

A Bibliography of Publications of Yousef Saad

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Abstract

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Title word cross-reference

3D [GHS10]. $\exp(-\tau A)b$ [SSS10]. $f(A)b$ [CAS11]. *ILU* [LSC03]. *ILUS* [CS97c]. k [CrFS09]. *LU* [CS97c, LSS03b, Saa94d]. $\text{tr}(f(A))$ [CS18, UCS17].

'02 [AGPS03].

1982 [KR83]. **1988** [BTS⁺89]. **1992** [RRV93]. **1993** [BCEP94].

20th [Sv00, BW01].

5 [WS93].

Abaffy [Saa92h]. **ABS** [Saa92h]. **Abstract**

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Laguerre [SSS10]. **Lanczos** [BCEP94, AKS17, BGB⁺10, BSTC05, BKS08, CrFS09, CS09a, CS18, rFS12, LXV⁺16, RGSB08, Saa80a, Saa80b, Saa82a, Saa87d, Saa94b, Saa94e, UCS17]. **Lanczos-Type** [Saa94b, Saa94e]. **Large** [BKS08, BTS⁺89, DS91b, IS86b, LS06, ÖBSC03, PS89, Saa82b, Saa85b, Saa11b, SSF93, ZS07, DS91a, LSY16, Saa74a, Saa80a, Saa80c, Saa81, Saa82a, Saa83b, Saa83e, Saa89b, Saa90c, Saa92g, SSC⁺96, SAD⁺00, SSF95, UMS17, WSS98, ZS08]. **Latent** [SrFS08, VS14]. **learned** [USS17b]. **learning** [CSZ22]. **Least** [CAS11, LS06, Saa83a, Saa87c, XS16, Saa84a, Saa86b, Saa86e]. **Least-Squares** [LS06, XS16]. **level** [SSZ98, SZ99c, SZ01]. **Library** [LXES19, SW94, SW95, SW96a, SKL⁺97]. **Like** [DS91b, SS85g]. **Linear** [Cha96, DKXS18, ITS07, ISS84, ISS86, MS92, MS93, MS94, SS85g, SS85e, SS87, SS98a, SZ99a, SS99a, SS99c, SS02a, XS17, AS88, DS91a, ESS86, GS81, GS83, GSS03, JSS07, KMB⁺18, LS13b, OKS10, RRV93, Saa81, Saa83d, Saa84c, SSS85, SS86c, Saa87c, Saa88d, Saa88a, Saa88b, Saa88c,

SSZ98, SZ99c, SS99b, Sv00, SZ01, Saa01, SS02b, Saa03b, Saa07, Saa20, Saa24, SMSW00, ZXS20, ZXS21]. **liquid** [LLCS02]. **localized** [CJWS96]. **Low** [CS09b, DKXS18, LS13a, LS17, UMS17, CS08, LXS16, XLS16, XKL⁺22, ZXS20, ZXS21]. **Low-Rank** [LS13a, LS17, LXS16, XLS16, XKL⁺22, ZXS20, ZXS21]. **LR** [Saa74b]. **LU** [CCS10]. **Lyapunov** [Saa90c].

machine [CSZ22]. **Magnetism** [TZA⁺06]. **March** [GGL94, KR83, RRV93]. **Markov** [PSS92, Saa91c]. **Massively** [FWPS92]. **Material** [SÖS⁺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, Ruh94, Saa74a, Saa80c, Saa84a, Saa86b, Saa86e, Saa92c, Saa94c, UMS17, XLS16, XKL⁺22]. **Matrix** [AGPS03, ASSS11, AEKS90, BDG⁺10, FSUS20, FWPS92, IS86b, OKLS15, PSWF93, SW88a, Saa92b, Saa94a, SW94, TS11, XAKS23, BJR⁺09, BKS07, BGSS14, CCE⁺18, CS98a, Saa83a, Saa83b, SW88b, Saa90a, SW95, SW96a, SAD⁺00, TS12, USS17a, US19, VSS14, XAKS24, dIGGS⁺05, KR83]. **Memory** [Saa87b, SM95, Saa87a]. **Message** [Saa87b, Saa87a, WS93]. **Method** [SS80, Saa87d, CTS93, CTS94, CTWS94, CS18, EGMS20, JTD⁺94, KSS03, KSSG04, LSS86, Saa80c, Saa85c, Saa23, SCS12, TS12, ZS08, ZCS14]. **Methods** [ASV24, BTS⁺89, Cha96, CCSY98, CS14, DS91b, GS92a, LS17, PSS92, SS81, SS85c, SS85e, SS85f, SS86a, Saa87b, SS87, Saa91b, Saa92e, Saa93b, Saa97, SCS10, Saa11a, Saa11b, Saa22, SSW98, SÖS⁺00, TS11, ACSS12, BSS09, BS87, BS89, BS90, BS91, CSS02, CS85b, rFS09, Fit86, GS90b, GS92b, GGL94, JSS87, JSS07, KS92, KCS09, KCS11, Saa80a, Saa80b, Saa81, Saa82a, Saa82b, Saa83d, Saa83b, Saa83e, Saa84c, Saa87a, Saa88d, Saa89a, Saa90b, Saa90d, Saa91c, Saa92g, Saa92f, Saa98, Saa01, Saa03b, Saa20, Saa24, Saa25, SS98b]. **minimal** [SS86c, SW93, SW96b]. **minimum** [Saa00b]. **Minneapolis** [BTS⁺89, GGL94]. **Minnesota** [BTS⁺89, GGL94]. **MIQR** [LS06]. **Modeling** [PSS92, Fit86]. **models** [Saa91c]. **modern** [CSS02, SSC04]. **modes** [SLX⁺22]. **Modification** [MOKS12]. **Modified** [CS99, Saa84a, Saa86b]. **module** [SW94, SW95, SW96a]. **Molecular** [CJWS96, BGB⁺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** [ZXS20, SS99b]. **Multielimination** [SZ99a]. **Multigrid** [CS85a, CS86]. **Multilevel** [BS05b, KXS18, LS06, SZ99a, SZ99b, Saa05, SrFS08, LSS03a, OKLS15, SS02b, SST04, SSC04, US19, XLS16, XKL⁺22]. **multiple** [KMB⁺18]. **Multiprocessor** [CS85a, CSS85, CS86, ISS84, ISS86, CSS87]. **Multiprocessors** [SS85c, Saa85a, JSS87, SS81, Saa86c]. **multisecant** [rFS09]. **Multistage** [HS06]. **Multivariate** [CS14].

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Ruh94, Saa83a, Saa84c, SS86c, Saa87c, Saa88a, Saa88b, Saa88c, Saa89b]. **normal** [BSS09, SLX⁺22]. **North** [BCEP94]. **null** [ITS07]. **null-space** [ITS07]. **number** [Saa86e]. **numbers** [Saa84a, Saa86b]. **Numerical** [BW01, PSS92, RRV93, Saa83b, Saa87b, Saa89b, Saa90c, Saa92g, SCS10, Saa11b, Saa87a, Saa91c].

oblique [Saa80a, Saa82a]. **Observer** [DS91b]. **October** [BTS⁺89]. **ODE** [GS81, GS83]. **Ohio** [RRV93]. **Operator** [Saa92b, CS98a]. **OPRA** [KS05a]. **OPRA-faces** [KS05a]. **Optimal** [CS09b, CS08]. **Optimization** [NBS10, NBS12, BSS09, KCS09, KCS11]. **order** [CSW00, CTWS94, JTD⁺94]. **Origin** [Saa22, Saa74c]. **Orthogonal** [CS09b, KS05b, KS07, CS08, Saa83d]. **orthogonalization** [SW93, SW96b]. **other** [Saa80a, Saa82a]. **outer** [Saa91a, Saa93a]. **Overlapping** [CS92, CS93, CS96, LS05b]. **overview** [Saa90d].

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[SW94, SW95, SW96a, SKL⁺97]. **Package** [SW88a, SS02a, SW88b, SW90, XKL⁺22]. **papers** [GGL94]. **Parabolic** [GS92a, GS89c, GS89a, GS90b, GS90a, GS92b]. **Parallel** [BDG⁺10, BGSS14, BSK⁺03, CSS02, CS97f, FWPS92, FRSY96, GS90a, HS06, IS85, IS86a, IS86b, SS85e, SS85f, SS86b, SS86a, Saa87b, SS87, SW94, SS99c, Saa01, SS02a, SÖS⁺00, XAKS23, ZSTC06a, AS88, AS89, CS99, GS87, GS88b, GS88a, GS89b, GS89c, GS89a, GS89d, GHS10, LSS03a, LLC02, SS80, Saa87a, SS89b, Saa92c, Saa94c, SW95, SW96a, SKL⁺97, SS99b, SSC04, XKL⁺22, XAKS24, AGPS03, ASSS11]. **parGeMSLR** [XKL⁺22]. **Parlett** [Saa83c]. **pARMS** [LSS03a, SS02a]. **Partial** [CSS85, DS91b, Saa85b, XS16, XAKS23, CSS87, Saa88d, XAKS24]. **partially** [BSTC05]. **Particle** [LLCS02]. **partitioned**

[CS97d]. **partitioning** [GS94, LLC02, Saa74a, VSS14]. **Passing** [Saa87b, Saa87a, WS93]. **Pencils** [KR83, XAKS23, XAKS24]. **Performance** [WS93]. **periodic** [AJT⁺07]. **perturbative** [SLX⁺22]. **Phase** [WGSC18]. **physical** [CSS02, SSC04]. **Pite** [KR83]. **Pivoting** [BS02b, BS02a, LS05a]. **plane** [JKSC99, Saa83a, Saa84a, Saa86b, Saa86e, Saa87c]. **plane-wave** [JKSC99]. **planets** [SLX⁺22]. **PMAA** [AGPS03]. **PMAA'10** [ASSS11]. **Point** [LS03, LSS03b, Saa25]. **pole** [Saa88d]. **Polynomial** [BKS08, CAS11, FSUS20, LXV⁺16, YXS21, GS90b, LXSdH20, Saa85c]. **polynomials** [Saa83d, Saa83a, Saa87c, SSS10]. **portable** [SKL⁺97]. **Positive** [SS80, VSS14]. **posteriori** [CS18]. **potential** [CTS93, CTS94]. **power** [ZXS21]. **Practical** [BTS⁺89, Saa84c, Saa85c, BTS⁺89]. **Preconditioned** [CCSY98, CS14, SS85f, SS86a, Saa91b, Saa93b, Saa98, LS13b, Saa91a, Saa92f, Saa93a]. **Preconditioner** [BS02b, DKXS18, LS05b, LS06, Saa96, SZ99a, SZ99b, XS17, BS02a, CS97c, Saa92c, XLS16, ZXS20, ZXS21]. **Preconditioners** [BS05b, CS94, CS98b, LS13a, LS17, LS03, LSS03b, MS92, MS93, MS94, CS97a, CSW00, CS97e, CS97f, GSS03, LXS16, Saa94c, SZ99c, Saa07]. **Preconditioning** [CS98a, KSS03, KSSG04, OKS10, Saa88a, Saa88b, Saa88c, SAD⁺00, Saa03a, SMSW00, SSF93, YXS21, LXSdH20, OKLS15, SS99b, SZ01, SSF95, VSS14, WSS98, XKL⁺22]. **preconditionings** [Saa85c]. **Predicting** [SÖS⁺00, CTJ⁺95]. **Preserving** [CCSY98, KS07, KS05b]. **Prewhitening** [SS14]. **primitives** [WS93]. **principles** [AJT⁺07]. **probing** [TS12]. **Problem** [ASV24, NBS10, NBS12, CKV⁺03, Saa23, SCS12, Saa83c]. **Problems** [BSS10, DS91b, rFS12, GGL94, IS85, LS06, LXV⁺16, LS03, LSS03b, MS07b, PS89, Saa84b, Saa11b, Saa16, SSF93, XLS18, CSW00, DS91a,

EGMS20, FRSY96, IS86a, KLS16, KKPS18, Ruh94, Saa82b, Saa83a, Saa83b, Saa83e, Saa89b, Saa90d, Saa92g, SSC⁺96, SAD⁺00, SST04, SSF95, WSS98, ZS08]. **Procedure** [rFS12, AKS17]. **procedures** [HTZ⁺24]. **Proceedings** [BTS⁺89, KR83, Fit86, RRV93, BCEP94]. **Process** [BSS10]. **Processing** [FSUS20]. **processors** [SSS85]. **Projection** [BS91, KS07, Saa82b, Saa83e, Saa88d, Saa91c, Saa92h, ITS07, Saa80a, Saa82a]. **Projection-Based** [KS07]. **Projections** [KS07, KS05b]. **Properties** [SS85b, SS88, SÖS⁺00, CTJ⁺95, CTSZ07, CZC⁺09]. **Proxy** [YXS21]. **Proxy-GMRES** [YXS21]. **pseudo** [CTS93, CTS94]. **pseudo-potential** [CTS93, CTS94]. **pseudopotential** [CTWS94, JTD⁺94]. **pseudopotentials** [CKV⁺03]. **PSPARSLIB** [SS98a]. **purpose** [Saa92a].

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[SSW98]. **Restarting** [SSW98, SS98b]. **Restricted** [LS05b]. **results** [CJ04]. **retrieval** [WGSC18]. **Review** [Saa83c, Saa92h]. **Reviews** [Cha96, Saa95]. **Revisiting** [Saa23]. **reweighted** [WGSC18]. **Right** [Saa87d, KMB⁺18]. **Right-Hand** [Saa87d, KMB⁺18]. **Ring** [ISS84, ISS86]. **Ritz** [CJ04]. **Robust** [SSF93, SSF95, SZ99c]. **rotating** [SLX⁺22]. **rotation** [Saa23].

Saad [Cha96, CJ04]. **Saddle** [LS03, LSS03b]. **Sampling** [CS14, US19]. **scalable** [KMB⁺18]. **Scale** [BTS⁺89]. **Schmidt** [TXH⁺24]. **Schur** [BS05a, DKXS18, GHS10, KLS16, LS05b, LXS16, SS99a, Saa07, XKL⁺22, ZXS21, ZS08]. **SchurRAS** [LS05b]. **Science** [PS20]. **Scientific** [RRV93, Saa95, CSZ22]. **seismic** [Fit86, SLX⁺22]. **Selection** [MS07a]. **Self** [ZSTC06b, ZSTC06a]. **Self-consistent-field** [ZSTC06b, ZSTC06a]. **Semantic** [SrFS08, VS14]. **semiconductor** [KS87]. **semiconductors** [SKBS88]. **separation** [CCE⁺18]. **Sequence** [BRZS18]. **sets** [SS14]. **Several** [Saa87d]. **Sham** [SCS12, ZCS14]. **Shanks** [BRZS18, BCRZS22]. **shaped** [Saa24]. **Shared** [Saa87b, Saa87a]. **Shift** [PS87, PS85]. **Shifts** [Saa74c, Ruh94]. **shrinkage** [USS17b]. **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** [AEKS90, LXES19, Saa92a]. **solid** [LLCS02]. **solid-liquid** [LLCS02]. **Solution** [DS91a, GS92a, ISS84, IS85, ISS86, IS86a, SSC⁺96, SS98a, SS99c, GS87, GS88b, GS88a, GS89b, GS89c, GS89a, GS90b, GS90a, GS92b, GS81, GS83, ITS07, KSS03, KSSG04, SS81, Saa83d, Saa83b, Saa89b, Saa90c, Saa91c, SW95, SW96a, Sv00, SST04, Saa24, SGSM15, XKL⁺22]. **solver**

[KMB⁺18, LSS03a, SS02b, SSC04]. **Solvers** [SM95, GS89d, GHS10, KKPS18, LS13b, SW94, SKL⁺97, SST04]. **Solving** [AS88, AS89, CSS85, CSS87, LXSdH20, MS92, MS93, PS89, SS80, Saa84b, SS85g, SS85e, SSS85, Saa87d, SS87, SS02a, BS91, CS85b, EGMS20, ESS86, LSS86, Saa80a, Saa81, Saa82a, Saa82b, Saa83a, Saa83e, Saa84c, SS86c, SL86, Saa87c, SL88, ZCS14]. **Some** [GS89d, SW89, Saa92b, BSS09, Saa84c, Saa86e]. **SOR** [MS94]. **Space** [YXS21, CKV⁺03, ITS07]. **SPARK** [SW90]. **Sparse** [AEKS90, CS92, Cha96, CS94, CS98b, FWPS92, GHS10, GGL94, IS86b, LSC03, LS06, MS92, MS93, MS94, PSWF93, PS89, SW88a, SW89, Saa94a, SW94, SM95, Saa96, SS98a, SZ99a, SZ99b, SS99a, SS99c, SS02a, XS17, AS88, AS89, CS93, CS96, CS97c, GSS03, JSS07, LS05a, Saa82b, Saa83a, Saa83e, SW88b, SW90, Saa90a, Saa92c, Saa94c, SW95, SW96a, SKL⁺97, SSZ98, SZ99c, SAD⁺00, SZ01, Saa01, SS02b, Saa03b, Saa07, SSF95, XLS16, XKL⁺22, ZXS20, ZXS21, ZCS14]. **Sparse-Sparse** [CS98b]. **SPARSKIT** [Saa90a]. **Special** [ASSS11, BJR⁺09, BDG⁺10]. **Spectra** [XS16, CJWS96]. **Spectral** [BS05a, KLS16, SGSM15, XLS18, XAKS23, LSY16, USS17a, XAKS24]. **Spectrum** [DS91b, FSUS20, SCS12]. **Spectrum-Adapted** [FSUS20]. **Spedicato** [Saa92h]. **Squares** [CAS11, LS06, XS16, Saa83a, Saa84a, Saa86b, Saa86e, Saa87c]. **standard** [SS99c]. **Standards** [AEKS90]. **state** [Saa88d]. **states** [BGB⁺10, SKBS88]. **Statistics** [SW89]. **Stewart** [CJ04]. **Stiefel** [SS80]. **Stochastic** [UCS17]. **Strategies** [MS07b, MOKS12, PS87, SS99c, LLC02, PS85, SZ01, SGSM15, SMSW00]. **Strategy** [MS07a]. **structural** [CTJ⁺95]. **Structure** [SCS10, AJT⁺07, CTS93, CTS94, CKV⁺03, JKSC99, SSC⁺96]. **Structured** [GGL94, CCE⁺18, FRSY96]. **Structures** [Saa94a, SM95, Saa03a]. **study** [CS97e]. **Subgraph** [CS12]. **Subspace** [ASV24, CCSY98, CS14, Saa91b, Saa92b, Saa92e, Saa93b, Saa97, Saa11a, Saa16, Saa22, ACSS12, BSS09, BS89, CS97b, ESS86, Saa81, Saa84c, Saa89a, Saa90b, Saa90d, Saa92f, Saa98, Saa23, ZSTC06a, ZSTC06b, ZCS14]. **Subspaces** [BKS08, PS07]. **Substructuring** [KXS18]. **sum** [CS97a]. **Supercomputer** [BTS⁺89, Saa91b, Saa93b]. **Supercomputers** [PS89, Saa89a]. **SVD** [CS08, CS09b]. **Sweden** [KR83]. **Sylvester** [DS91b]. **Sylvester-Like** [DS91b]. **Symmetric** [ASV24, LS13a, LSS03b, Saa83c, Saa87d, SSF93, ZS07, KLS16, KKPS18, LS05a, Saa83d, Saa23, SSF95, SS98b, VSS14, WSS98, XLS16, ZS08]. **Symmetry** [CCSY98]. **System** [ISS84, ISS86, BS87, ITS07, KMB⁺18]. **Systems** [DKXS18, MS92, MS93, MS94, ÖBSC03, SS80, SS85g, SS85e, Saa87d, SS87, SS98a, SZ99a, SS99a, SS99c, SS02a, XS17, AJT⁺07, AS88, AS89, BCRZS22, BS90, BS91, CS85b, CJWS96, ESS86, GSS03, JSS07, KS92, OKS10, Saa80a, Saa81, Saa82a, Saa83d, Saa84c, SS86c, Saa87c, Saa88a, Saa88b, Saa88c, SSZ98, SZ99c, SS99b, Sv00, SZ01, Saa01, SS02b, Saa03b, Saa07, Saa20, Saa24, SMSW00, VSS14, ZXS20, ZXS21, Cha96]. **Technique** [KS07]. **Techniques** [IS86b, Saa84b, SS99a, BCRZS22, CS97b, CS97d, KLS16, KSS03, KSSG04, KS87, Saa74a, Saa88a, Saa88b, Saa88c, SSZ98, SZ99c, SS99b, SAD⁺00, SS98b, WSS98]. **Tensor** [CS97a, CS09b, CS08]. **Tensors** [CS09b, CS08]. **Texas** [Fit86]. **their** [GS89d, Saa87c]. **Theoretical** [Saa94b, Saa94e]. **Theory** [BKS08, BSS09, BS94, BSK⁺03, RGSB08, Saa90b, SS11, dLGS⁺05]. **thermoacoustics** [SGSM15]. **Thick** [LXV⁺16, SSW98]. **Thick-Restart** [LXV⁺16]. **three** [LSS86, LXSdH20].

three-dimensional [LSS86, LXSdH20].

Threshold

[MOKS12, Saa92d, Saa94d, SZ99c].

Threshold-based [MOKS12]. **time**

[BSK⁺03, RGSB08, dIGGS⁺05].

time-dependent

[BSK⁺03, RGSB08, dIGGS⁺05]. **tire**

[SMSW00]. **tool** [Saa90a]. **Tools**

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[KCS09, KCS11, NBS10, NBS12].

Transformations [BRZS18]. **translations**

[Saa74b]. **trends** [Saa92f]. **triangular**

[AS88, AS89]. **Truncated** [TXH⁺24].

Turbo [RGSB08]. **Two** [rFS09, Saa83d].

Type [ASV24, Saa94b, TS11, BCRZS22, Saa94e, SSZ98, Saa06].

understanding [CLS24]. **Unstructured**

[MS94]. **unsymmetric**

[Saa80a, Saa80c, Saa81, Saa82a]. **updating**

[VS14]. **USA** [RRV93]. **use**

[Saa84c, Saa85c, Saa87c]. **Using**

[BKS08, CKV⁺03, SS98a, SSC04, BS05a,

CS18, JTD⁺94, KS05a, LXSdH20, OKLS15, Saa83d, USS17a, UMS17, VSS14, ZSTC06b].

values [VSS14]. **Variations**

[Saa80c, SST04]. **Vectors** [CS09a, CJ04].

Velde [Saa95]. **Version**

[LS05b, SYEG00, LSS03a]. **Versions**

[LSC03, SZ99a, LS05a]. **versus** [CS09a]. **via**

[BSS09, CrFS09, CAS11, CS98b, UCS17,

USS17b, WGSC18, XAKS23, XAKS24,

YXS21, ZSTC06a]. **Vibrational**

[CJWS96, CZC⁺09]. **volume** [BJR⁺09].

wave [JKSC99, LSS86, SL86, SL88]. **wide**

[LSS86, SL86, SL88]. **without**

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