A Bibliography of Publications of Yousef Saad

Yousef Saad
Computer Science Dept., University of Minnesota
4-192 EE/CSci Building, 200 Union Street S.E.
Minneapolis, MN 55455
USA
Tel: +1 612 624 7804
FAX: +1 612 625 0572
E-mail: saad@cs.umn.edu (Internet)

15 March 2022
Version 2.70

Abstract

This bibliography records publications of Yousef Saad.

Title word cross-reference

3D [GHS10]. exp(−τA)b [SSS10]. f(A)b [CAS11]. ILU [LSC03]. ILUS [CS97c]. k [CrFS09]. LU [CS97c, LSS03b, Saa94d]. tr(f(A)) [CS18, UCS17].

'02 [AGPS03].

1988 [BTS+89]. 1993 [BCEP94].

20th [Sv00].

5 [WS93].


Algebraic [LS17, GHS10, LSS03a, SS02b, SST04, SSC04, XLS16]. Algorithm [DS91b, LXV+16, Saa85a, SYEG00, ZS07, ESS86, GS87, GS88b, GS88a, GS89b, Saa74c, Saa80a, Saa82a, Saa86c, SSS86, SL86, SL88, SW93, Saa93a, SW96b, Saa91a]. algorithms [Saa74b]. Algorithms [AGPS03, ASSS11, BDG+10, CS92, CS85a, CS86, CTJ+95, CTZ07, CZC+09, LXES19, SS85g, Saa92a, Saa92h, Saa94a, Saa94b, Saa06, BS914, BS94, CS93, CS96, FRSY96, GS94, K87, Saa90b, Saa94e, US19, VS14].

Alternating [SS87, SS85c]. amplitude [WGSC18]. Analysis [BSS09, BSS10, Saa92b, Saa94b, Saa97, Saa16, BJ+09, Saa94c, Saa00b]. analytics [KMB+18]. Anderson [BRZS18]. angle [LSS86, SL86, SL88]. Application
Applications [AGPS03, ASSS11, BKS08, BDG+10, FSUS20, Saa06, SrFS08, BJR+09, CSS02, CCS10, CS98a, CS98b, Saa83a, Saa90b, Saa90d, SAD+00, SS11, SSC04]. Approach [GS90a]. Approaches [KKPS18]. Approximate [BS02b, BS02c, CS94, CS97d, CS97f, Saa84a, BS02a, CrFS09, CS97f, USS17a]. Approximating [LSY16]. Approximation [CS09b, FSUS20, GS92a, BSS09, CCE+18, CS97a, CS08, EGMS20, GS90b, GS90a, GS92b, GS03, ITS07, Saa84a, Saa86b, Saa86e, SS11, UMS17]. Approximations [CAS11, Saa92b, GHS10, US19]. Architectures [IS85, IS86b, IS86a, SS86b, GS89d, SS89b]. arising [Saa84a, Saa86b, Saa86e, SMSW00]. ARMS [SS02b, SST04]. Arnoldi [BS10, DS91b, Saa80c, SSW98]. array [SS85]. Assignment [DS91b, Saa88d]. Associated [DS91b]. Atom [TZA+06]. Augmented [Saa97, CS97b]. Automated [KXS18]. automatic [GS94, Saa92a].

Banded [SS85e, SS87]. Based [BS05b, HS06, KS07, S99b, SrFS08, JSS07, LSX16, MOKS12, SW93, SW96b]. Basic [PSWF93, Saa90a]. basis [CTS93, CTST94]. Benchmark [SW88b, SW88a, SW90]. Beresford [Saa83e]. between [BS02c]. Beyond [KXS18]. BILUM [SZ99a].

BILUTM [SZ99b]. biorthogonalization [Saa80a, Saa82a]. bisection [CrFS09].

Block [LS03, LSS03b, MS93, SS80, SZ99a, SZ99b, Saa03a, ZS08, CS97d, GS87, GS88b, GS88a, GS98b, Saa80b, SZ01, MS92]. Block-ADI [MS93, MS92]. block-partitioned [CS97a]. Boeing [SW89]. Book [Saa83c, Saa95]. bordered [CS85b]. Bounds [Saa94b, Saa94e]. brief [Saa20]. Brownian [ACSS12]. Bulk [TZA+06]. calculation [ZSTC06b]. Calculations [OBSC03, SCS10, AJT+07, CTS93, CTS94, JKSC99, SSC+96, ZSTC06a]. Carolina [BCEP94]. Centenary [BCEP94]. century [Sr09]. CFD [CSW00, SST04]. Chain [PSS92, Saa91c]. chains [BG+10, RGSB08]. charge [BSTC05]. charging [RGSB08]. Chebyshev [ESS86, Saa84b, ZSTC06a, ZSTC06b, ZS07, ZCS14]. Chebyshev-filtered [ZSTC06a, ZSTC06b, ZCS14]. classes [rFS09]. clusters [CTJ+95, JTD+94]. CM [PSWF93, WS93]. CM-5 [WS93, PSWF93]. Coarse [MS07a]. Coarse-Grid [MS07a]. Coarsening [MS07b, OKLS15, US19]. codes [GS83, JKSC99, UMS17]. Communication [SS85a, Saa85a, SS85d, Saa86c, SS86b, SM95, SS89a, SS89b]. Community [CS12]. Compensation [MOKS12]. Complement [DKXS18, LS05b, S99a, GHS10, KLS16, LSX16, Saa07, ZXS21]. complement-based [LSX16]. Complements [BS05a]. Complex [PS85, PS87, Saa83a, Saa84a, Saa86b, Saa86e, Saa87c]. complexities [GS89d]. Complexity [SS84, ISS86, Saa85a, Saa86c]. Component [JSS07]. Component-based [JSS07]. Computation [BS05a, BKS08, Saa74a, XLS18, LLC02, diGGS+05]. Computational [PS85, SM95, Fit86]. Computations [BTS+89, FWPS92, PSWF93, SW88a, Saa94a, SW88b, SW90, Saa90a]. Computers [FWPS92, S02a, AS88, AS89]. Computing [BSTC05, CAS11, Saa92e, S95, S99a, SS10, TS11, XSL16, ACSS12, CS18, PS07, Saa80c, TS12]. Concurrent [Saa95]. condition [Saa84a, Saa86b, Saa86e]. Conference [BCEP94, Fit86]. Confined [ÖBSC03]. Conjugate [SS85g, SS85f, SS86a, SYEG00, Saa06, Saa85c]. Conquer [LS13a]. consistent [ZSTC06a, ZSTC06b]. Constructed [BS05b]. construction [CrFS09]. continuation [CS85b]. contour
control
control
Convergence
Convergent
convex
corrections
counts
coupled
diGGs+05
Crout
cubic
corrections
counts
coupled
diGGs+05
Correction
corrections
counts
coupled
diGGs+05
Crout
cubic
corrections
counts
coupled
diGGs+05
Correction
corrections
counts
coupled
diGGs+05
Crout
cubic
corrections
counts
coupled
diGGs+05
Correction
corrections
counts
coupled
diGGs+05
Crout
cubic
[Saa94b, CS18, Saa94e, UMS17]. estimate [CS18]. Estimation [UCS17, DPS16, NPS16, USS17a]. estimator [BKS07]. Evolution [TZA+t06, CTSZ07]. Estimating [Saa16]. EVSL [LXES19]. Exact [Saa03a]. Evolutionary [CS97e]. exploration [Fit86]. Exponential [Saa92b, CS98a]. exact [BGB+t10, SKBS88]. Experimental [CS97e]. Exact [Saa03a]. excited [BGB+t10, SKBS88]. Experimental [CS97e]. exploration [Fit86]. Exponential [Saa92b, CS98a]. Extended [SS85c]. Extraction [CS12]. Extreme [rFS12].

F [Saa95]. Face [KS05a]. faces [KS05a]. Factorized [BS02b, BS02c, BS02a]. Factorization [HS06, LS05a, Saa92d, Saa94d]. Factorizations [MOKS12, CCS10]. Fast [CrFS09, USS17a, UCS17, VS14, XLS18, GS87, GS88b, GS88a, GS89b, GS89d, US19]. February [GGL94]. feedback [Saa88d]. Fermi [SS11]. few [Saa94b, Saa94e]. field [ZSTC06a, ZSTC06b]. Filtered [BKS08, rFS12, Saa06, AKS17, ZSTC06a, ZSTC06b, ZCS14]. Filtering [KXS18, LXV+t16]. Filters [XS16]. Finding [Saa03a]. finite [CTWS94, CTS94, CTWS94, JTD+t94, KSS03, KSSG04]. finite-difference [CTWS94]. finite-difference-pseudopotential [JTD+t94]. first [AJT+t07]. first-principles [AJT+t07]. flexible [Saa91a, Saa93a]. flow [WGSC18]. flows [LLCS02]. fMRI [SS14]. forces [CJWS96]. format [CS97c]. free [ZCS14]. frequency [LXSdH20]. Function [XSL17, SS11]. Functional [BKS08, BSK+t03, RGSBO8, SS11, dGGST+05]. Functions [FSUS20]. Further [BSS10, Saa00b].

Gaussian [CS14, Saa85a, Saa86c, Saa86a, Saa86d]. General [CS92, CS94, LSC03, Saa94b, Saa96, SZ99a, SZ99b, SSS99a, SSS99b, CS93, CS96, Saa92a, Saa92c, Saa94c, Saa94e, SSZ98, SZ99c, SZ01, SS02b, Saa07, ZXS20, ZXS21]. Generalized [XLS18, SS86c]. Globally [BS89]. GMRES [Saa91a, SS86c, Saa93a, YXS21]. GPU [AKS17, LS13b]. GPU-accelerated [LS13b]. Gradient [SS85g, SS85f, SS86a, SYEG00, Saa85c]. Gradient-like [SS85g]. Gram [Saa86c]. Graph [FSUS20, HS06, SFS08, VSS14, CrFS09, GS94, OKLS15]. Graph-Based [SFS08]. Greedy [MS07b, MS07a]. Grid [MS07a]. Guest [BGSS14].

Hand [Saa87d, KMB+t18]. Harnessing [BGB+t10]. Harwell [SW89]. Harwell-Boeing [SW89]. held [GGL94]. Helmholtz [KS03, KSSG04, LXSdH20, OKS10]. Hermitian [LXV+t16, Saa74a]. Heuristic [GS94]. Hierarchical [DKXS18, HS06]. hierarchy [CCE+t18]. High [CSW00, CrFS09, LXSdH20, SS14]. high-dimensional [SS14]. high-frequency [LXSdH20]. High-order [CSW00]. Higher [CTWS94, SKBS88, JTD+t94]. Higher-order [CTWS94, JTD+t94]. Highly [Saa94c]. historical [Saa20]. Houston [Fit86]. Hybrid [BS87, BS90, ES886, GHS10]. Hydrodynamic [AC912]. Hypercube [CS85a, CSS85, CS86, CSS87]. Hypercubes [SS85a, SS85d, SS85b, Saa86a, SS88, Saa86d, SS89a].

ILU [CSW00, CS97e, HS06, LS05a, MS94, OKLS15, Saa92d, Saa92c, Saa96, SZZ99a, SZZ99c, SS01a, Saa03a, Saa05]. ILUM [Saa92c, Saa96]. ILUs [BS02c, BS05b]. ILUT [Saa92d, Saa94d, SZZ99b]. IMA [GGL94]. Impact [IS85, IS86b, IS86a]. Implementation [LXES19, AKS17, BSK+t03]. Implementations [SS85f, SS86a, Saa91b, Saa93b]. Implicitly [SSW98]. Improving [USS17b]. Incomplete
Incremental [CCS10]. Indefinite [DKXS18, XS17, CS97e, Saa83d, Saa84c, Saa88a, Saa88b, Saa88c]. Indexing [SrFS08, VS14]. industrial [SAD+00]. Inexact [WSS98]. Initio [¨OBSC03, JTD+94]. inner [Saa91a, Saa93a]. inner-outer [Saa91a, Saa93a]. Institute [BTS+89]. integration [KKPS18, LXSH20]. interactions [ACSS12]. Interior [rFS12]. International [BCEP94]. interval [DPS16, NPS16]. intervals [Saa83d]. Invariant [BKS08, PS07]. Inverse [BS02b, BS05b, CS94, CS98b, TS11, BS02a, CS97d, CS97f, TS12]. Inverse-Based [BS05b]. Inverses [BS02c]. Invert [PS87, PS85]. Iron [TZA+06]. irregularly [FRSY96]. issue [ASSS11, BDG+10]. Iteration [Saa16, ZTSC06b, ZCS14]. Iterations [BKSO8, CS98b, Saa00b]. Iterative [BTS+89, CS95b, GS83, SS81, Saa83d, SM95, Svo0, Saa03b, Saa02, CSS02, GGL94, JSS07, KMB+18, LS13b, OKS10, Saa81, Saa83d, Saa84c, Saa85c, Saa88b, Saa88c, SZZ98, SZ99c, SZZ99b, Svo0, Sza0, Saa02b, Saa03b, Saa07, Saa20, SMSW00, ZSX20, ZXS21]. liquid [LLCS02]. localized [CJWS96]. Low [Saa09b, DKXS18, LS13a, LS17, UMS17, CS08, LXS16, LXS16, ZXS20, ZXS21]. Low-Rank [LS13a, LS17, LXS16, LXS16, ZXS20, ZXS21]. LR [Saa74b]. LU [CCS10]. Lyapunov [Saa90c].

J. [Saa92h]. Jacobi [SS98b]. January [Fit86]. journey [Saa20].

Kernels [SM95]. kit [Saa90a]. Kohn [SCS12, ZCS14]. Krylov [ACSS12, BSS09, BS87, BS89, BS90, BS94, CS99, CCST98, CS97b, CS14, ESS86, GS92b, GS92a, Saa81, Saa84c, Saa89a, Saa90b, Saa90d, Saa91b, Saa92b, Saa92e, Saa92f, Saa93b, Saa97, Saa98, Saa11a, ZS08].

Laguerre [SSS10]. Lanczos [BCEP94, AKS17, BGB+10, BSC05, BKSO8, CrFS09, CS90a, CS18, rFS12, LXY+16, RGSB08, Saa80a, Saa80b, Saa82a, Saa87d, Saa94b, Saa94e, UCS17]. Lanczos-Type [Saa94b, Saa94e]. Large [BKSO8, BTS+89, DS91b, IS86a, LS06, ÖBSC03, PS89, Saa82b, Saa85b, Saa11b, SSS93, ZS07, DS91a, LSY16, Saa74a, Saa80a, Saa80c, Saa81, Saa82a, Saa83b, Saa83e, Saa89b, Saa90c, Saa92g, SSS+96, SAD+00, SSS95, UMS17, WSS98, ZS08]. Latent [SrFS08, VS14]. learned [USS17b]. Least [CAS11, LS06, Saa83a, Saa87c, XS16, Saa84a, Saa86b, Saa86c]. Least-Squares [LS06, XS16]. level [SSZ98, SZ99c, SZ01]. Library [LKES19, SW94, SW95, SW96a, SKL+97]. Like [DS91b, SS85g]. Linear [DKXS18, ITS07, ISS84, ISS86, MS92, MS93, MS94, SS85g, SS85c, SS85e, SS87, SS98a, SS99a, SS99b, SS99c, SS02a, CS99, CS93, CS96, CS97d, CS97f, LS05a, LSY16, PS85, Saa74a, Saa80c, Saa84a, Saa86b, Saa86c, Saa88a, Saa92b, Saa92c, Saa92e, Saa92f, Saa93b, Saa97, Saa98, Saa11a, ZS08].

Magnetism [TZA+06]. March [GGL94]. Markov [PSS92, Saa91c]. Massively [FWPS92]. Material [SOS+00]. Materials [PS20, SCS10]. mathematical [Fit86, Fit86]. Matrices [CS92, CS94, LSC03, LS13a, ÖBSC03, PS87, Saa85b, SW89, Saa96, SZ99b, Saa16, BSS09, CS93, CS96, CS97d, CS97e, LS05a, LSY16, PS85, Saa74a, Saa80c, Saa84a, Saa86b, Saa86c, Saa92b, Saa94c, UMS17, LXS16]. Matrix [AGPS03, ASSS11, AEKS90, BDG+10, FSUS20, FWPS92, IS86a, OKLS15, PSWF93, SW88a, Saa92b, Saa94a, SW94, TS11, BJR+09, BKSO7, BGSS14, CCE+18, CS98a, Saa83a, Saa83b, SW88b,
Saa90a, SW95, SW96a, SAD+00, TS12, US817a, US19, VSS14, дигГ5+05.

Memory [Saa87b, SM95, Saa87a]. Message [Saa87b, Saa87a, WS93]. Method [SS80, Saa87d, CTS93, CTS94, CTWS94, CS18, EGMS20, JTD+94, KSS03, KSSG04, SSS86, Saa80c, Saa85c, SCS12, TS12, ZS08, ZCS14].

Methods [BTS+89, CCSY98, CS14, DS91b, GS92a, LS17, PSS92, SS81, SS85c, SS85e, SS85f, SS86a, Saa87b, SS87, Saa91b, Saa92e, Saa93b, Saa97, SCS10, Saa11a, Saa11b, SSSW98, SÖS+00, TS11, ACSS12, BSS09, BS87, BS89, BS91, CS12, CS85b, rFS09, Fit86, GS90b, GS90h, GGL94, JSS87, JSS07, KSS92, KCS09, KCS11, Saa80a, Saa80b, Saa81, Saa82a, Saa82b, Saa83d, Saa83b, Saa83e, Saa84c, Saa87a, Saa88d, Saa89a, Saa90b, Saa90d, Saa91c, Saa92g, Saa92f, Saa98, Saa99a, Saa103b, Saa20, SSS89b].

Minimal [Saa00b], Minneapolis [BTS+89, GGL94], Minnesota [BTS+89, GGL94], MIQR [LS06]. Modeling [PSS92, Fit86]. models [Saa91c]. modern [CSS02, SSC04].

Modification [MOKS12]. Modified [CS99, Saa84a, Saa86b]. module [SW94, SW95, SW96a]. Molecular [CJW96, GBB+10, JTD+94]. molecular-dynamics [JTD+94]. molecules [CTWS94]. moment [Saa84a, Saa86b]. Multi [Saa96, Saa92c, SSZ98, SZ99c, SZ01].

Multi-Elimination [Saa96, Saa92c]. multi-level [SSZ98, SZ99c, SZ01].

Multicolor [XZS20, Saa99b]. Multilevel [XZS20, Saa99b]. Multilevel [SZZ99a]. Multigrid [CSS5a, CSS86]. Multilevel [BS05b, KXS18, LS06, SSZ99a, SSZ99b, Saa05, XZF08, SLS03a, OKLS15, SSO2b, SST04, SSC04, US19, XLS16]. multiple [KMB+18].

Multiprocessor. [CSS5a, CSS85, CSS86, ISS84, ISS86, CSS87].

Multiprocessors [SS85c, Saa85a, JSS87, SS81, Saa86c].

multisecant [rFS09]. Multistage [HS06]. Multivariate [CSS14].

N [Saa83c]. nanocrystals [CTS07, CZZ+09]. Neighborhood [KSS07, KSS05b]. News [Saa95]. Newton [BS94, WS95]. NN [CrFS09]. Non [Saa99c].

Non-standard [Saa99c]. nonlinear [BS87, BS89, BS90, BS91, BS94, EGMS20, rFS09, KSS92, SGSM15]. Nonsymmetric [LS03b, MS92, MS79, MS07b, Saa84b, SS85g, Saa85b, Saa86a, Saa86c, SS86c, Saa87c, Saa88a, Saa88b, Saa88c, Saa89b].

normal [BSS09]. North [BCEP94]. null [ITS07]. null-space [ITS07]. number [Saa86e]. numbers [Saa84a, Saa86b].

Numerical [PSS92, Saa83b, SS81, Saa92e, Saa92f, Saa98, Saa99b, Saa90c, Saa92g, SCS10, Saa11b, Saa87a, Saa91c].

oblique [Saa80a, Saa82a]. Observer [DS91b]. October [BTS+89]. ODE [GS83]. Operator [Saa92b, CS98a]. OPRA [KS05a]. OPRA-faces [KS05a]. Optimal [CSS09, CS08]. Optimization [NBS10, NBS12, SSS90, KCS09, KCS11]. order [CSSW00, CTWS94, JTD+94]. origin [Saa74c].

Orthogonal [CSS09b, KSS05b, KSS07, Saa83d].

orthogonalization [SW93, SW96b]. other [Saa80a, Saa82a]. outer [Saa91a, Saa93a].

Overlapping [CSS92, CS93, CS96, LS05b]. overview [Saa90d].
GS88a, GS89b, GS89c, GS89a, GS89d, GHS10, LSS03a, LLC02, SS80, Saa87a, SS89b, Saa92c, SW95, SW96a, SKL+97, SS99b, SSSC04, AGPS03, ASSS11. Parlett [Saa83c]. pARMS [LSS03a, SSS82a]. Partial [CSS85, DS91b, Saa85b, XS16, CSS87, Saa88d]. Partially [BSTC05]. Particle [LLCS02]. Partitioned [CS97d]. Partitioning [GS94, LLCS02, Saa74a, VSS14]. Passing [Saa87b, Saa87a, WS93]. Performance [WS93]. Periodic [AJT+07]. Phase [WGSC18]. Physical [CSS02, SSC04]. Pivoting [BS02b, BS02a, LS05a]. Plane [JKSC99, Saa83a, Saa84a, Saa86b, Saa86e, Saa87c]. Plane-wave [JKSC99]. PMAA [AGPS03]. PMAA’10 [ASSS11]. Point [LS03, LSS03b]. Pole [Saa88d]. Polynomial [BKS08, CAS11, FSUS20, LXX+16, YX021, GS90b, LXX+H20, Saa85c]. Polynomials [Saa83d, Saa83a, Saa87c, SSS10]. Portable [SKL+97]. Positive [SS80, VSS14]. Posteriori [CS18]. Potential [CTS93, CTS94]. Power [XZS21]. Practical [BTS+89, Saa84c, Saa85c, BTS+89]. Preconditioned [CCSY98, CS14, SS85f, SS86a, Saa91b, Saa93b, Saa98, LS13b, Saa91a, Saa92f, Saa93a]. Preconditioner [BS02b, DKX18, SLS05, LS06, Saa96, SZZ99a, SZZ99b, XS17, BS02a, CS97c, Saa92c, XLS16, ZXX20, ZXX21]. Preconditioners [BS05b, CS94, CS98b, LS13a, LS17, LS03, LS03b, S92, MS93, MS94, CS97a, CSW00, CS97e, CS97f, GXX003, LS16, Saa94c, SZ99c, Saa07]. Preconditioning [CS98a, KSS03, KS9G04, OKS10, Saa88a, Saa88b, Saa88c, SAD+00, Saa03a, SMXW00, SSSF93, YX021, LXXdH20, OKLS15, SSS99b, SZ01, SF95, VSS14, WSS98]. Preconditionings [Saa85c]. Predicting [SOS+00, CTJ+95]. Preserving [CCSY98, KS07, KS05b]. Prewhitening [SS14]. Primitives [WS93]. Principles [AJT+07]. Probing [TS12]. Problem [NBS10, NBS12, CKV+03, SCS12, Saa83c]. Problems [BS10, DS91b, rFS12, GGL94, IS85, LS06, LXV+16, LS03, LXX03b, MS07b, PS89, Saa84b, Saa11b, Saa16, SSF93, XLS18, CSW00, DS91a, EGMS20, FRSY96, S86b, KLS16, KKPS18, Saa82b, Saa83a, Saa83b, Saa83c, Saa89b, Saa90d, Saa92g, SSC+96, SAD+00, S04, SF95, WSS98, ZS08]. Procedure [rFS12, AKS17]. Proceedings [BTS+89, Fit86, BCEP94]. Process [BSS10]. Processing [FSUS20]. Processors [SSS10]. Projection [BS91, KS07, Saa82b, Saa83c, Saa88d, Saa91c, Saa92h, ITS07, Saa80a, Saa82a]. Projection-Based [KS07]. Projections [KS07, KS05b]. Properties [SS85b, SS88, SOS+00, CTJ+95, CTS20, CZC+09]. Proxy [YX21]. Proxy-GMRES [YX21]. Pseudo [CTS93, CTX94]. Pseudo-Potential [CTS93, CTX94]. Pseudopotential [CSS94]. Pseudopotentials [CKV+03]. PSPARSLIB [SS98a]. Purpose [Saa92a]. QR [LS06, Saa74b]. Quadrature [UCS17]. Quantum [CJWS96]. Quasi [SS93, SW96b]. Quasi-minimal [SS93, SW96b]. Raleigh [BCEP94]. Rank [CS09b, DKX18, LS13a, LS17, CS08, LXS16, USS17b, UMS17, XLS16, ZXX20, ZXX21]. Ranks [USS17a]. Ratio [NBS10, NBS12]. Rational [GSS03, KSS18, SS11, XSI, XS17, EGMS20, GSS90a]. Real [PS87, CKV+03, PS85]. Recognition [KS05a]. Recursive [CF09, LS03a, SS92c, S04, SSC04]. Reordering [BS02c]. Reordering [OKLS15]. reorderings [Saa95]. Reorthogonalized [BSTM05]. Reservoir [Fit86]. Residual
Saddle [LS03, LS03b]. Sampling [CS14, US19]. scalable [KMB+18]. Scale BTS+89. Schur [BS05a, DKXS18, GHS10, KLS16, LS05b, LXS16, SSS99a, Zss07, ZSS21, ZS08]. SchurRAS [LS05b]. Science PS20. Scientific [Saa95]. seismic Fit86. Selection [MS07a]. Self [ZSTC06b, ZSTC06a]. self-consistent-field [ZSTC06b, ZSTC06a]. semantic [SrFS08, VS14]. semiconductor KS87. semi- conductors SKBS88. separation [CCE+18]. Sequence [BRZ518]. sets [SS14]. Several [Saa87d]. Sham [SCS12, ZCS12]. Shank [BRZ518]. Shared [Saa87b, Saa87a]. Shift [PS87, PS85]. Shifts [Saa74c]. shrinkage [US17b]. Si [JTD+94]. Sides [Saa87d, KMB+18]. Signal [FSUS20]. simulation [KS87]. simulations [ACSS12, JTD+94]. Singular [CS09a]. skyline [CS97c]. Slicing [LXES19, SCS12]. Smallest [BS05a]. SMASH [CCE+18]. SNAP [ITS07]. Software [AEK90, LXES19, Saa92a]. solid [LLCS02]. solid-liquid [LLCS02]. Solution [DS01a, GS92a, ISS84, IS85, ISS86, IS86b, SSC+96, SS98a, SSS99c, GS87, GS88b, GS88a, GS98b, GS89c, GS89a, GS90b, GS90a, GS92b, GS83, ITS07, KSS03, KSSG04, SSS81, Saa83d, Saa83b, Saa89b, Saa90c, Saa91c, SW95, SW96a, Sv00, SSt04, SGS15]. solver [KMB+18, LSS03a, SSS02b, SSS04]. Solvers [SM95, GS89d, GHS10, KKPS18, LS13b, SW94, SKL+97, SST04]. Solving [AS88, AS98, CSS85, CSS87, LXSdH20, MS92, MS93, PS89, SS80, Saa84b, SS95g, SS85e, SSS85, Saa87d, SS87, SS02a, BS91, CS85b, EGMS20, ES86, LS86, Saa80a, Saa81, Saa82a, Saa82b, Saa83a, Saa83c, Saa84c, SS86c, SL86, Saa87c, SL88, ZCS14]. Some [GS99d, SW99, Saa92b, BSS09, Saa84c, Saa86d]. SOR [MS94]. Space [YXS21, CKV+03, ITS07]. SPARK [SW90]. Sparse [AEK90, CS92, CS98b, FWPS92, GHS10, GGL94, IS86a, LSC03, LS06, MS92, MS93, MS94, PSWF93, PS89, SW88a, SW94, SM95, Saa94a, SM94, Saa96, SS89a, SSS99a, SSS99b, SSS02a, X17, AS88, AS89, CS93, CS97c, GSS03, JSS07, LS05a, Saa82b, Saa83a, Saa83e, SW88b, SW90, Saa90a, Saa92a, Saa94c, SW95, SW96a, SKL+97, SS98, SZ99c, SAD+00, S01, Saa01, SS02b, Saa03b, Saa07, SSF95, XLS16, ZXS20, ZXS21, ZCS14]. Sparse-Sparse [CS98b]. SPARSKIT [Saa90a]. Special [ASS11, BJR+09, BDG+10]. Spectra [XS16, CJW96]. Spectral [BS05a, KLS16, GGM15, XLS18, LSY16, US17a]. Spectrum [DS91b, FSUS20, CCS12]. Spectrum-Adapted [FSUS20]. Spedicato [Saa92a]. Squares [CS11, LS06, XS16, Saa83a, Saa84a, Saa86b, Saa86e, Saa87c]. standard [SS99c]. Standards [AEK90]. state [Saa88d]. states [GGB+10, SKBS88]. Statistics [SW89]. Stiefel [SS80]. Stochastic [UCS17]. Strategies [MS07b, MOKS12, PS87, SS99c, LLC02, PS85, ZS01, GGS15, SMSW00]. Strategy [MS07a]. structural [CTJ+95]. Structure [Saa99a, AJT+07, CTS93, CTS94, CKV+03, JKSC99, SSC+96]. Structured [GGL94, CCE+18, FRSY96]. Structures [Saa94a, SM95, Saa03a]. study [CS97e]. Subgraph [CS12]. Subspace [CCS98, CS14, Saa91b, Saa92b, Saa92e].
REFERENCES

Saa93b, Saa97, Saa11a, Saa16, ACSS12, BSS09, BS89, CS97b, ESS86, Saa81, Saa84c, Saa89a, Saa90b, Saa90d, Saa92f, Saa98, ZSTC06a, ZSTC06b, ZCS14]. Subspaces \[BKSO8, PS07\]. Substructuring [KXS18]. sum [CS97a]. Supercomputer [BTS89, Saa91b, Saa93b]. Supercomputers [PS89, Saa89a]. SVD [CS08, CS09b]. Sylvester [DS91b]. Sylvester-Like [DS91b]. Symmetric [LS13a, LSS03b, Saa83c, Saa87d, SSF93, ZS07, KLS16, KKPS18, LS05a, Saa83d, SDF95, SS98b, VSS14, WSS98, XLS16, ZS08]. Symmetry [CCSY98]. System [ISS84, ISS86, BS87, ITS07, KMB18]. Systems [DKXS18, MS92, MS93, MS94, ÖBC03, SS80, SS85g, SS85e, Saa87d, SS87, SS98a, SS99a, SS99c, SS02a, XS17, AJT07, AS88, AS89, BS90, BS91, CS85b, CJWS96, ESS86, GSS03, JS07, KS92, OKS10, Saa80a, Saa81, Saa82a, Saa83d, Saa84c, SSS06, Saa87c, Ssa88a, Saa88b, Saa88c, SSZ98, SZ99c, SS99b, Svo00, SZ01, Saa01, SSS02b, Saa03b, Saa07, Saa20, SMSW00, VSS14, XSS20, ZX521].

Technique [KS07]. Techniques [ISS86a, Saa84b, SS99a, CS97b, CS97d, KLS16, KSS03, KSS04, KS87, Saa74a, Saa88a, Saa88b, Saa88c, SSS08, ZS98, SZ99c, SS99b, SAD00, SSS08, WSS98]. Tensor [CS97a, CS97b, CS08]. Tensors [CS97b, CS08]. Texas [Fit86]. their [GS89d, Saa87c]. Theoretical [Saa94b, Saa94e]. Theory [BKSO8, BSS09, BS84, BSK03, RGS08, Saa90b, SS11, dGGS05]. thermoacoustics [GSMS15]. Thick [LXV16, SSW98]. Thick-Restart [LXV16]. three [LSS86, LXSDH20]. three-dimensional [LSS86, LXSDH20]. Threshold [MOKS12, Saa92d, Saa94d, SZ99c]. Threshold-based [MOKS12]. time [BSK03, RGS08, dGGS05]. time-dependent [BSK03, RGS08, dGGS05]. tire [SMSW00], tool [Saa90a], Tools [SOS00, Saa92a]. Topological [SS95b, SS88]. Trace [KCS09, KCS11, NBS10, NBS12]. Transformations [BRZS18]. translations [Saa74b]. trends [Saa92f]. triangular [AS88, SS89]. Turbo [RGS08]. Two [rFS09, Saa83d]. Type [Saa94b, TS11, Saa94e, SSZ98, Saa06].

Unstructured [MS94]. unsymmetric [Saa80a, Saa80c, Saa81, Saa82a]. updating [VS14]. use [Saa84c, Saa85c, Saa87c]. Using [BKSO8, CKV03, SS08a, SSO4, BS05a, CS18, JTD94, KS05a, LXSDH20, OKLS15, Saa83d, US017a, UM517, VSS14, ZSTC06b].

values [VS14]. Variations [Saa80c, SST04]. Vectors [CS09a]. Velde [Saa95]. Version [LS05b, SYEG00, LSS03a]. Versions [LSC03, SS99a, LS05a]. versus [CS09a]. via [BSS09, CrFS09, CAS11, CS95a, UC17, US017b, WSIC18, YXS21, ZST06a]. Vibrational [CJWS96, C309+09]. volume [BJR09].


References

Ando:2012:KSM

ACSS12 Tadashi Ando, Edmond Chow, Yousef Saad, and Jeffrey Skolnick. Krylov subspace methods for computing hydrodynamic interactions in Brownian dynamics


REFERENCES


2. Bekas:2010:SIP


   Stefano Baroni, Ralph Gebauer, O. Baris Malcioglu, Yousef Saad, Paolo Umari, and Jiawei Xian. Harnessing molecular excited states with Lanczos chains. *Journal of Physics: Condensed Matter*, 22(7):074204, February 24, 2010. CODEN JCOMEL. ISSN 1361-648X.


5. Beckermann:2008:SVM


REFERENCES

2018. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Brown:1987:HKM


Brown:1989:GCN


Brown:1990:HKM


Brown:1991:PMS


Brown:1994:CTN


Bollhofer:2001:FAI


Bollhofer:2002:FAI


Bollhofer:2002:RBI

Bekas:2005:CSE

Bollhofer:2005:MPC

Burdick:2003:PIT

Bellalij:2010:FAA

Bekas:2005:CCD

Boley:1989:PIM
Daniel L. Boley, Donald G. Truhlar, Youcef Saad, Robert E. Wyatt, and Lee A. Collins, editors. *Practical Iterative Methods for Large Scale Computations: Proceedings of the Min-
REFERENCES

Chen:2011:CLS

Cai:2018:SSM

Calgaro:2010:IIL

Chelikowsky:1996:MDQ

Chelikowsky:2003:URS

Cai:2018:SSM

Calgaro:2010:IIL

Chelikowsky:2003:URS
Chen:2009:FAG


Chen:2009:FAG

Chan:1985:MAH


Chan:1985:MAH

Chan:1985:IMS


Chan:1985:IMS

Chan:1986:MAH


Chan:1986:MAH

Cai:1993:ODD


Cai:1993:ODD

Chow:1994:AIP


Chow:1994:AIP

Cai:1996:ODD


Cai:1996:ODD

Castillo:1997:TSA


Castillo:1997:TSA
REFERENCES


REFERENCES


REFERENCES

DEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

[Chan:1985:SEP]


[Chapman:2000:HOI]


**Datta:1991:AML**


**El-Guide:2020:RAM**


**Elman:1986:HCK**


**Ferng:1992:SMC**

REFERENCES

short version of this report appeared in International Journal of Modern Physics).

Golub:1994:RAI


Giraud:2010:SAS


Gear:1983:ISL


Gallopoulos:1987:PBC


Gallopoulos:1988:PBCb


Gallopoulos:1988:PBCa


Gallopoulos:1989:PSPb

REFERENCES


**Gallopoulos:1989:PBC**


**Gallopoulos:1989:PSPa**


**Gallopoulos:1989:SFE**


**Gallopoulos:1990:PSP**


**Gallopoulos:1990:ESP**


**Gallopoulos:1992:ESP**


**Gallopoulos:1992:ESPb**


**Goehring:1994:HAA**

REFERENCES

Guillaume:2003:RAP


Henon:2006:PMI


Ipsen:1985:IPA


Ipsen:1986:IPAA


Ipsen:1986:CDL


Ipsen:1986:CDL


Ilic:2007:LSS


REFERENCES

Kalan tzis:2016:SSC

Kalan tzis:2018:SID

Kerkhoven:1987:ATD

Kerkhoven:1992:AMC

Kokiopoulou:2005:FRU

Kokiopoulou:2005:ONP

Kokiopoulou:2007:ONP
Kechroud:2003:PTS


Kechroud:2004:PTS


Kalantzis:2018:BAM


Little:2002:PPS


Little:2003:BPSa


Li:2005:CVI

REFERENCES


REFERENCES

NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic). Preconditioning, 2001 (Tahoe City, CA).

Little:2003:BPSb


Lin:2016:ASD


Li:2019:EGL


Li:2016:SCB


Liu:2020:STD


Li:2016:TRL


MacLachlan:2012:MCS

Ma:1992:BAP


Ma:1993:BAP


Ma:1994:DIS


MacLachlan:2007:GCS


Ngo:2010:TRO


Ngo:2012:TRO


Napoli:2016:EEE

REFERENCES


[PS20] Eric Polizzi and Yousef Saad. Computational materials science

Philippe:1992:NMM


Petiton:1993:BSM


Fang:2009:TCM


Fang:2012:FLP


Rocca:2008:TCT


Saad:1974:CEL


Saad:1974:ETO


Saad:1974:SOA


Saad:1980:LBA

[Saa80a] Y. Saad. The Lanczos biorthogonalization algorithm and other oblique projection methods for solving large unsymmetric systems. Report 1036, Department of Computer Science, University
of Illinois at Urbana-Champaign, Urbana, IL, USA, 1980. 44 pp.


Yale University, New Haven, CT, USA, 1986.

**Saad:1986:CNM**  

**Saad:1986:CCG**  

**Saad:1986:GEHb**  

**Saad:1986:CNS**  

**Saad:1987:DPNa**  

**Saad:1987:DPNb**  

**Saad:1987:LSP**  

**Saad:1987:LMS**  


[Saa90c] Youcef Saad. Numerical solution of large Lyapunov equa-

**Saad:1990:OKS**


**Saad:1991:FIO**


**Saad:1991:SIP**


**Saad:1991:PMN**


**Saad:1992:AST**


**Saad:1992:ASK**


**Saad:1992:IPM**

REFERENCES


Saad:1994:HPP

Saad:1994:IDT

Saad:1994:TEBb

Saad:1995:BNR

Saad:1996:IME

Saad:1997:AAK

Saad:1998:PKS

Saad:2000:E


Saad:2011:NML


Saad:2010:NME


Saad:2016:ASI


Saad:2020:IML


Saad:2000:PTL


Saad:2015:SRS

REFERENCES

1070-5325 (print), 1099-1506 (electronic).


[SM95] Y. Saad and A. V. Malevsky. [SM95]
Data structures, computational, and communication kernels for distributed memory sparse iterative solvers. Lecture Notes in Computer Science, 964:252–??, 1995. CODEN LNCS39. ISSN 0302-9743 (print), 1611-3349 (electronic).


Parallel methods and tools for predicting material properties. Computing in Science and Engi-


<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
</table>
REFERENCES

COEJ. ISSN 0167-8191 (print), 1872-7336 (electronic).


References

University of Illinois at Urbana-Champaign, Center for Supercomputing Research and Development, Urbana, IL 61801, USA, 1988. 10 pp.


REFERENCES


**Tang:2012:PMC**

**Tiago:2006:EMI**

**Ubaru:2017:FES**

**Ubaru:2017:LRA**

**Ubaru:2017:FEA**

**Ubaru:2017:IL**

**Veccharynski:2014:FUA**
Eugene Veccharynski and Yousef Saad. Fast updating algorithms for latent semantic index-
REFERENCES

Vecharynski:2014:GPU


Wang:2018:PRR


Wu:1993:PCM


Wu:1998:INP


Xi:2016:AMP


Xi:2018:FCs


Xi:2016:CPS


