1986:CAS

[WKB+86] Paul West, John Kramar, David V. Baxter, Robert J. Cave, and John D. Baldeschwieler. Chemical applications of scanning tunneling microscopy. *IBM Journal of Research and Development*, 30(5): 484–491, September 1986. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wong:1998:MPH

[WKD98] K. K. H. Wong, S. Kaja, and P. W. DeHaven. Metallization by plating for high-performance multichip modules. *IBM Journal of Research and Development*, 42(5):587–596, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.almaden.ibm.com/journal/rd/425/wong.html.

Wang:2012:RES

[WKF+12] C. Wang, A. Kalyanpur, J. Fan, B. K. Boguraev, and D. C. Gondek. Relation extraction and scoring in DeepQA. *IBM Journal of Research and Development*, 56(3–4):9:1–9:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Warnock:2002:CPD

[WKP+02] J. D. Warnock, J. M. Keaty, J. Petrovick, J. G. Clabes, C. J. Kircher, B. L. Krauter, P. J. Restle, B. A. Zoric, and C. J. Anderson. The circuit and

physical design of the POWER4 microprocessor. *IBM Journal of Research and Development*, 46 (1):27–51, January 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/461/warnock.html; http://www.research.ibm.com/journal/rd/461/warnock.pdf`.

Wajda:1960:EGS

[WKW60] E. S. Wajda, B. W. Kippenhan, and W. H. White. Epitaxial growth of silicon [letter to the editor]. *IBM Journal of Research and Development*, 4(3):288–295, ???? 1960. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392496`.

Warnecke:1973:RID

[WL73] A. J. Warnecke and P. J. LoPresti. Refractive index dispersion in semiconductor-related thin films. *IBM Journal of Research and Development*, 17 (3):256–262, May 1973. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Webb:1997:HFC

[WL97] C. F. Webb and J. S. Liptay. A high-frequency custom CMOS S/390 microprocessor. *IBM Journal of Research and Development*, 41(4/5):463–473, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/webb.html`.

Webel:2015:RPM

[WLB+15] T. Webel, P. M. Lobo, R. Bertran, G. M. Salem, M. Allen-Ware, R. Rizzolo, S. M. Carey, T. Strach, A. Buyuktosunoglu, C. Lefurgy, P. Bose, R. Nigaglioni, T. Slegel, M. S. Floyd, and B. W. Curran. Robust power management in the IBM z13. *IBM Journal of Research and Development*, 59(4–5):16:1–16:12, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Waicukauski:1989:MGW

[WLEF89] John A. Waicukauski, Eric Lindbloom, Edward B. Eichelberger, and Orazio P. Forlenza. A method for generating weighted random test patterns. *IBM Journal of Research and Development*, 33(2): 149–161, March 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:2017:PMB

[WLH+17] J. Wang, C. Li, S. Han, S. Sarkar, and X. Zhou. Predictive maintenance based on event-log analysis: A case study. *IBM Journal of Research and Development*, 61(1): 11:121–11:132, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

URL `http://ieeexplore.ieee.org/document/7877280/`.

Willebeek-LeMair:1998:BAV

[WLKS98] M. H. Willebeek-LeMair, K. G. Kumar, and E. C. Snible. Bamba — Audio and video streaming over the Internet. *IBM Journal of Research and Development*, 42(2): 269–280, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/422/willebeek.html`.

Wesley:1980:GMS

[WLPL+80] M. A. Wesley, T. Lozano-Perez, L. I. Lieberman, M. A. Lavin, and D. D. Grossman. Geometric modeling system for automated mechanical assembly. *IBM Journal of Research and Development*, 24(1):64–74, January 1980. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Webel:2020:PPM

[WLS+20] T. Webel, P. M. Lobo, T. Strach, P. B. Parashurama, S. Purushotham, R. Bertran, and A. Buyuktosunoglu. Proactive power management in IBM z15. *IBM Journal of Research and Development*, 64 (5/6):15:1–15:12, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wesley:1981:FP

[WM81] M. A. Wesley and G. Markowsky. Fleshing out projections. *IBM Journal of Research and Development*, 25(6):934–954, November 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wiederhold:1992:ASP

[WM92] Gio Wiederhold and John McCarthy. Arthur Samuel: Pioneer in machine learning. *IBM Journal of Research and Development*, 36(3):329–331, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Walters:2015:IZP

[WMB+15] C. R. Walters, P. Mak, D. P. D. Berger, M. A. Blake, T. C. Bronson, K. D. Klapproth, A. J. O'Neill, R. J. Sonnelitter, and V. K. Papazova. The IBM z13 processor cache subsystem. *IBM Journal of Research and Development*, 59(4–5):3:1–3:14, July/September 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wile:1997:FVC

[WMH+97] B. Wile, M. P. Mullen, C. Hanson, D. G. Bair, K. M. Lasko, P. J. Duffy, E. J. Kaminski, Jr., T. E. Gilbert, S. M. Licker, R. G. Sheldon, W. D. Wollyung, W. J. Lewis, and R. J. Adkins. Functional verification of the CMOS S/390 Parallel Enterprise Server G4 system. *IBM*

Journal of Research and Development, 41(4/5):549–566, ???? 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/414/mullen.html`.

Webb:2007:PSR

[WMK+07] A. M. Webb, R. Mansell, J. W. Knight, S. J. Greenspan, and D. B. Emmes. Practical software reuse for IBM System z I/O subsystems. *IBM Journal of Research and Development*, 51(1/2):229–243, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/webb.html`.

Webel:2020:ZSS

[WMK20] T. Webel, O. Morlok, and D. Kiss. z15 selfboot and secure boot. *IBM Journal of Research and Development*, 64(5/6):5:1–5:9, 2020. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wittern:2016:AHG

[WML+16] E. Wittern, V. Muthusamy, J. A. Laredo, M. Vukovic, A. Slominski, S. Rajagopalan, H. Jamjoom, and A. Natarajan. API Harmony: Graph-based search and selection of APIs in the cloud. *IBM Journal of Research and Development*, 60(2–3):12:1–12:11, March/May 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wetter:1992:UNL

[WN92] T. Wetter and R. Nuse. Use of natural language for knowledge acquisition: Strategies to cope with semantic and pragmatic variation. *IBM Journal of Research and Development*, 36(3):435–468, May 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Williams:1991:VMD

[WNBP91] G. N. Williams, E. L. Nelson, D. M. Barnett, and K. Parmley. Visualization of molecular dynamics via ray-tracing and animation in a vectorized environment. *IBM Journal of Research and Development*, 35(1/2):108–118, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wu:2002:CSB

[WNV+02] E. Y. Wu, E. J. Nowak, A. Vayshenker, W. L. Lai, and D. L. Harmon. CMOS scaling beyond the 100-nm node with silicon-dioxide-based gate dielectrics. *IBM Journal of Research and Development*, 46 (2/3):287–298, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/wu.html`; `http://www.research.ibm.com/journal/rd/462/wu.pdf`.

Wright:2010:SSP

[WNW+10] C. P. Wright, E. M. Nahum, D. Wood, J. M. Tracey, and E. C. Hu. SIP server performance on multicore systems. *IBM Journal of Research and Development*, 54 (1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/wright-tracey.html`.

Wolf:1970:MPS

[Wol70] P. Wolf. Microwave properties of Schottky-Barrier field-effect transistors. *IBM Journal of Research and Development*, 14 (2):125–141, March 1970. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wolfe:1972:CGM

[Wol72] Philip Wolfe. On the convergence of gradient methods under constraint. *IBM Journal of Research and Development*, 16 (4):407–411, July 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). Mathematics of numerical computation.

Wong:1990:ATS

[Won90] R. C. Wong. An AC test structure for fast memory arrays. *IBM Journal of Research and Development*, 34(2/3):314–324, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wong:2002:BCT

[Won02] H.-S. P. Wong. Beyond the conventional transistor. *IBM Journal of Research and Development*, 46(2/3):133–168, ???? 2002. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/462/wong.html; http://www.research.ibm.com/journal/rd/462/wong.pdf`.

Wood:1975:HDP

[Woo75] R. A. Wood. High-speed dynamic programmable logic array chip. *IBM Journal of Research and Development*, 19 (4):379–383, July 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Woodcock:1987:TPP

[Woo87] J. C. P. Woodcock. Transaction processing primitives and CSP. *IBM Journal of Research and Development*, 31(5): 535–545, September 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wootters:2004:PQP

[Woo04] W. K. Wootters. Picturing qubits in phase space. *IBM Journal of Research and Development*, 48(1):99–??, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/481/wootters.pdf`.

Worledge:2006:SDM

[Wor06] D. C. Worledge. Single-domain model for toggle MRAM. *IBM Journal of Research and Development*, 50(1):69–79, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/501/worledge.html`.

Watteyne:2011:SCT

[WP11] T. Watteyne and K. S. J. Pister. Smarter cities through standards-based wireless sensor networks. *IBM Journal of Research and Development*, 55(1–2):7:1–7:10, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wieder:1969:EBW

[WPH69] H. Wieder, R. V. Pole, and P. F. Heidrich. Electron beam writing of spatial filters. *IBM Journal of Research and Development*, 13(2):169–171, March 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Webel:2012:SMP

[WPL+12] T. Webel, T. Pflueger, R. Ludewig, C. Lichtenau, W. Niklaus, and R. Schaufler. Scalable and modular pervasive logic/firmware design. *IBM Journal of Research and Development*, 56(1–2):5:1–5:10, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

White:1983:ITO

[WR83] J. M. White and G. D. Rohrer. Image thresholding for optical character recognition and other applications requiring character image extraction. *IBM Journal of Research and Development*, 27(4):400–411, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wickramasinghe:1995:P

[WR95] H. K. Wickramasinghe and D. Rugar. Preface. *IBM Journal of Research and Development*, 39(6):602, November 1995. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd39-6.html#one`.

Wisnieff:2000:EDI

[WR00] R. L. Wisnieff and J. J. Ritsko. Electronic displays for information technology. *IBM Journal of Research and Development*, 44(3):409–422, May 2000. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/443/wisnieff.html`.

Wrenner:1983:LMP

[Wre83] Warren R. Wrenner. Large multi-layer panel-drilling system. *IBM Journal of Research and Development*, 27(3):285–291, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Westerink:1999:TPM

[WRG99] P. H. Westerink, R. Rajagopalan, and C. A. Gonzales. Two-pass MPEG-2 variable-bit-rate encoding. *IBM Journal of Research and Development*, 43(4):471–488, July 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/434/westerink.html`.

Wright:1983:DCA

[Wri83] Robert E. Wright. Documenting a computer architecture. *IBM Journal of Research and Development*, 27(3):257–264, May 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Walker:1957:EMA

[WRLA57] R. M. Walker, D. E. Rosenheim, P. A. Lewis, and A. G. Anderson. An experimental 50-megacycle arithmetic unit. *IBM Journal of Research and Development*, 1(3):257–278, July 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392687; http://www.research.ibm.com/journal/rd/013/ibmrd0103H.pdf`.

Williams:1964:AWP

[WS64] G. A. Williams and G. E. Smith. Alfvén wave propagation in bismuth: Quantum oscillations of the Fermi surface. *IBM Journal of Research and Development*, 8(3):276–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wilson:1972:HID

[WS72] A. D. Wilson and D. H. Strope. Holographic interferometry deformation study of a printer type-piece. *IBM Journal of Research and Development*, 16 (3):258–268, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:1975:TVC

[WS75] P. P. Wang and O. S. Spencer. Threshold voltage characteristics of double-boron-implanted enhancement-mode MOSFETs. *IBM Journal of Research and Development*, 19(6):530–538, November 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Winkler:1990:FPP

[WSBL90] D. Winkler, R. Schmitt, M. Brunner, and B. Lischke. Flexible picosecond probing of integrated circuits with chopped electron beams. *IBM Journal of Research and Development*, 34(2/3):189–203, March/May 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Webster:2017:PCS

[WSCK17] E. Webster, N. Sukaviriya, H. Y. Chang, and J. Kozloski.

Predicting cognitive states from wearable recordings of autonomic function. *IBM Journal of Research and Development*, 61 (2–3):2:1–2:11, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7921701/`.

Weimer:2016:DFM

[WSE+16] B. C. Weimer, D. B. Storey, C. A. Elkins, R. C. Baker, P. Markwell, D. D. Chambliss, S. B. Edlund, and J. H. Kaufman. Defining the food microbiome for authentication, safety, and process management. *IBM Journal of Research and Development*, 60(5–6):1:1–1:13, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580718/`.

Womble:2019:EES

[WSJ+19] D. E. Womble, M. Shankar, W. Joubert, J. T. Johnston, J. C. Wells, and J. A. Nichols. Early experiences on Summit: Data analytics and AI applications. *IBM Journal of Research and Development*, 63(6): 2:1–2:9, November 2019. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wilson:1993:HCS

[WSK+93] M. N. Wilson, A. I. C. Smith, V. C. Kempson, M. C. Townsend, J. C. Schouten, R. J. Anderson, A. R. Jorden, V. P. Suller, and M. W. Poole. The Helios 1 compact superconducting storage ring X-ray source. *IBM Journal of Research and Development*, 37(3):351–371, May 1993. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wahl:1983:HOI

[WSW83] Friedrich Wahl, Samuel So, and Kwan Wong. Hybrid optical-digital image processing method for surface inspection. *IBM Journal of Research and Development*, 27(4):376–385, July 1983. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wong:1977:DMF

[WT77] Chak-Kuen K. Wong and Donald T. Tang. Dynamic memories with faster random and sequential access. *IBM Journal of Research and Development*, 21(3):281–288, May 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wejchert:1991:VPN

[WT91] J. Wejchert and G. Tesauro. Visualizing processes in neural networks. *IBM Journal of Research and Development*, 35 (1/2):244–253, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wnuk:1964:CSC

[WTP64] R. C. Wnuk, T. R. Touw, and B. Post. The crystal structure of $CaPd_3O_4$. *IBM Journal of Research and Development*, 8(2):185–??, April 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/082/ibmrd0802L.pdf`.

Wall:2011:SOC

[WTS+11] D. Wall, S. Tikhonov, S. Sindermann, D. Spoddig, C. Hassel, M. Horn von Hoegen, and F.-J. Meyer zu Heringdorf. Shape, orientation, and crystalline composition of silver islands on Si(111). *IBM Journal of Research and Development*, 55(4):9:1–9:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Whitmore:2014:TAS

[WTT+14] J. Whitmore, S. Turpe, S. Triller, A. Poller, and C. Carlson. Threat analysis in the software development lifecycle. *IBM Journal of Research and Development*, 58(1):6:1–6:13, January–February 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wieder:1971:CGL

[WW71] H. Wieder and H. Werlich. Characteristics of GaAs laser arrays designed for beam addressable memories. *IBM Journal of Research and Development*, 15(4):272–277, July 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:1975:SSL

[WW75] C. P. Wang and H. H. Wedekind. Segment synthesis in logical data base design. *IBM Journal of Research and Development*, 19(1):71–77, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). See comments [Ber76a, Wie76].

Wright:1998:ALR

[WWA+98] S. L. Wright, K. W. Warren, P. M. Alt, R. R. Horton, C. Narayan, P. F. Greier, and M. Kodate. Active line repair for thin-film-transistor liquid crystal displays. *IBM Journal of Research and Development*, 42(3/4):445–457, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/wright.html`.

Wolfe:1987:SMP

[WWK+87] Robert N. Wolfe, Michael A. Wesley, James C. Kyle, Jr., Franklin Gracer, and William J. Fitzgerald. Solid modeling for production design. *IBM Journal of Research and Development*, 31(3):277–295, May 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Werner:1967:NFC

[WWLF67] G. E. Werner, R. M. Whalen, N. F. Lockhart, and R. C. Flaker. A 110-nanosecond ferrite core memory. *IBM Journal of Research and Development*, 11(2):153–161, ???? 1967. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5391975`.

Weeks:1979:RIS

[WWMS79] William T. Weeks, Leon Li-Heng Wu, Michael F. McAllister, and Ajit Singh. Resistive and inductive skin effect in rectangular conductors. *IBM Journal of Research and Development*, 23(6):652–660, November 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wong:1976:DOM

[WY76] Chak-Kuen Wong and Po Cheung Yue. Data organization in magnetic bubble lattice files. *IBM Journal of Research and Development*, 20(6): 576–581, November 1976. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wisniewski:2003:EEC

[WYF+03] M. Y. L. Wisniewski, E. Yashchin, R. L. Franch, D. P. Conrady, G. Fiorenza, and I. C. Noyan. Estimating the efficiency of collaborative problem-solving, with applications to chip design. *IBM Journal of Research and Development*, 47 (1):77–88, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/471/wisniewski.pdf`.

Wyma:1957:TDP

[Wym57] E. R. Wyma. A three-dimensional printed back panel. *IBM Journal of Research and Development*, 1(1):32–38, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392714`.

Wyner:1964:NCB

[Wyn64] A. D. Wyner. A note on a class of binary cyclic codes which correct solid-burst errors. *IBM Journal of Research and Development*, 8(1):68–69, January 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/081/ibmrd0801I.pdf`.

Wong:1992:TCD

[WYS92] H.-S. Wong, Y. L. Yao, and E. S. Schlig. TDI charge-coupled devices; design and applications. *IBM Journal of Research and Development*, 36(1): 83–106, January 1992. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wyman:2004:MLC

[WYTO04] L. W. Wyman, H. M. Yudenfriend, J. S. Trotter, and K. J. Oakes. Multiple-logical-channel subsystems: Increasing zSeries I/O scalability and connectivity. *IBM Journal of Research and Development*, 48 (3/4):489–505, ???? 2004. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/483/wyman.html; http://www.research.ibm.com/journal/rd/483/wyman.pdf`.

West:1978:AVC

[WZ78] C. H. West and P. Zafiropulo. Automated validation of a communications protocol: The CCITT X.21 recommendations. *IBM Journal of Research and Development*, 22(1):60–71, January 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Wang:2010:BBS

[WZC+10] C. Wang, Y. Zhang, X. Chen, Z. Liu, L. Shi, G. Chen, F. Qiu, C. Ying, and W. Lu. A behavior-based SMS antispam system. *IBM Journal of Research and Development*, 54(6): 3:1–3:16, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yamashita:1996:DRS

[YAH+96] A. Yamashita, T. Amano, Y. Hirayama, N. Itoh, S. Katoh, T. Mano, and K. Toyokawa. A document recognition system and its applications. *IBM Journal of Research and Development*, 40(3):341–352, May 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-3.html#five`.

Yu:1990:SCW

[YAJ90] M. L. Yu, K. Y. Ahn, and R. V. Joshi. Surface chemistry of the WF_6-based chemical vapor deposition of tungsten. *IBM Journal of Research and Development*, 34(6):875–883, November 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yannoni:1971:MNM

[Yan71] C. S. Yannoni. On measuring nuclear magnetic shielding anisotropies in liquid crystal solvents. *IBM Journal of Research and Development*, 15(1): 59–63, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yanagisawa:2007:MAP

[Yan07] H. Yanagisawa. The material allocation problem in the steel industry. *IBM Journal of Research and Development*, 51 (3/4):363–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/yanagisawa.html`.

Yarter:2012:PCD

[Yar12] L. C. Yarter. Private cloud delivery model for supplying centralized analytics services. *IBM Journal of Research and Development*, 56(6): 10:1–10:6, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353964`.

Yashchin:1985:ADC

[Yas85] Emmanuel Yashchin. On the analysis and design of Cusum-Shewhart control schemes. *IBM Journal of Research and Development*, 29(4):377–391, July 1985. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yashchin:1987:SAT

[Yas87] Emmanuel Yashchin. Some aspects of the theory of statistical control schemes. *IBM Journal of Research and Development*, 31(2):199–205, March 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yashchin:2007:MRL

[Yas07] E. Yashchin. Modeling of risk losses using size-biased data. *IBM Journal of Research and Development*, 51 (3/4):309–??, April/May 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/513/yashchin.html`.

Yaeli:2014:UCB

[YBF+14] A. Yaeli, P. Bak, G. Feigenblat, S. Nadler, H. Roitman, G. Saadoun, H. J. Ship, D. Cohen, O. Fuchs, S. Ofek-Koifman, and T. Sandbank. Understanding customer behavior using indoor location analysis and visualization. *IBM Journal of Research and Development*, 58(5/6):3:1–3:12, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yarmchuk:2005:LDS

[YCB05] E. J. Yarmchuk, C. W. Cline, and D. C. Bruen. Latent defect screening for high-reliability glass-ceramic multichip module copper interconnects. *IBM Journal of Research and Development*, 49(4/5):677–685, ???? 2005. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/494/yarmchuk.html`.

Yadav:2017:USN

[YCJ+17] A. Yadav, H. Chan, A. X. Jiang, H. Xu, E. Rice, R. Petering, and M. Tambe. Using social networks to raise HIV awareness among homeless youth. *IBM Journal of Research and Development*, 61(6): 4:1–4:10, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Young:1978:CET

[YDHS78] Donald R. Young, Donelli J. DiMaria, William R. Hunter, and Carlos M. Serrano. Characterization of electron traps in aluminum-implanted SiO_2. *IBM Journal of Research and Development*, 22(3):285–288, May 1978. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yetzer:1989:TSM

[Yet89] Roger H. Yetzer. Time series in M dimensions: The power spectrum. *IBM Journal of Research and Development*, 33 (4):464–469, July 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yhap:1981:OCC

[YG81] Ernesto F. Yhap and Evon C. Greanias. An on-line Chinese character recognition system. *IBM Journal of Research and Development*, 25(2/3):187–195, May/June 1981. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yesudas:2014:CBM

[YGR14] M. Yesudas, S. Gupta, and H. Ramamurthy. Cloud-based mobile commerce for grocery purchasing in developing countries. *IBM Journal of Research and Development*, 58(5/6):16:1–16:7, September 2014. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Young:1971:PTS

[YHA71] W. R. Young, I. Haller, and A. Aviram. Preparation and thermodynamics of some homologous nitrones, a new group of liquid crystals. *IBM Journal of Research and Development*, 15(1):41–51, January 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yhap:1975:KMC

[Yha75] E. F. Yhap. Keyboard method for composing Chinese characters. *IBM Journal of Research and Development*, 19(1):60–70, January 1975. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yang:1998:NLM

[YL98] K. H. Yang and M. Lu. Nematic LC modes and LC phase gratings for reflective spatial light modulators. *IBM Journal of Research and Development*, 42 (3/4):401–410, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/423/yang.html`.

Yesudas:2014:IOD

[YMR14] M. Yesudas, G. Menon, and V. Ramamurthy. Intelligent operational dashboards for smarter commerce using big data. *IBM Journal of Research and Development*, 58 (5/6):13:1–13:10, September 2014. CODEN IBMJAE. ISSN

0018-8646 (print), 2151-8556 (electronic).

Young:1957:P

[You57] D. R. Young. Preface. *IBM Journal of Research and Development*, 1(4):293, October 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392694`.

Young:1990:FEA

[You90] K. F. Young. Finite element analysis of planar stress anisotropy and thermal behavior in thin films. *IBM Journal of Research and Development*, 34(5):706–717, September 1990. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Young:1991:VSH

[YR91] F. W. Young and P. Rheingans. Visualizing structure in high-dimensional multivariate data. *IBM Journal of Research and Development*, 35(1/2):97–107, January/March 1991. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Young:1964:SES

[YS64] D. R. Young and D. P. Seraphim. Surface effects on silicon: Introduction. *IBM Journal of Research and Development*, 8(4):366–??, September 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yeh:1999:CCC

[YS99] P. C. Yeh and R. M. Smith, Sr. S/390 CMOS cryptographic coprocessor architecture: Overview and design considerations. *IBM Journal of Research and Development*, 43(5/6):777–794, September/November 1999. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/435/yeh.html`.

Yocom:2012:IZU

[YSH12] P. Yocom, H. Shah, and M. F. Hulber. IBM zEnterprise Unified Resource Manager platform performance management. *IBM Journal of Research and Development*, 56(1–2):19:1–19:12, ???? 2012. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yam:2016:SPT

[YT16] K. L. Yam and P. Takhistov. Sustainable packaging technology to improve food safety. *IBM Journal of Research and Development*, 60(5–6):9:1–9:7, September/November 2016. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/7580697/`.

Yamaguchi:2011:XPS

[YTF+11] R. Yamaguchi, K. Terashima, K. Fukumoto, Y. Takada, M. Kotsugi, Y. Miyata, K. Mima, S. Komori, S. Itoda, Y. Nakatsu, M. Yano, N. Miyamoto, T. Nakamura, T. Kinoshita, Y. Watanabe, A. Manabe, S. Suga, and S. Imada. An XMCD–PEEM study on magnetized Dy-doped Nd–Fe-B permanent magnets. *IBM Journal of Research and Development*, 55(4):12:1–12:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Yu:1961:CNC

[Yu61] H. N. Yu. The chargistor, a new class of semiconductor devices [letter to the editor]. *IBM Journal of Research and Development*, 5(4): 328–330, ???? 1961. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392395`.

Yarnell:1964:PDC

[YWWK64] J. L. Yarnell, J. L. Warren, R. G. Wenzel, and S. H. Koenig. Phonon dispersion curves in bismuth. *IBM Journal of Research and Development*, 8(3): 234–??, July 1964. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zable:1977:SDI

[Zab77] J. L. Zable. Splatter during ink jet printing. *IBM Journal of Research and Development*, 21 (4):315–320, July 1977. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zable:1979:CPE

[Zab79] J. Zable. Cylindrical print element system for a serial impact printer. *IBM Journal of Research and Development*, 23 (4):396–402, July 1979. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zaromb:1957:ADS

[Zar57] S. Zaromb. An analysis of diffusion in semiconductors. *IBM Journal of Research and Development*, 1(1): 57–61, January 1957. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5392718`.

Ziegler:2017:MLT

[ZBBB17] M. M. Ziegler, R. Bertran, A. Buyuktosunoglu, and P. Bose. Machine learning techniques for taming the complexity of modern hardware design. *IBM Journal of Research and Development*, 61(4–5):13:1–13:14, ???? 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://ieeexplore.ieee.org/document/8032559/`.

Zhang:2010:EEC

[ZBG+10] L. Zhang, S. Bao, H. Guo, H. Zhu, X. Zhang, K. Cai, B. Fei, X. Wu, Z. Guo, and Z. Su. EagleEye: Entity-centric business intelligence for smarter decisions. *IBM Journal of Research and Development*, 54(6): 1:1–1:11, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ziegler:1972:NBA

[ZBL+72] J. F. Ziegler, M. Berkenblit, T. B. Light, K. C. Park, and A. Reisman. Nuclear backscattering analysis of Nb–Nb_2/O_5–Bi structure. *IBM Journal of Research and Development*, 16 (5):530–535, September 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ziegler:1971:EEH

[ZCK71] J. F. Ziegler, B. L. Crowder, and W. J. Kleinfelder. Experimental evaluation of high energy ion implantation gradients for possible fabrication of a transistor pedestal collector. *IBM Journal of Research and Development*, 15(6): 452–456, November 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zhu:2010:VPM

[ZCLS10] Z. Zhu, L. Chen, Y. Lin, and L. Shao. VoIP performance on multicore platforms. *IBM Journal of Research and Development*, 54(1):??, ???? 2010. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/abstracts/rd/541/zhu.html`.

Ziegler:1996:IES

[ZCM+96] J. F. Ziegler, H. W. Curtis, H. P. Muhlfeld, C. J. Montrose, B. Chin, M. Nicewicz, C. A. Russell, W. Y. Wang, L. B. Freeman, P. Hosier, L. E. LaFave, J. L. Walsh, J. M. Orro, G. J. Unger, J. M. Ross, T. J. O'Gorman, B. Messina, T. D. Sullivan, A. J. Sykes, H. Yourke, T. A. Enger, V. Tolat, T. S. Scott, A. H. Taber, R. J. Sussman, W. A. Klein, and C. W. Wahaus. IBM experiments in soft fails in computer electronics (1978–1994). *IBM Journal of Research and Development*, 40(1):3–18, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#two`.

Zoellin:2018:NDC

[ZDB+18] C. G. Zoellin, O. Draese, J. D. Bradbury, C. Jacobi, A. Puranik, P. Sutton, and R. Tokumaru. New database compression assists in the IBM z14 processor. *IBM Journal of Research and Development*, 62(2–3):12:1–12:11, ???? 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `https://ieeexplore.`

ieee.org/document/8281056/.

Zhou:2008:MPM

[ZEH+08] R. Zhou, M. Eleftheriou, C.-C. Hon, R. S. Germain, A. K. Royyuru, and B. J. Berne. Massively parallel molecular dynamics simulations of lysozyme unfolding. *IBM Journal of Research and Development*, 52 (1/2):19–??, January/March 2008. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/521/zhou.html.

Zyuban:2015:IPC

[ZFD+15] V. Zyuban, J. Friedrich, D. M. Dreps, J. Pille, D. W. Plass, P. J. Restle, Z. T. Deniz, M. M. Ziegler, S. Chu, S. Islam, J. Warnock, R. Philhower, R. M. Rao, G. S. Still, D. W. Shan, E. Fluhr, J. Paredes, D. F. Wendel, C. J. Gonzalez, D. Hogenmiller, R. Puri, S. A. Taylor, and S. D. Posluszny. IBM POWER8 circuit design and energy optimization. *IBM Journal of Research and Development*, 59(1):9:1–9:16, January/February 2015. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zutic:2006:BSF

[ŽFE06] I. Žutić, J. Fabian, and S. C. Erwin. Bipolar spintronics: Fundamentals and applications. *IBM Journal of Research and Development*, 50(1): 121–139, January 2006. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL http://www.research.ibm.com/journal/rd/501/zutic.html.

Zyuban:2011:POM

[ZFG+11] V. Zyuban, J. Friedrich, C. J. Gonzalez, R. Rao, M. D. Brown, M. M. Ziegler, H. Jacobson, S. Islam, S. Chu, P. Kartschoke, G. Fiorenza, M. Boersma, and J. A. Culp. Power optimization methodology for the IBM POWER7 microprocessor. *IBM Journal of Research and Development*, 55 (3):1:1–1:9, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zweig:1965:CCM

[ZG65] H. J. Zweig and D. P. Gaver. Coincidence counter models with applications to photographic detection theory. *IBM Journal of Research and Development*, 9(2):100–??, March 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zappe:1971:UOJ

[ZG71] H. H. Zappe and K. R. Grebe. Ultra-high-speed operation of Josephson tunnelling devices. *IBM Journal of Research and Development*, 15(5):405–407, September 1971. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zable:1989:MPA

[ZH89] J. L. Zable and E. F. Helinski. Matrix print actuator for dot band printer. *IBM Journal of Research and Development*, 33(6):609–617, November 1989. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zipoli:2018:SMD

[ZHP+18] F. Zipoli, M. Hijazi, R. Petraglia, V. Weber, and T. Laino. Semiempirical molecular dynamics (SEMD) simulations: Parameterization and validation for biological systems precursors. *IBM Journal of Research and Development*, 62(6): 5:1–5:9, November/December 2018. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ziegler:1996:TCR

[Zie96] J. F. Ziegler. Terrestrial cosmic rays. *IBM Journal of Research and Development*, 40(1): 19–39, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#three`.

Ziegler:1998:TCR

[Zie98] J. F. Ziegler. Terrestrial cosmic ray intensities. *IBM Journal of Research and Development*, 42 (1):117–139, ???? 1998. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/421/ziegler.html`.

Zable:1987:FDH

[ZL87] J. L. Zable and H. C. Lee. Font design for high-speed impact line printers. *IBM Journal of Research and Development*, 31(6):679–683, November 1987. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zable:1997:OIP

[ZL97] J. L. Zable and H.-C. Lee. An overview of impact printing. *IBM Journal of Research and Development*, 41(6):651–668, November 1997. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd/416/zable.html`.

Ziegler:1996:ATC

[ZMM+96] J. F. Ziegler, H. P. Muhlfeld, C. J. Montrose, H. W. Curtis, T. J. O'Gorman, and J. M. Ross. Accelerated testing for cosmic soft-error rate. *IBM Journal of Research and Development*, 40(1):51–72, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#five`.

Ziegler:1996:PTC

[ZS96] J. F. Ziegler and G. R. Srinivasan. Preface: Terrestrial cosmic rays and soft errors. *IBM*

Journal of Research and Development, 40(1):2, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#one`.

Zyuban:2003:BHI

[ZS03] V. Zyuban and P. N. Strenski. Balancing hardware intensity in microprocessor pipelines. *IBM Journal of Research and Development*, 47(5/6):585–??, ???? 2003. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/475/zyuban.pdf`.

Zee:2007:ISZ

[ZST+07] M. Zee, J. W. Stevens, B. L. Thompson, J. A. Fowler, J. Goldman, P. T. Chan, and T. P. McSweeney. IBM System z9 open systems adapter for communication controller for Linux. *IBM Journal of Research and Development*, 51 (1/2):119–130, January/March 2007. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.research.ibm.com/journal/rd/511/zee.html`.

Zerfos:2013:PAM

[ZSY+13] P. Zerfos, M. Srivatsa, H. Yu, D. Dennerline, H. Franke, and D. Agrawal. Platform and applications for massive-scale streaming network analytics. *IBM Journal of Research and Development*, 57(3/4):11:1–11:13, May–July 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Ziegler:1996:PFC

[ZSZ96] J. F. Ziegler, P. A. Saunders, and T. H. Zabel. Portable Faraday cup for nonvacuum proton beams. *IBM Journal of Research and Development*, 40 (1):73–76, January 1996. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic). URL `http://www.almaden.ibm.com/journal/rd40-1.html#six`.

Zyuban:2013:IPD

[ZTC+13] V. Zyuban, S. A. Taylor, B. Christensen, A. R. Hall, C. J. Gonzalez, J. Friedrich, F. Clougherty, J. Tetzloff, and R. Rao. IBM POWER7+ design for higher frequency at fixed power. *IBM Journal of Research and Development*, 57 (6):1:1–1:18, November–December 2013. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zuliani:2001:LR

[Zul01] P. Zuliani. Logical reversibility. *IBM Journal of Research and Development*, 45(6):807–??, ???? 2001. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zakharov:2011:NDB

[ZVW+11] A. A. Zakharov, C. Virojanadara, S. Watcharinyanon,

R. Yakimova, and L. I. Johansson. Nanoscale 3-D (E, k_x, k_y) band structure imaging on graphene and intercalated graphene. *IBM Journal of Research and Development*, 55 (4):6:1–6:6, ???? 2011. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zeni:2017:EIN

[ZW17] M. Zeni and K. Weldemariam. Extracting information from newspaper archives in Africa. *IBM Journal of Research and Development*, 61(6):12:1–12:12, November 2017. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zweig:1965:TDL

[Zwe65] H. J. Zweig. Two-dimensional laser deflection using Fourier optics. *IBM Journal of Research and Development*, 9(4): 333–??, July 1965. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zable:1972:SDC

[ZY72] J. L. Zable and J. C. Yarrington. Some design considerations for a document sorting machine. *IBM Journal of Research and Development*, 16 (3):239–248, May 1972. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).

Zemon:1969:PAF

[ZZ69] S. Zemon and J. Zucker. Parametric amplification and frequency shifts in the acoustoelectric effect. *IBM Journal of Research and Development*, 13(5):494–499 (or 494–498??), September 1969. CODEN IBMJAE. ISSN 0018-8646 (print), 2151-8556 (electronic).