Title word cross-reference

(1, 1) [Cao08, Krz11]. (2, 2) [Li00]. (m, k) [MN00]. (q) [Jia96]. + [LJM14]. −Δu = λu [EFG+18]. 0.822 [Ano09]. 16 [KM09]. 2 [AM96, BV13, Mar94, NBKS99, QB15, ZVO14, vKVW00]. 2 × 2 [AB10, AB13, Cao13, Kol05]. 3 [GKY97, KK16, LPW06, NBKS99, PM97, PR96, SY18b, mMP99, vKVW00]. 4 [MR14, SY18b]. A [CC07]. A − BX ± X * B* [LT08]. A − XB [Den09]. α [Tre13, XCG16]. AXA+ = B [Tia13]. AXB + CYD = E [yPxP06, WTZD10]. AXB = C [fLyHZ11, Miy15]. H [Gra08, LOY08]. H² [Bör17], K [Mar95]. D [BLLA11]. GMRES(k) [KY95]. H [AMM04, BCGM09, Chu04, KPV08, KC17, Leb02, LP16, Sun06, ZSCX10, DMM+08, Pul09]. H(div) [BO18]. H¹ [AMM04]. H₁ [LPW06]. H∞ [Özb13]. hp [DMM+08]. IDR(s) [CvG11]. ILU [CGK94, KOV17]. k [BO08, VVM05a]. λ [FLPW01]. LDL^T [LSS18]. l_p [Dax94]. LU [KNY00, KOV17, DHS95, Saa94]. M [BNT94, San95, Bea94, BCC98, HHLL16, IP13, JZ11, Kra02, LSL01, WQZ09, XZS10, ZJ06, vN00]. R [DN12]. H [HK02]. O(N) [Sac05]. P [LHLO7a, Peñ09, AEHV15, Beu03, BB06, GKY97, LZ09, LO13, LH17, Pul09]. p × p × 2(p ≥ 2) [KJ12]. Q [Cha12, DBLP16]. Q₂ − Q₁ [PT17]. QMR [FH94]. QR
[ADP96, Cha12, FG02, AG95, CH94].  
\[ R \]
\[ s \] [CK10].  
\[ S/P \]
\[ S_n \] [Lee12].  
\[ SSOR \] [JO94].  
\[ t \] [ZSKA18].  
\[ \text{tr}(f(A)) \] [CS18].  
\[ U^T U + U^T R + R^T U \] [Kap98].  
\[ uT(A)v \] [GR04].  
\[ V \] [BLZ08, Lai97, NN10, Not98].  
\[ X \] [fLyHZ11].  
\[ Z \]
\[ HCD15, HHQ13, LQY13, XC13].

- circulants [Tre13, XCG16].  
- conforming [AMM04, LPW06].  
- cycle [BLZ08, Lai97, NN10, Not98].

- decomposition [Kap98].  
- dominated [AMM04].  
- eigenpairs [LP16].  
- eigenvalue [WQZ09].  
- eigenvalues [HCD15, HHQ13, LQY13, XC13].  
- elliptic [ZSCX10].  
- factor [Cha12].  
- factorization [KNY00].  
- factors [Bea94].  
- FEM [BB06].  
- function [BO08].  
- function [XZS10].  
- hierarchica [LO13, Pul09].  
- linear [DN12].

- matrices [BNT94, BCC98, BCGM99, KC17, Kra02, LSL01, LH67a, Pen90, Sun06, vN00].

- matrix [FLPW01, Sau95, Bör17, Gra08, HK02, HHLL16, IP13, JZ11, LOY08, ZJ06].

- monotonicity [Mar95].  
- multisplittings [BCC98].  
- optimization [Chu04].

- partitionings [GKY97].  
- policy [BLLA11].

- product [ZSKA18].  
- refinement [DMM+08].  
- self-adjoint [Leb02].  
- step [CK10, Li00].  
- th [AEHV15].

- version [Beu03].  
- weighted [DBLP16].

**0-521-48296-8** [Nab97].

14 [SB12].  
1st [NL09].

2010 [NL09].  
2017 [Den18].  
2D [BCV03].  
2nd [Kap02].

3-D [BG02].  
3D [MM02, NH98].

4th [Web10a].  
4th-order [Web10a].

60th [Vas03].

70th [CLR13, Vas05].  
7th [BFG+18].

80th [SGP14].

'97 [Axe98].  
98 [Axe99].

**ABS** [SCD94].  
**ABS-type** [SCD94].  
**absorbing** [Cas11, RV12].  
**abstract** [NV08a].  
**accelerated** [BEH+17, Ema12, HW18, PRPI09, Wan18b, YYN12].

**Accelerating** [PH19, KKPS18].  
**Acceleration** [DE06, BGN07, DHI8, rFS09, Ris19, WM12].

**Accuracy** [LL97, BS01, SWKW98].  
**Accurate** [BP13, DPP16, DOP19, MP18a, KR06, LVW01, Van00].  
**achieving** [SWKW98].  
**acoustic** [GM17, mM04].

**acoustics** [CCvG06].  
**activity** [MC04].

**Adaptive** [MMM06, MM11, RR12, BLE97, BGM+12, BE98, DHR+04, Fer96, GKL18, JYH17, LM06, MMC12, MW06, Mit10, RSR10, SWKW98, SY18b, Ver00, ZSCX10].

**adaptively** [YYN12].  
**addition** [BH07].

**additive** [BN11, CL96, CZ02, DS08, KV92, KLM15, NV08a, NWZ17, YY14, XZS10].

**ADI** [Dam08, MP16].

**ADI-preconditioned** [Dam08].  
**adjoint** [Leb02, MM11].  
**adjustments** [FLR03].

**admissible** [VL11].  
**Advanced** [VZ08].

**Advances** [MM18].  
**advection** [BCV03, CCK06].

**advection-diffusion** [BCV03].  
**advection-dominated** [CCK06].  
**aerodynamic** [LW04].

**agglomeration** [IV04, KV06, LV08, LV12].  
**aggregation** [BMM+08, BVV12, BDM+14, CG15, GHT09, GHJV16, KWS+18, MM08, NN11, NY03, OS10, Pul08, PM11, Sch12].

**aggregation-based** [CG15, NN11].  
**aggregation/disaggregation** [MM98].  
**aggressive** [Yan10].

**AILU** [GN00].  
**AINV** [KKNY01].  
**AINV-type** [KKNY01].  
**Algebra**
Algebraic [Ada04, AN94, BBS12, BO08, FM18, GL95a, Kra06, LOS04, NN11, NFD10, Not05b, Not10, Pf99, RBV08, Sim03, Web09, Web10a, XM17, AB12, BGX06, BKY10, BF11a, BDV06, BCZ12, BV12, BKM+12, BDM+14, CG15, DFNY08, Don10, Emm12, GMos06, Het07, HM14, HLL16, IP13, Kra02, Kuz92, KP10, LSS03, LB08, LS15, LCHH18, Liv04b, Lu05, LJ14, MMC12, MO14, MP10, MM95, MBW97, MC08, Muy17, NL16, Not98, Not02b, OST10a, PM97, PT17, RS02, SS02, Sei10, Sha99, SY16b, TC10, VY14, XZ09, XZS15, ZCW11, vN00].

Algorithm [ARSO14, Amb15, AB12, AMMR17, AG95, BCK05, BPS95, BCB14, BFdP13, BD15, BLP01, CD11, CC03, CP12, DW15, ER96, FG02, FO95, Gau99, GM17, GP18, HNR+18, Het07, HLL16, JR94, JZ11, Jou94, Kap09, Kau07, KNY00, KMC16, Liv04b, LYL15, MV06, MCC01, MLV05, MVV08, MP13, MP16, MM18, MC04, MR14, NG15, NLZ11, OC04, PR16, RK18, RY08, RSR10, Roh92, SW06, ST17a, Shi04, SS97, SWK98, St092, SHT11, TGKR10, VM16, VVM05b, Van00, Vla00, WDS09, WM12, WL07, WQ08, WtFW15, YCY17, ZQ12, ZZ15, ZWA18].

Algorithms [BVD+18, GL96, AH02, AMP99, BH04, BT15, Bun92, CL96, CS96, Cao04, CQ10, Cjt03, DMY03, DFZ05, DKVB15, FLM09, FP95a, FH94, HJR97, HR05, HM16, KN14, KR14, Kub92, Lai97, LW98, LLL16, Mar98, Mat96, MP18b, Pf99, RS07, Sac05, SLK16, Sha08, SX15, SCD04, SST18, SS15, VP95, WX10, XCG10, XXW19, XZS10, YZ13, ZJ06, vGSZ15]. aligned [YZ13].

alignment [YZ13]. Almost [ACR+00, AW11, AMP99, EFG+18]. along [MM95]. Alternately [BGX06]. alternating [Bai12, DH18, Wan18a, XJ12, ZN18, ZS08].

Alternative [GS99]. Alternatives [Sid97]. AMG [LOS04, BBM+06, GX14, HVX16, KV06, MMM06, TT15, Vas02, Web18, XM17]. AMG-shifted [TT15]. AMGe [LV08]. AMLI [Beut03, Mar98]. among [Par92]. amplitude [TH19]. analyse [AN13, HS13]. analyses [PM97]. Analysis [BEH+17, BLP01, CCvG06, CG15, MSS07, Mat96, SP05, SP06, Sha98, YZ13, XZ13, Zhu14, Axe15, BPS15, Bat95, BW17b, BBG13, BV12, Cas11, CDDSC12, CTP09, CLC11, CL13, CLTW11, CV13, CDW06, Don10, DFF+18, EFG+18, EM11, FM15, GZ16, GCLG18, GX14, HJR97, HM18, HHvR04, KO18, Lee10, LV04, LT09, LB08, LH17, MO11, MO14, MM98, MM02, NN11, NLZ11, Not05, PV99, Pf99, RR12, Saa00b, ST17a, Sha99, The98, WCZ15, WW08b, WW11, WF15, mMvdV02, vRH05].

analytic [GN00, IT05]. analytical [SSB04]. Analyzing [RV12]. angle [DMY03, Lee12]. angles [GH06]. anisotropic [BC12, CG15, GHT09, Hän06, KW99, KT08, KL14, KN03, Sch12, XZS15, XZ13].

anti [MM99, Per06, XHZ03]. anti-persymmetric [XHZ03]. anti-reflective [Per06]. anti-triangular [MM99]. antibandwidth [SH14]. Any [VL11]. Appl [SB12]. Application [CC03, Ibr02, LD08, MBW97, AM96, ABK15, BGW05, BCC98, Car97, CD11, DH18, DQW15, DCT18, GKK04, GMV16, KMM18, Lam12, LY15, LQY13, NR11, SLK16, Vas02, Wan18b, BG02, CPS06, Leb02]. Applications [NLA94, LX08, Ada04, ACR+00, JNL92, ABNP15, BNR18, BK02, BF96, BV14+18, BFM12, CC07, CCS10, CEQ07, CNP96, CCL05, CCLQ18, CNY05, DHH16, DKVB15, FJ05, FH94, GCLG18, HPS15, Hua12, KCC16, Kub92, LB17, LHW11, LQ13, LT08, LW09, LT11, LT13, LPS15, MV05, ZS08].
NPR13, NR14a, PN18, PRR+16, SKR08, WWC+15, XM17, ZZ15, NL09, Ano09]. applied [BCK05, CH05, GORR16, LMM00, LD07, MO11, Mit10, ZCW11]. approach [AMM04, AN13, CCLQ18, CLJ09, DY04, DGRR11, DS02, FLPW01, GH06, HKP07, HG00, KV02, KNX01, KBF15, Laz16, LVD02, MZHB17, MM97, MC08, NWZ17, RT02, SP18, Ste99]. approaches [KKPS18, KNY99, MMC12, MFFJ18, Mav01, NH08]. appropriate [KV96]. approximants [BLW08]. Approximate [Bea94, BPS00, HDIS18, LPSV18, MGF+02, PPv95, ZS08, AW11, AK16, BPSH13, BS17, Doh07, DS10, Gus03, Huc98, ISZ09, JZ09, JK17, KKNY01, KNY99, KM92, LS04, LB17, LPS15, NY03, Sol14, VW97]. Approximated [NR17]. Approximating [DE98, VS17, AFSCSU14, SS97]. Approximation [AEHV14, AH02, BE09, BF11a, BCV03, BMS17, BMS18, CCE+18, DW15, DK15, DK95, EFG+18, FMPS13, HK02, HPS15, ITS07, KJ12, KT08, KLM15, KV15, LPS16, LV12, LQZ12, MO16, OS10b, PN18, PW12, SLV04, SLV06, WN18, XG10, XH303]. approximations [CYZ99, DLVZ06, FY01, HJRG97, KN07, LO15, Mor07, Mor09, Per06, RSCTP15]. arbitrary [BW17a, HR05]. arbitrary-degree [BW17a]. architectures [FO95]. arising [AN03b, BG95, BFPS10, BMP11, BRT07, CZ15, FP15, Gem00, HKK07, HM14, MZH17, Mar16, MSV13, My17, MST16, PM97, Se10, SMSW00, TC10, ZN18]. arithmetic [DK95, GKV12]. arithmetics [BB16]. ARMS [SS02]. Arnoldi [BHHJ13, GGV13, HLL13, KR14, MP15, PRR+16, VJM16, WW07, WtFW15, YYN12]. arrow [BFG95, GNQ15]. Arrowhead [Zha92]. assignment [CQX11, LC13, LW04, LW05}. assimilation [TDH+18]. associated [CCG00, IP13, MO94]. Asymptotic [BGP97, BMS18, CG05, Tre05, Lam12]. Asymptotical [DS02]. asynchronous [Sch99]. atmospheric [BNP15]. atomic [LO15]. Augmentation [Cao08]. Augmented [BR07, TT15, CS97, EG16, HW18, LD07, MG08, Szu14, Zit05]. Austin [Lee10]. Automated [SV11]. Auxiliary [KLM15, BC12, KPV08]. aware [DH04]. away [IV04]. Axelson [Cao13, Vas05]. axisymmetric [CP06]. B [Nab97, EFG+18]. B-spline [EFG+18]. background [LNY15]. Backward [CTP09, GD95a, DO18, EM11, LC07, LZ12, Pei03, Sm05, WKS95, YDH11]. balance [GSS01]. balanced [Lot07]. Balancing [PY03, BPS13, LT09, MD03, NV08a, WLH12]. BAMG [BKM+12]. Banach [LZY11]. band [VP95]. banded [BCR11, CSCTP05, CG05, ESC18, FL09, GSS01, Kan07, Lot07, MS14]. Barrier [Gar01, Mar95]. Barzilai [HD07]. basal [AMR18]. based [AMR18, AB12, AMMR17, AMMP06, Bai10, BZ13, BZ17, BMAA16, BG05a, BBM+06, BCZ12, BC12, BMM+08, BLW08, CW97, CG15, CLNY15, Cho03, DMM+08, Don10, DKVB15, FP05, Fer96, GKL18, GN00, GB11, GZ16, GNQ15, GH06, GKY97, HJ18, HM03, Hot07, HIL16, HM16, IV04, JK17, Kap98, KY95, KXZ03, KN14, KNY00, KWS+18, KR08, KLM15, Lam12, LO13, LJ04, LNY15, LXS16, LM06, MIM06, MMPP10, MP18b, NN11, Naz95, NA97, NV08b, Reu96, RR12, SW96, SP05, SH14, TH19, UMO09, WH94, WTW14, XZ09, Xie11, wX15, XM17, ZSKA18, ZMO10]. bases [CV03, MP18a, MYZ16]. basic [BR99, BB96, ML05]. basis [BGW05, BHT04, CDDSC12, Gan05, KR14, LO13, Sid97, WW97, Ver00]. BCCB [LJ04]. BDDC [Doh07, SBS15]. be [Ano09, PM97]. BE-FE [PM97]. becomes
[Ben11, BK11, BDS94, BCC98, Cas11, DMYT11, KNX01, MPS96, NX03, Sid11].

Change [Gan05]. Changing [Mee01].

channel [PDV05], chaos [Lee16], chaotic [BW17b].

Characteristic [CCK06, ZYFG11]. Characteristic-mixed [CCK06]. characterizations [ES09b].

Chasing [Zha92]. ChebFilterCG [ST17a]. Chebyshev

[PRPI09, PSK08, Wan18b]. Chebyshev-like [PRPI09]. chemical

[DO18, DK15]. Cholesky [EM95, FP95a, JO94, Kap02, RTN03, Sau95, ZHJL12].

choosing [GNR14]. circuit [BvdV00]. Circulant [CC92, JLW05, CNY05, HN05, NR12, SPD05, WRW18, YNF04].

circulant-plus-diagonal [HN05], circulants [GGV13, Tre13, XCG16]. class [CNY05, CQLQ18, DEM18, DN12, HES15, HLM16, HM16, IK00, LT09, MP18a, Pul08, SPD05, SP06, SCD94, Wu15, YLH11].

classes [BSI17, rFS09, Peñ09]. classic [MM97].

classification [GMOS06, NLZ11].

CLC [Web18]. climbing [SH14]. CLJP [Alb06]. closed [EFG+18]. closure [EJK01].

clustered [CP12]. clustering [CNZ17]. clusters [KBF15]. CNM [LD08, WW08a].

Coarse [GMOS06, AO07, CRV14, KV06, LV12, NV08a, VSG09]. coarse-grid [AO07].

Coarsening [Liv04a, BBM+06, DM10, GMOS06, IV04, Mar98, Wan00, XM17, Yan10, YW12, ZMO10]. code [Bra02].

coefficient [DHR+04, GVT03, Sau95]. coefficients [BKP02, BMRM18, RBV08, Wan00, Zhu08, Zhu14]. Coffey [DPP16].

Collapsible [LD08]. collapsing [BB01].

collisions [LO15]. collocation [CDDSC12, FP15, MP18a, PS08].

column [KV15]. columns [How18]. Combination [Not02a, PW13, Shi02]. combined [KRW08, SLV13, SBS15]. Comment [Cao13, AB13].

Comments [WTZD10, NT04]. Communication [Lai97, Yon96, AMMR17, VY14].

Communications [LD08, NL09].

Commuting [VZ14, JMPR18]. Compact [DEM18, DO18, DGP19]. compactly [FP15]. comparative [LR08, RS18].

comparing [MMC12]. Comparison

[CGK94, Li00, PGT14, SY18b, SSB15, AG99, BB96, CP99, FLR03, FP95b, GLOW04, GLJ19, KP00, MC09, NV08a, Not05b].

comparisons [BT15]. compatible [CBE18, Liv04a]. compensated [AK94]. complement [BCGM09, HKKP07, KW99, KNX01, KLM15, LXH16, LW03, NG15, PW12, Rak99, SGP14, WW08b].

complement-based [LXS16].

complementarity [AW11, BAI10, BZ13, BZ17, CK14, DJ09, HL16, HM16, XZS10, wX15].

Complementary [ZM08]. complements [BG05a, Kra06, MW16, NX03, WTWG14].

complete [JL09]. Completely [GL95b].

completions [EHM95, HS18, Lax16].

complex [AK00, CV13, GH06, HES15, HKH+06, IK00, KR11, KH07, MZH117, Not05a, SS97, Wan18a, Wu15, XQ09].

complexities [Alb06]. complexity [DFZ05, GHJ16]. Compliant [LD08].

component [BF11b, MM02, NH06].

component-wise [BF11b]. components [BGD09, LB17]. componentwise [Dia09, DXW12, Lam12]. Composite [ALM18, Fer96, RSR10, RR12].

Composite-based [RR12].

Composite-grid [ALM18]. compressed [BT15]. compression [Bör17, Fbr02].

compressive [ZZ15]. Computation

[EJK01, Mai06, Öz03, AT00, BB16, BV00, BEG18, Chm04, Huc98, MVK04, MM11, Miy17, MGF+02, NX03, Sid97, WLBH12, XM17].

Computational

[BB17, CCvG06, DFF+18, Ema12, GS97, Ian16, Mar00, SS07]. Computations [MPV06, Axe98, AC11, BP13, DPP16, DOP19, Kho96, MP18a, OST10b].

Computed [GL95a]. computer
computers
Computing
Condition
Conditioned
Conditioning
Conditioned
Connections
Connection
Convergence
Convergent
Correlated
Correlation
Corrigendum
Corrupted
Cosine
Counts
Coupled
Coupling


DD [AB13, Cao13, AB10]. deblurring [CFAM16, Don05, LNP12]. decay [FSS18]. decision [Buc11, CEQN07].

Decomposition [CGK94, AN03a, AN07, AMMR17, AFK02, BP13, BW17a, Bla94, Bla02, BVD18]. BPS13, BO18, BIA18, CS96, Car97, CGM01, CL13, CLNY15, CJT03, DH18, EM95, FLP00, FRR16, FGNW14, GT03, GB15, GT16, Gus03, HLM92, HDIS18, HC05, Ibr02, JK18, JM10, KV92, KPKS15, Kap98, Kap02, Kem12, KMMR10, Kh096, KN14, KNP03, LR95, LV99, LT09, LHW11, LXS16, LT11, LT13, LMM00, MD03, MM02, MM18, NR14b, PY03, PH19, San95, TSPSO06, WQ07, YL08, ZSKA18, Zhu08].

deformations [BF96, BWL08, LS06, SSB04]. deconvolution [MLV05]. Decoupling [LVW01, HDIS18]. Dedicated [Bun95, SGP14, CLR13]. Dedication [NN15]. defective [NFD10]. defective [AFS14]. defects [KK16]. deficient [DE98, GS97]. definite [ARMW14, AIT05a, AV94, Bai16, Bai18a, BMAA16, BT03, DJ09, Ema12, Kap98, KH07, Ko05, LHL07b, MV08, yPES07, SB12, WW08b]. definiteness [PW13]. definition [VVM05c]. Deflated [CS97, MYZ16, SHJC18, MN00]. DeFLATED-GMRES [MN00]. deflation [NV08a, SLV13]. degenerate [BMM06, Sto92]. degree [BW17a, DS10, Gus04b, HVX16]. delay [DGRR11, JLW05, LC13, MSV13].
delay-differential [MSV13]. denoising [LNP12, ZZ15]. denoising/deblurring [LNP12]. dense [CDGM04, DS10, GTY97, How18, KN07, KBF15, Ver06]. density [NY03, OST10b]. dependency [RV12]. dependent [BEG18, CNT07, CRV14, GS05, HG00, KPT14, Mai06, MV13, RBV08, Sha98, ZYFG11, vKVW00]. depending [Vos09]. derivative [LY15]. derivatives [AT00, Xie11]. derived [BDV06]. deriving [Mey94]. descent [De 13, NZ14, Shi02, Shi04]. design [AG99, BCK05, MC08, SMSW00]. designing [RS07]. designs [LW05].
determinantal [CC07]. determinants [MP15]. developments [SS07]. deviation [CCvG06]. device [GMR05]. DFT [Not05a].

Diagonal [BLP17, SZ99, ACR99, BCR14, EW13, EM11, Fas05, FS09, HN05, HS05, KKM12, MCV01, Par03, PSS00, TS12, ZZ15]. diagonal-plus-semiseparable [Fas05]. diagonal-plus-Toeplitz [BLP17].
diagonalization [WZZ18]. Diagonally [AK94, Yon96, MRT98, RT02]. diameter [Par03]. difference [AJ94, FY01, Fer96, Gem00, PR11, SCD94, Web10a]. different [Tre05]. differentiable [Est09]. differential [BRR11, BCR14, Bot13, HJ18, JLLW05].
LH08, LH11, LW03, MW11, MSV13, MM11, PSK08, Rak99, RBV08, SW12, TC10, ZCW11, Zhu14]. differential-algebraic [ZCW11]. differentiation [DO18].

dierential-algebraic [ZCW11]. dierentiation [DO18].
diusion [ALM18, BLP17, Bai18b, BCV03, BR99, CCK06, CG15, FY01, Gan99, KXX03, KWS+18, KRWO8, KP10, Lee16, LCHH18, LPS15, Mav01, OC04, PH19, RSCTP15, Sch12, WBWM04, WZZ18, XG10, YXZ13, ZYFG11, vRH05].
diusion- [KRW08].
digraphs [THC09]. dimension [BTT13, CLNY15, KCS11, VS17, vGSZ15].
dimensional [AALS01, CGPV13, CLNY15, DY04, KT08, NLZ11, Ozbi3, Rja98, XSZ15].
dimensionality [YZ13]. dimensions [BO18, DHNR18, SBS15, XZS15, YZ13].

direct [Dam08, JZ11, ZJ06, BLP01, CNY05, CS95, ES09a, GMR05, HS05, MRT02, SW96, SST18, TPSOS06]. directed [FM18].
direction [BB96, DBG06, XJ12, ZN18].

Directional [Bor17]. directions [DS13b, ZS08].
disaggregation [MM98, Pul08, PM11].
discontinuous [ABM17, BKP02, BBS12, DLVZ06, DFF+18, EYW03, HHvR04, KT08, Wan00, WBWM04, vRH05]. discrepancy [BC02]. discrete [BCV03, CLTW11, DGB+13, DNR12, DHNR18, GORR16, Han13, JK18, KM92, NR14b, Psk08, SSB04, Web10a].
discrete-difference [Web10a].
discretization [ABM17, BCR11, BS01, CGM11, DP03, GTZ18, HHvR04, HK12, Lay05, LPV01, LO08, SY18b, UM09, Zhu14].

discretizations [AT15, BCR14, BBS12, CBE18, EGF11, GH015, KOV17, Lee12, Lee16, LOS04, MW11, Ow95, PT17, RS02, SRGL13, SSB15, XS11, XSS15]. discretized [Bai18b, GS07, KS04, MNCT07, vRH05].
discriminant [NLZ11, WF15]. disks [Pen07]. disordered [Sac05]. Displacement [Bla94, WN05, Bla02, KM99]. displaying [EJK01]. Distance
[BV00, BCV03, BEG18, DPS16, FJP12, Gem00, HPS15, Huc98, LV99, Poio00, VP95, WWX10, mMP99, B9D94, CP12, EGF11, GM17, HS13, KBF15, KR14, LR08, OOO11, yPxP06, RGG07, TSPS06, WTZD10, ZH15, Zha18]. eigCG [ARSO14].
eigendata [BC09]. eigenfrequencies [BTIT13]. eigenpair [MPZ06]. eigenpairs [DK95, LP16, Xie11]. eigenparameter [Vos09].
eigenproblem [BGP97, FT98, Not02a, XHZ03]. eigenproblems [Bas00, BPS00, BFG95, DS13b, FLPW01, FJP12, KCS11, Ney02, SGSM15, TY10, Vos09, XCG16, vdE02].
eigensolution [Mar16]. eigensolver [BMM+08]. eigensolvers [BM17, GKL18].
eigenspaces [Zit05].
eigenvalues [AN06, AB12, BPS15, BFG18, GL95a, ARMW14, ABM17, AB12, Axe99, AC11, BPS15, BGM06, BCR11, BCR14, BLP17, Bai88, BK02, Ban08].
BMAA16, Ben08, BLP08, BES14, BR99, BG05a, BMRR18, BG00, BHHJ13, BCZ12, BFM12, CLR01, Che02, CH03, CQ10, Cor04, Dam08, DSV18, DBG06, DXW12, DLVZ06, DFF+18, Gan99, GB11, Gem00, GS99, Gra08, GS07, GD11, HM18, HFW01, HNR+18, HE15, HML16, IP13, JMR18, JL09, J094, KXZ03, KLM+06, KSM+10, KS04, KWS+18, KOV17, KPT14, KS15, LR08, Lee10, LHW11, LGS12, LXX17, Liv14, LV03, LPS15, LPSV18, LMM00, LRG017, MV13, MNC070, MW11, Mar94, MZHB17, MM09, MCV01, MSV13, MM11, Miy17, NFD10, NQ96, Ols99, PM97, PR95, PT17, Rak99, RBV08, RSCTP15, SCD94, Ste99, Szy94, TSPSO06, Tyr05, Var08, WRW18, Web10a, WZZ18, XSZ09, YDH11, YXZ13, ZCW11, ZZ15, ZN18, ZSWX13, Zhu08.

equations [TSPSO06, Tyr05, Var08, WRW18, Web10a, WZZ18, XSZ09, YDH11, YXZ13, ZCW11, ZZ15, ZN18, ZSWX13, Zhu08].
equidistantly [Rie09].
equilateral [RSCTP15].
equilibrium [DHSW11].
equispaced [FP05].
Equivalence [Szy94].
equivalent [MZHB17].
Errata [SB12].
Erratum [BN12].
Error [GL95a, OOO16, AM96, AW11, CGM11, CS18, HJR97, LO13, MMN10, Ney02, Pul09, WW11].
Error-free [OOO16].
errors [LC07, LZ12, Sun05].
Estimate [AM96, CS18, ES05].
estimates [AN06, AB10, AB13, BB06, CL96, Cao13, FVZ05, LZ12, MST16, Pul09, Zho18].
Estimating [BN12].
Estimation [BNP15, GR04, Baz08, BT92, DPS16, DXW12, LX08, NG15, Ney02, SZ11].
estimations [CD11].
estimator [MVK04].
Euler [Cor04, LH17, NFD10].
European [Rag14].
Evaluating [BB01].
evaluations [KS10].
even [Not05a, XC13].
evolution [BBG13].
Ewing [LPQ06].
Exact [KV15, Bot13, DK95, Pul16].
expansion [DS02, GTI16, MS07, RR12, ROA13, SLK16].
expansions [Trey05].
experience [BGM11].
Experimental [RR12].
experiments [ABK97, GL02].
Explicit [Lam12].
exploiting [VJM16].
exploits [NL16].
Exploring [AMR18].
Exponential [PDV05, BV00, BCV03, DQW15, LLS12, Mor07, PS11, Rag14, VS17, WtFW15].
expressions [LT08, Not05a].
extended [DPP16, KS10, ZHZ10].
Extending [ARSO14].
Extension [BKPO2, BCBO14].
extensions [Sun06].
exterior [GH10].
extracted [SPD05, SP06].
extractions [LNY15].
Extremal [Jia17, LT08, Vla00, Zho16].

F.E.M. [AM96].
Faber [Nov03].
factor [Ano09, Cha12, DM10, GIKO2, HW18, IK00, KM09].
factored [KKNy10].
factoring [BG05a, Kan07].
Factorization [ADP96, BT03, Bia94, CCG00, CGK05, Cha12, DHS95, DCT18, FG02, GN00, KNY00, KM92, LSS18, MW16, OS01, RTN03, Saa94, SK01, ST17b, XQ09, ZHJL12].
factorizations [AMMP06, Bea94, CCS10, CH94, CV03, GNQ15, KOB17, LW15, MS14, RS18, mVmdV02, mM04].
Factorized [KNY99, NY03].
factors [Bea94, BF11a, WL08].
families [AABH18].
family [AEHV14, AEHV15, GGZ12, LZO9, LWC16, LPW06, MG80, Sot13, vV94].
Fast [BO13, Cao04, DMY11, DQW15, FGT11, FP05, FS09, KK16, LLS12, L015, LPS15, MS14, MCV01, MLV05, Miy15, Miy17, RS07, STZ12, XCG10, vKVW00, BB16, DPP16, DS10, Fer96, JHR94, Kho96, Lee10, LLLJ16, MRT02, MV08, Rak99, RS10, Sol14, SKR08, WF15, ZWQA18, RR12].
fast-adaptive [RSR10].
faster [Kap99].
fault [NO04].
fault-zone [NO04].

FDFD [PR11].
FE [GKY97, PM97].
feasible [AW11].
FEAST [GP18, YCY17].
feedback [DGGR11, LW05].

FEM [AB10, AB13, Beu03, BB06, Cao13, FS09].
GM17, HPPS03, HMS99, KM99, Mar94.

**FEM-BEM** [HPPS03]. **FEM/BEM** [HMS99]. **FETI** [DH04, DKVB15]. **FFT** [ZVO14]. fictitious [HKKP07, RT99]. field [KMMR10]. fields [HPS15, OZB\(^+\)18]. filter [RGG07].

filtering [AN03a, AN07, BPSH13, FGNW14, LNY15]. filtering-based [LNY15]. filters [RS07].

**Finding** [EW13, HHQ13, PRPI09, Roh92].

**Finite** [Vom12]. finite-grain [Vom12].

finite-difference [PR11]. finite-element [SY18].

FIR [RS07].

First [KLM\(^+\)06, BBJ17, BGM\(^+\)12, GHR98, Hem96, KNX01, LV15, MMN\(^+\)10]. first-order [BBJ17].

fitting [DQW15, PDV05]. fixed-point [BG05a, Bir15, KO18].

flexible [ZHJL12, vGSZ15]. flow [BLLA11, HG00, HK12, KR11, KRW08, Lay05, LV04, Mar00, MRT96, SBS15, Tur00, Web10b, Web10a, Yet01, vKH00, LD08].

fluid [BLLA11, Ema12, HG00, HW19, Mar00, MRT96, SV11, Web10b, Web10a].

fluid-solid [SV11]. fluidity [AMR18].

fluidity-based [AMR18]. **FORM** [GR99].

Form [Zha92, AB10, AB13, BCB14, BO08, BWN05, BBG13, CAo13, EFG\(^+\)18, GS07, GNQ15, Han13, KKNY01, LGS12, MMMD09, vNR07].

**formal** [Tre05]. **format** [BG13, BMMA16, Gra08, GL18]. **formats** [DO18, DK15, HKST12].

**formula** [MS14].

formulas [BWN05]. formulation [CQX11, GH01, SBS15, Ypm95].

formulations [MZHB17, PS00, Sim03].

**FOSLS** [MMN\(^+\)10, AMR18]. Fourier [CV13, Don10, HM18, HHR04, MO11, ROA13, TSPSO06].

fourth [UM09, WQZ09]. fourth-order [UM09, WQZ09]. **Foz2006** [GY08]. FP [BCB14]. fractional [BLP17, Bt18b, HLM\(^+\)18, LPS15, LPSV18, WRW18, WZZ18]. framework [BD15].

**Fredholm** [MM09]. free [ABBP10, AD11, GTY97, MP16, Not02b, OOO16, RSR10, Sim03, TT10, YNP04, ZYL13].

free-space [RSR10]. frequency [AN07, Bör17, EKS02, MZHB17, MC09, MN00, PR11].

frequency-domain [PR11]. friction [HL94]. fractional [ZVO14]. Frobenius [CDG00, DW07, ES09b, MG\(^+\)02].

**Frobenius-norm** [CDG00]. frontal [RS01, Sco99]. frozen [AABBH18, FSAI].

full [BMS17, BMS18, DEM18, MWZ06, SKR08, TGKR10]. fully [KWS\(^+\)18, MC04].

function [CDDSC12, GGZ12, KS10, LZ09, Part03, PSW14, SP18, SST18, Tre05, XZ10].

functional [KN14]. functionals [AMM04]. functions [BEG18, CKW02, CL11, CJL08, HK5, Est09, FSS18, MN05, Mor07, Mor09, MP14, Naz95, Xie11]. fundamental [ZYL13].

Further [MMN\(^+\)10, Saa00b].

fuzzy [CEQN07].

Galerkin [ABM17, BSB12, CGM11, DLV06, DFF\(^+\)18, HHR04, KT08, LPV01, NSCTP05, SPS14, WTWG14, vRH05].

games [AD12]. gauge [KMMR10]. Gauss [HP97, KLN99, LO13, Pe~n03, Sun06].

Gaussian [GIK02, IK00, Reu96]. Gay [Adi08].

**GCV** [FRR16]. General [JK09, AN13, BCB14, BCGM09, BDR17, CS96, Kap98, KS15, Lor14, MP18a, SZZ99, SS02, ZW10]. general-form [BCB14].

Generalization
Generalizations [SSB04]. Generalized [Amb15, Che15, KKR14, NR12, AM95, Bla02, BC12, BM+08, CC07, Cao09, CD11, CL13, CV03, CBE18, DL97, Dam08, FT98, FM15, GIK02, GW00, HLLL13, JMPR18, KV92, KCV09, KVC12, LR08, LZY11, LT13, Ma06, MP15, MP13, MSB18, RY08, SLK16, SX15, WW08b, Wei94, YCY17, Zha18, Zho06, vNR07]. Generalizing [BT92]. generated [Tre05]. Generating [Ste99, Est09, OZB18, SP18, Vom12].

generation [BG02, Gar01, Gar04, LM06, MS07]. geometric [BS10, Cho03, CBE18, Gar04, HS11, HS14, Ian16, LJ14, XSZ09, ZMO10]. geometric-based [XZS09]. geometries [HKH06, PSK08]. Gerschgorin [LHLS07, Peñ07].

Gerschgorin-type [LHLS07]. Gersgorin [KCV09, KMC16]. Gersgorin-type [KCV09]. GES [BMM+08]. GES-SA [BMM+08]. giga
ops [Tur00].

given [BFdP13]. GKB [BCB14]. Global [CMG11, BS10, FRR16, GD11, LSJ18].

Globalization [NQ96]. Globally [CQ10].

GMRES [BR07, BE98, C202, De 13, DS08, DN12, GR99, JYH17, Jou94, LSJ18, MYZ16, MN00, Sid11, Sim99, SWKW98, SHJC18, VL11, WZ94, ZMO8, Zit00, Zit05, vNR07].

GMRES-type [BR07]. GMRESR [vV94].

Golub [FRR16, GORR16]. GPCG [Bla02]. GPCG-generalized [Bla02].

grad [GGL08]. grade [IT05]. graded [BLZ08, BCS09]. gradient [AM95, BGP97, BMSS09, CNT07, Cha07, DMY03, DW15, DR03, Hac92, Kap94, Kap02, MO94, Mey94, Pr95, SZ11, WD08, Wei94].

gradient-like [Mey94]. gradients [Not02a].

h [Cha07, HSS09]. h-optimally [Cha07]. h-p [HSS09]. Hadamard [KM09].

Hamiltonian [AIT05a, AIT05b]. hand [ARS014, ARMW14, SHJC18]. handy [Adi08]. Hankel [BB16, DQW15, KN07, OS01, SLV06, SB03].

Hankel-like [OS01]. hardback [Nab97].

Harmonic [HS08, MZ98, Bai12, GR99, GS07, Kho96, LG512, Vom10, ZSWX13]. heart [MC04]. heat [AJ94, SY18b].

Helmholtz [CGPV13, CV13, CRV14, KMMR10, Liv04b, Liv14, OS10, RV12, TH19, TT15, UMO99].

help [GKV12]. Hermitian [LT13, SB12, BGN07, Bai16, Bai18a, CPS01, CSYS14, DBG06, Fast05, HM03, HSCTP05, Kol05, KKR14, LHL07b, LC05, Mee01, NC05, SLK16, WD08, Wu15, ZW10, vdE02].

Hermitian-type [LT13]. Hessenberg [CGK05, Gem00, Ste95]. heterogeneous [BBS12, CGPV13, GM17, KP10, KNP03, NH06]. heuristics [SH14]. Hierarchical [BH04, SGP14, BH07, BM13, CV03, EGF11, GL18, LO13, OZ*18, Pul09, VW97, GL18].

hierarchically [XCGL10, Xia12].
hierarchies [Alb06, DHR04, EJK01]. hierarchy [CCE+18]. High [Cap98, SST18, Ay11, AEHV14, AEHV15, AABHV18, ABK15, Bör17, BS17, GM17, GKY97, Lam12, NLZ11, NY03, SWKW98, SSB15, TSPSO06]. high-contrast [AY11].

high-dimensional [NLZ11].

high-frequency [Bör17]. high-order [AEHV14, AEHV15, AABHV18, ABK15,

BLU [BLW08]. ice [AMR18]. ice-sheet [AMR18]. identification [LNp12, ZYL13]. identify [GB15]. II [ELV94, GL02]. III [CSCTP05, GKY97, GL13]. IJNMBE [NL09]. ILDLT [Bas00]. Ill [LHW11, CLTW11, DNR12, DHNR18, Est09, GORR16, NR14b, NCV05]. ill-conditioned [NCV05]. Ill-conditioning [LHW11]. ill-posed [CLTW11, DNR12, DHNR18, Est09, GORR16, NR14b]. ILU [AMMP06, May05, May07, S299]. ILUCP [May05]. ILUT [Bas00, Saa94]. ILUT/ILDLT [Bas00]. image [BC02, CFAM16, CNSY05, Don05, GHW06, HHI10, Hön06, PN18, Per06, RGM17, SKR08]. images [BNT94, NWZ17]. imaging [BNP15]. IMMB [Axe99]. impact [Ano09]. Implementation [AK99, BISC14, BM05a, DMY03, MM18, WF15]. Implicit [FP95a, BGX06, Bai12, BM05a, BD15, Chei15, HL16, ISZ09, LVW01, MC04, PBN05, VVM05b, Wan18a, ZS08, mMvDv02]. Improving [Szu14]. Improved [ARMW14, Cor04, JO94, LW15, BVV12, CGPv13, LV12, Sun06]. improvement [WCZ15, WL03]. Improvements [BB06]. improves [HVX16]. Improving [BKY10, GKL18, GKV12, ST17b]. inclusion [LHLs07, LLK14, THc09]. Incomplete [Jia96, BT03, Bla94, CStS15, GqN15, Gro00, JO94, Kap02, KNY00, RTN03, Ren96, Saa94, SW96, Sau95, ST17b, VS17, ZHHL12, mMvDv02, mM04, GKY97]. incompressible [BKp02, DZF+18, HW19, HK12, KOV17, LV04, Ols99, Tur00, Web10b, Web10a, vKvW00]. increasing [DMY03, HVX16]. increasing-angle [DMY03]. Incremental [Ccs10, BT92]. indefinite [BRT07, CL96, Ck01, CstS95, Crv14, Gm17, Gmtv16, Krz11, Lt09, Ltv14, Pso0, ST17b, SL10, Ttt15, Vas92]. Indefinitely [DR03, LV98]. independence [DS08]. independent [Cjl08, KPv06]. indirect [BLP01]. induced [Lay05, Vgsz15]. industry [Mm04]. inequalities [Am96, Cpsm06, Dkvb15]. inequality [Aals01, Bla03, Dgrr11, Dh04, Dr03, Em95, Mar94]. inertia-revealing [Dct18, Kc17]. inertia-revealing [Dct18]. Inexact [Abk97, Hdo07, Sid11, Bir15, Cq10, Dax19, Fk15, Gb11, Gp18, Hlm92, Hw18, Kk02, Kpv06, Lll97, Ltv98, Sim03, Wtfw15]. infimum [Chu04]. infinite [Bmmr18, Ozb13, Vjm16]. Information [Ano12a, Ano12b, Ano12c, Ano12d, Ano12e, Ano12f, Ano13a, Ano13b, Ano13c, Ano13d, Ano14b, Ano14f, Ano15f, Ano15a, Ano15b, Ano15c, Ano15e, Ano16a, Ano16b, Ano16c, Ano16d, Ano16e, Ano17a, Ano17b, Ano17c, Ano17d, Ano17e, Ano17f, Ano18f, Ano18a, Ano18b, Ano18c, Ano18d, Ano18e, Ano19, Ano14a, Ano14c, Ano14d, Bf96, Fj05, Ano14e, Ano15d, Ano16f]. initial [Nov03, Pbn05, Vl11]. initializing
[BMM⁺08]. inner
[FJP16, Gus04a, Mey94, MGF⁺02, Xia12].
Innovative [BDRS12]. integer [CP12].
tegrable [SHT1]. integral
(AFSCSU14, HSY18, MM09]. integrals
[LO15]. integration
[ABK15, KKP18, LLS12, MC09]. integrators
[Ber01, LJ04, Mor07, Rag14]. intensity
[GVK12]. inter [MC08].
ter-grid [MC08]. interaction [SV11].
terchanges [EM11]. interdisciplinary
[BNR18]. Interface
[Wan00, JM10, XM17, Yot01, ZYL13].
terface-based [XM17]. Interior [LMV04, BMM06, BCS09, HP04, MST16].
Interior-point [LMV04]. internal
[HKH⁺06]. International [NL09].
Interpolating [MN05]. interpolation
[BKY10, DFNY08, Gan05, HM03, KV06, KV15, LMMR10, Pul16, Ric09, Vla00, Web10b, Yan10]. Interpreting [CPMS06].
terval
[DPS16, Jia17, KSB13, Roh92, YLH11].
tervals [Jia17, LHLS07, THC09].
Introducing [MS07]. invariance [JY17].
invariant
[AG95, DF01, MK94, PM16, YL08]. Inverse
[LC05, NR14a, SP18, Tre13, AEHV14, BF11a, BM13, BPS00, BFM95, BF12, BSI17, C07, CWs18, DL07, DW07, DWWQ13, EW13, EKS02, Egg07, EHM95, FGT11, FK15, Han13, ISZ09, JZ09, JK17, JK18, KKNY01, Kho96, KNT99, KKM12, LL97, PLL07, LW09, LZY11, MV13, MP16, MGF⁺02, NY03, yPyH204, Sol14, Sot13, TS12, WL03, XHZ03, XCG16, ZN18, Zho06, Ney05].
inverse-free [MP16]. inverses [Cor04, FSS18, Gus03, Huc98, LXW13, WN05].
inversion [BO13, KK02, LPS15, LPSV18].
inversions [Dax19]. invert
[MP14, PS11, WtFW15, Sim03].
invertibility [Den09]. investigation
[KS10]. involving [DWWQ13]. IOM
[Jia96]. ion [LO15, TC10]. ion-atomic
[LO15]. IPARS [LVW01]. IRAM [Xie11].
IRAM-based [Xie11]. Irreversible [BL03].
ISBN [Nab97]. isogeometric
[CBE18, EFG⁺18]. isolation [EK02].
isometric [Gar01, Gar02]. isospectrally
[VW15]. Issue [Ano08, Ano12a, Ano12b, Ano12c, Ano12d, Ano12e, Ano13a, Ano13b, Ano13c, Ano13d, Ano14a, Ano14b, Ano14c, Ano14d, Ano14e, Ano14f, Ano15f, Ano15a, Ano15b, Ano15c, Ano15d, Ano15e, Ano16f, Ano16a, Ano16b, Ano16c, Ano16d, Ano16e, Ano17a, Ano17b, Ano17c, Ano17d, Ano17e, Ano17f, Ano18f, Ano18a, Ano18b, Ano18c, Ano18d, Ano18e, Ano19, LD08, CLR13, Dat01, Fal06, VW01, Vas05, Axe99]. issues [BM05a]. Iterated [BDR17, AN03a].
iterates [DS13b]. iteration
[AT15, AN94, BGX06, Bail0, Bail2, BZ13, BLCP17, Bail1, Bia18a, Bia18b, BM13, CH05, Che15, Egg07, FK15, GB11, GH01, HMS99, HL16, K018, Kra02, KKR14, LLL97, Lam12, LS15, MM18, PS95, Wan18b, Wan18a, wX15, YHS18, Zho06, Z0S8, Ney05].
iterations [BG07, BO05a, FJP16, GGZ12, HK05, Kap05, KLN99, LZ09, Lin12, Lu05, NZ14, Saa00b, Sch99, vdE02]. Iterative
[AT00, BF11b, CGK94, DBG06, GMR05, LPV01, MO16, MSB18, NZ14, PM97, AEHV14, AEHV15, AK00, ABPN15, BEH⁺17, BM17, Ber01, BR99, CR16, CH05, CK01, CK10, ELV94, FM99, GTY97, Gus97, HG00, HES15, HM14, LR08, Lec10, LSL01, LZY11, LW16, LMJ14, MM98, NO04, OB99, yPyP06, PR96, PR11, PH19, Pul08, PM11, Sol14, Sun06, Syz94, WDS09, WTDZ10, WW11, ZW10, Axe99]. IV [KNY99]. Ivo
[SGP14].
J [NN15]. Jacobi [BFP13, BFG95, FJP16, GS99, HLLW05, MSV13, Not02a, Sch99, Zho06, vNR07, vdE02].
Jacobi-Newton-iterations [Sch99].
Jacobian [BS01]. January [NL09]. Jordan
[EJK01, GH06, Pen03]. Journal
Ber01, BWN05, Bla02, BMS18, BvdV00, Bot13, BC12, BFM12, BM05a, BIA18, BSI17, CS09, CS11, CDGmM04, CPSM06, CSCTP05, CGL05, CC03, CK01, CK14, DGB+13, DMS17, DSV18, Dat01, DDG99, DGRR11, DW07, DWQ13, DNR12, DGM+16, DJ09, DN12, FZwCW17, FGT11, FP15, FS09, Gem00, GLJ19, GM11, GSS01, GY08, GTY97, GS05, GW00, GL98, GL02, GL13, HLM+18, HHvR04, HNR+18, HE15, HSCTP05, JZ09, JK17, JYH17, Jou94, JO94, KMM18, KK02, KPV06, KS04, KBF15, Kra02. linear [KS15, KKR14, KMM19, LX08, LH07b, LT09, LC13, LL97, LV98, LM04, Mar00, MC01, MV05, MAV01, MP13, MEY94, MC04, NAZ95, NQ96, NLZ11, NOV03, OCO4, ÖZ13, PAD99, PBN05, PM97, PG14, RK18, RGG07, RT99, SZ99, SS02, SB12, SS07, SMW00, ST092, SUN05, SL10, SHJC18, SZN14, TTX0, VFDV13, WV01, WKS95, WD08, WM12, W018, WU15, WF15, XZ09, XS11, XJ12, XZ15, W1X5, YDH11, ZW10, vGSZ15]. linear-constrained [XJ12].


logarithm [Lor14]. logarithmic [DH16]. Long [Kem12, K16, Yan10]. long-range [KK16, Yan10]. Long-time [Kem12]. look [LYL15]. loosely [TSPS06]. Low [AN07, BAB08, BF06, CH94, DFZ05, WN18, AT15, AMMR17, BE09, DBLP16, Gra08, HS18, HC05, JMPR18, KO18, KPT14, KS15, Laz16, LXS16, LO15, NL16, NY03, QB09, SLV04, SV06, VY92]. low-communication [AMMR17].

Low-complexity [DFZ05]. low-density [NY03]. Low-rank [BF96, CH94, WN18, AT15, BE09, Gra08, HS18, HC05, JMPR18, KO18, KPT14, KS15, Laz16, LXS16, LO15, NL16, QB09]. lower [Alb06, SPD05, SP06]. LQ [BG00]. LQ-Schur [BG00]. LSQR [RY08]. LTI [ZS08]. LU [CCS10, LW15]. Lyapunov [BLP08, Dan08, DS18, KPT14].

M [KV10]. maintaining [Par92]. Making [LS18, CEQN07]. manifold [KO18]. manifolds [MK94, SZ11]. Manteuffel [Lee10]. manufacturing [CNY05]. mapping [BG02]. mappings [Gar02]. maps [MK94]. Marek [SP14]. Markov [AD11, BLLA11, Ben11, BK11, BL03, BDS04, BH16, BCC98, BU11, BF11b, CAS11, DS18, DHS11, DMY11, DED14, KNX01, MPS09, NX03, NW15, SI14, VFD13]. Markov-modulated [BLLA11]. Markovian [BMP11]. mass [AB17, EKS02]. mass-conserving [AB17]. master [DO18, DK15]. matching [BCZ12, KXZ03]. matchings [HS15]. material [LNP12]. materials [BMI+14, PR11]. Mathematical [SWY07]. mathematician [Voe92]. Matlab [Bra02]. Matrices [Yon96, AFSCS14, AIT05a, AN94, AN06, AB10, AN13, AB13, AX15, BAE0, BB16, BPS95, BP13, BNT94, BH07, BF11a, BM13, BT03, BV00, Ber12, BWN05, BG05a, BFG95, BG05b, BFM12, BCC98, BCG10, BM05b, BM06, CS96, CA08, CA09, CA13, CDD12, CLN05, CGK05, CX05, DPP16, DPO19, Dia09, DS10, Don10, DNR12, DS13a, DSH9, DCT18, DNN18, ESC18, ES90b, EST09, EG16, FLR03, FG02, Fas05, FP95a, FSS18, GIK02, GS97, GR04, HH06, HLM+18, HR05, HS15, HOW18, HUI12, HC05, IAN16, IK00, JR94, JIA17, KAU07, KNO7, 

low-density [NY03]. Low-rank [BF96, CH94, WN18, AT15, BE09, Gra08, HS18, HC05, JMPR18, KO18, KPT14, KS15, Laz16, LXS16, LO15, NL16, QB09]. lower [Alb06, SPD05, SP06]. LQ [BG00]. LQ-Schur [BG00]. LSQR [RY08]. LTI [ZS08]. LU [CCS10, LW15]. Lyapunov [BLP08, Dan08, DS18, KPT14].

M [KV10]. maintaining [Par92]. Making [LS18, CEQN07]. manifold [KO18]. manifolds [MK94, SZ11]. Manteuffel [Lee10]. manufacturing [CNY05]. mapping [BG02]. mappings [Gar02]. maps [MK94]. Marek [SP14]. Markov [AD11, BLLA11, Ben11, BK11, BL03, BDS04, BH16, BCC98, BU11, BF11b, CAS11, DS18, DHS11, DMY11, DED14, KNX01, MPS09, NX03, NW15, SI14, VFD13]. Markov-modulated [BLLA11]. Markovian [BMP11]. mass [AB17, EKS02]. mass-conserving [AB17]. master [DO18, DK15]. matching [BCZ12, KXZ03]. matchings [HS15]. material [LNP12]. materials [BMI+14, PR11]. Mathematical [SWY07]. mathematician [Voe92]. Matlab [Bra02]. Matrices [Yon96, AFSCS14, AIT05a, AN94, AN06, AB10, AN13, AB13, AX15, BAE0, BB16, BPS95, BP13, BNT94, BH07, BF11a, BM13, BT03, BV00, Ber12, BWN05, BG05a, BFG95, BG05b, BFM12, BCC98, BCG10, BM05b, BM06, CS96, CA08, CA09, CA13, CDD12, CLN05, CGK05, CX05, DPP16, DPO19, Dia09, DS10, Don10, DNR12, DS13a, DSH9, DCT18, DNN18, ESC18, ES90b, EST09, EG16, FLR03, FG02, Fas05, FP95a, FSS18, GIK02, GS97, GR04, HH06, HLM+18, HR05, HS15, HOW18, HUI12, HC05, IAN16, IK00, JR94, JIA17, KAU07, KNO7,
matrices [Sei10, SJBH14, SS97, SB03, Sol14, SST18, Sun06, Tre05, VVM05a, VP95, VVM05b, VVM05c, VV15, Vas92, WBL14, XCGL10, XHZ03, XM17, YLH11, ZHZ10, Zho16, vN00, Nab97]. Matrix [AB00, AG95, AC11, BFG18, Bun92, GTY97, Not05a, YNP04, Zha92, AFS14, AH02, AEHV15, AD11, Bai10, BBJ17, BE09, BFdP13, BB01, Ben08, BGW05, BG05a, BMMR18, BEG18, BG00, Bör17, BHHJ13, CCE18, CCG00, CH03, CLC11, CSYS14, DBC06, DGRR11, DGM16, DK95, DBLP16, EW13, EM95, EHM95, ER96, FLPW01, GMS18, GHR98, GGZ12, Gra08, HJ18, HK02, HM03, HL16, HM16, HLLL16, IP13, Ibr02, JZ11, KV92, Kap98, Kap99, KNN01, KH07, KS10, KO18, KM09, KR14, KPT14, KS15, LZ09, Læz16, LOY08, fLHY11, pLL07, LH17, LT08, LT11, Lor14, LPS15, MV08, MSS07, MRT98, Muy15, Mor09, MP14, OOO11, OOO16, PS11, yPxP06, yPES07, Rja98, Rohen. Sau95, Sha98, Ste99, SHT11, TS12, TT10, THC09, Tia13, TY10, Vas02, VS17]. matrix [WW08b, WTZD10, WtFW15, WF15, XJ12, Xie11, XQ09, xK15, YDH11, ZJ06, ZN18]. matrix-dependent [Sha98]. Matrix-free [GTY97, YNP04, AD11, TT10]. matrix-valued [DGM16, Xie11]. max [BDK15]. max-length-vector [BDK15]. maximal [LW16]. maximization [SH14]. Maximum [BCHT04, Gar02, CLCLQ18, ES05, NG15]. Maximum-weight-basis [BCHT04]. Maxwell [GS07, LGS12, MV13, MZH18, ZSWX13]. McCormick [Lee10]. mean [Ian16, KNX01]. means [MS14]. measure [BG02]. measures [Buc11, OST10a]. mechanical [LV99]. mechanics [Ada04, Axe99, GMTV16]. mechanism [DH18]. Medal [Ano08]. media [BKP02, CGPV13, GM17, KP10, NH06, SBS15, WWX10, Yot01]. Median [LNY15]. Memory [KR14, FO95, GMTV16, JO94]. Memory-efficient [KR14]. meromorphic [BEG18]. Mesh [KPV06, BC10, BGM12, DHR04, DS08, KPV08, SBS15]. Mesh-independent [KPV06]. meshes [BB00, BLZ08, BCS09, HSM99, KR11, KV96, Mov01, OZB18, RSCTP15, SRGL13, XZ15]. meshfree [LOY08, LOS04]. Meshing [HKK+06]. Method [Jia96, ABBP10, AK99, AN94, AM95, AKF02, BC09, BG13, BB16, BB17, BMM06, BES14, BS01, Bla02, Bot13, BHHJ13, BMS09, BC12, BCS09, BPS13, CKW02, CZO2, CNT07, CQXI11, Cha07, CGL05, CH05, CG15, CS18, CNY05, Cho03, CK01, CBE18, CP06, CK14, DL97, DMY03, Dax94, Dax19, DGM16, DJ09, DGP19, DS13b, DR03, EKSO2, ES09a, EWY03, FLP00, Fer96, GHT09, GS99, GT09, GD11, Hac92, HCD15, HKKP07, HS18, HES15, Höm06, HD07, HHQ13, HLLL13, HW18, HSY18, JM10, Kap94, Ken12, KY95, KKNY01, KK16, KW99, KXX03, KP06, KR11, KS10, Kra02, KT08, KLM15, KPT14, KM02, LV08, LPV01, L00, LT09, L0B8, LS15, LH17, LW17, Liv14, LJM14, LP16, LPSV18, MAM00, LV98, LMV04, MZ15, MO94, MM98, MRT96, Mee01]. method [MSV13, MP15, MW06, MBW97, Mit10, MP14, MN00, NP96, NR14b, Not94, PS11, PS95, yPxP06, PR95, PR96, PR11, PT17, Rka99, RS01, RS02, RV12, Ren96, RT99, ROA13, Sha99, Sim03, Sm06, SHJC18, TS12, WD08, WQZ09, WCZ15, Wan18b, Wan18a, WBWM04, WTZD10, Wu15, XZ09, XJ12, XZ15, Xie11, XQ09, YHS18, Yan18, YNN12, YXZ13, ZYFG11, ZN18, ZYL13, Zit05, ZMO10, vNR07, vRH05]. Methods [Ano08, CGK94, Den18, LD08, NL09, QACT18, VW01, WW08a, ARMW14,
BH04, BISC14, BMS17, BDV06, BLZ08, BMM+08, BVV12, BKM+12, BDM+14, BS10, Cho03, CBE18, DY04, DFNY08, Don05, Don10, DHR+04, EZ96, Ema12, Fa06, FM18, FM15, GM17, GLOW04, GGLO08, GHT09, GKV12, Gra08, GHJV16, GMOS06, HBH10, HM18, HNR+18, Het07, Høn05, IV04, KXZ03, KR11, KR06, KLM15, Lee12, Lee16, LOS04, LCHH18, Liv04b, Liv14, LJM14, LD07, LRGO17, MO11, MMC12, MO14, MPR10, MWZ06, MBW97, MC08, Mit10, NN11, NFD10, NSCTP05, Not05b, NV08b, OST10a, Pf99, PT17, RS02, RV12, Reu96, RBV08, RGM17, Sei10.

definitions

**multigrid** [Sha98, SY18b, SKR08, SSB15, TGKR10, TC10, TY10, TH19, UM09, VZ08, VY14, Wan00, Web10b, Web10a, WZZ18, XSS09, XZS15, YW12, Zha14, ZMO10, rHR05, DM10, Den18].

**multigrid-based** [UMO09].

**Multigrid-in-time** [BW17b].

**multigroup** [KWS+18].

**Multilevel** [AT15, CEL+96, CV03, MFFJ18, Osvg95, Sta96, AM96, AMM04, AN94, AV94, BMM05, BCZ12, CL96, DMITY11, DGM+16, Kra02, Kra06, KT08, KMS08, KLM14, KP10, Lai97, LSS03, LM06, MM95, May07, Not98, Not02b, Not05b, Pad09, SS02, Sha99, SLV13, Th98, XCG16, Yot01, vN00].

**multilinear** [LPS16, LLNV17, MP18b, PDV05].

**multiphysics** [Yot01].

**multiple** [ARSO14, ARMW14, CNZ17, Mai06, SHJC18].

**multiplication** [Kap99, OO011, OO016, WF15].

**multiplicative** [CL96].

**multipliers** [ZN18].

**multiprecision** [BB16].

**Multiprocessor** [ADP96].

**Multiscale** [HPPS03, BIA18, FP15, VSG09, WWX10].

**multisecant** [rFS09].

**multisensors** [CNSY05].

**Multisplitting** [RLG12, AMP99, BZ13, CS09, CS11, JS96, LSL01, Reu98].

**multisplittings** [BCC98, CP99, FP95b].

**multistep** [BWN05].

**multivariate** [HDIS18, LZQ12, MVK04].

**Nath** [CLR13].

**Navier** [AB12, CA99, DFF+18, HFW01, KOV17, LMM00, Oks99, PT17].

**near** [CNY05, Ver00].

**near-circulant-block** [CNY05].

**near-singularity** [Ver00].

**nearby** [AFS14].

**Nested** [Bla03, GNQ15, MO16, MM18, vV94].

**networks** [GB15, Lee18, WW15].

**Neumann** [KMM19, RT99].

**neutral** [ZCWI11].

**neutron** [Cha07, CGM11, KWS+18].

**Newton** [ABBP10, AABHV18, AMMP06, ABK97, AFWK02, BC09, BMM06, CQ10, CWs18, DL97, DEM18, DS13b, GB11, GKK04, GD11, HP04, KPV06, LB08, Lu05, LV98, NQ96, OC04, Sch99, Vla00, Yot01, ZZ15, Zhu06].

**Newton-like** [BMM06].

**Newton-type** [ABBP10, AABHV18, CWs18, Vla00].

**NLA** [Axe10, Vas05].

**nodal** [BDV06].

**nodes** [FP05].

**noise** [NWZ17].

**noisy** [BC09, NWZ17].

**Non** [AMP99, VW01, Bia16, BMM06, Bla02, BMN05, CL96, Cao04, Car97, CMG01, CPS01, CGL05, CK01, FX05, D02, EZ96, FP05, GB11, GM11, GT03, HKKP07, HSCTP05, KPV06, KM99, Kra02, LVD02, LHL07b, Lu05, LMM00, LV98, LMV04, Mav01, MZ98, MC04, NQ96, OC04, RT99, SB12, Sei10, WD08, vN00, Bai18a].

**non-conforming** [BMN05, KM99].

**non-convex** [LVD02].

**non-Lipschitzian** [DS02].

**non-negative** [BM06, CFX05].

**Non-linear** [WW01, Bla02, CGL05, KPV06, Kra02, LV98, LMV04, Mav01, MC04, NQ96, OC04, RT99].

**non-linearly** [LVD02].

**non-equispaced** [FP05].

**non-Hermitian** [SB12, Bai16, CPS01, HSCTP05, LHL07b, WD08, Bai18a].

**non-conforming** [BMN05, KM99].

**non-equispaced** [FP05].

**non-Hermitian** [SB12, Bai16, CPS01, HSCTP05, LHL07b, WD08, Bai18a].

**non-conforming** [BMN05, KM99].

**non-convex** [LVD02].

**non-Lipschitzian** [DS02].

**non-negative** [BM06, CFX05].

**non-convex** [LVD02].

**non-Hermitian** [SB12, Bai16, CPS01, HSCTP05, LHL07b, WD08, Bai18a].

**non-linear** [WW01, Bla02, CGL05, KPV06, Kra02, LV98, LMV04, Mav01, MC04, NQ96, OC04, RT99].

**non-linearly** [LVD02].

**non-Lipschitzian** [DS02].

**non-negative** [BM06, CFX05].
non-overlapping [CGM01, GVT03, LMM00]. non-smooth [Car97]. Non-stationary [AMP99, LMM00]. non-symmetric [Bla02, CL96, Cao04, CK01, EZ96, GB11, GM11, HKKP07, Lu05, MZ98, Sei10, vN00]. nonaligned [YXZ13]. nonconvex [Laz16]. Nonequivalence [FLPW01]. Nonlinear [Gra08, AMMP06, AC11, BRT07, De 13, DGRR11, fFS09, GD11, HM16, MV13, MSV13, Naz95, yPES07, SCD94, VJM16, Vas09, WRW18, XZS10, ZZ15]. Nonlinearly [DH18, DW15]. nonmatching [OZB +18]. nonnegative [BGX06, BGM09, BGM11, CQZ13, Sot13, WWC +15, ZQ12, ZQLX13, ZQW13, ZQWA18]. nonnormal [MYZ16]. Nonnormality [Baz08]. nonoverlapping [BO18]. nonpositive [Hua12]. nonrestarted [Zho18]. nonsingularity [Peñ07]. nonsmooth [Che92, CQ10]. Nonsymmetric [CGK94, YW12, ARSO14, Bai95, GBX06, Ema12, GLJ19, HM14, IP13, Jou94, LW07, LB08, Mey94, Not10, SJBH14, SX15, Sta96, SL10, Vas92, WTW14]. nonzero [ZJHL12]. norm [CDG00, Dax94, DE98, DBG06, DHW16, EM95, EHM95, Gar02, Miy15, XJ12, YL08, Yan18]. Normal [Gus04b, SZ11, FSS18, LS05]. normality [NR11]. norms [ZJ16, SB03]. normwise [DW07, FT08]. notch [RS07]. Note [LZY11, CNT07, Ca09, CK14, DS10, DS08, DN12, FT98, GM11, GX14, JO01, KH07, La97, LXW13, LW07, LC07, Lot07, Ney05, SB03, Sun05, SHT11, VVM05c, Vóm10, Vöm12, Wan18a, WBL14]. notion [DGM +16]. novel [NPR13, SP06, BNR18]. NS [FM18]. NS-LAMG [FM18]. nuclear [XJ12]. null [How18, ITS07, RS18, WF15]. null-space [ITS07, RS18]. nullspace [Sim03]. nullspace-free [Sim03]. number [BB06, BC10, EHM95, EG16, LH08, LLW09, RV12, TGRK10, ZHJL12]. numbers [BG05b, CCG00, CLTW11, CDW06, DW07, Dia09, DXW12, DWWQ13, Liv14, YDH11]. Numer [SB12]. Numerical [AGG +16, NLA94, Ano08, Ano09, BLP08, Ben11, CH03, CA99, DMS17, DSV18, FZW CW17, GS05, HHM10, HJR97, fLYHZ11, LD08, MK94, MMM09, MV05, NBKS99, NSCTP05, NL09, WW08a, JNL92, Bai95, BDRS12, BNR18, BKP02, Bat95, BGM11, Ber01, BDS94, CQX11, CJW06, Cor04, CJT03, Dat01, DS02, GY08, HPS15, L04, LH08, LHW11, LGS12, Lin12, MM09, MP13, MM18, OCYM08, Ols99, Özb13, SHT11, TUr00, Mar00].

Objective [Ris19]. Oblique [Hau13, YCY17]. oblivious [MWZ06]. observations [CZ02]. observer [CLR01, CD11]. obstacle [JZ11, ZJ06]. occasion [CLR13, LPQ06, SGP14, Vas03, Vas05]. occur [CC03]. occurring [AG09]. oceanography [Rak99]. odd [Not05a]. Odir [CK01]. off [EW13]. off-diagonal [EW13]. One [OC04, CSYS14, FMPS13, O’H14, Pul08]. One-level [OC04]. open [Gar04, RR12]. OpenMG [BISC14]. operations [STZ12]. Operator [Gus97, Gus98, Gus03, MMPR10, Alb06, BV00, BCV03, BFM12, Den09, GN00, GH11, Liv04b, MP15, Tyr05]. Operator-based [MMPR10]. operators [AFSCSU14, ABBP10, AEHV14, BKY10, Don10, GGL008, GVT03, Kho96, MC08, PSK08, Yan10]. optical [BCK05, KRW08]. Optimal [Bai09, BTB13, ELV94, GH015, HLM +18, HLS07, LD07, MM95, Not98, WKS95, BLP08, BFPS10, BNM05, DH04, EG16, GTZ18, HFW01, HW18, KK13, Lai97, MNCT07, MSS07, MP13, NA97, PSLW14, RGG07, RSCTP15, SY18a]. optimality [NN10]. optimally [Cha07]. optimization [AN03b, BDK +15, Chu04, De 13, DD07, Gar02, GY08, HHM10, HP04, KCS11, Laz16, LZQ12, Lin12, LV04, MV13, NBKS99,
PW12, RS10, Ris19, SW12, WCZ15, WN18].

optimize [MC08]. optimized [OOO11].

Optimizing [TGKR10]. option
[LLS12, Rag14]. order [ABBP10, AEHV14, AEHV15, AABHV18, ABK15, BCR11, BCR14, BBJ17, BH16, BGM^+12, BSI17, CEL^+96, DLVZ06, ELV94, GM17, GA18, GT16, GHW06, GKY97, GL13, Hen96, JM10, Kap02, KLM^+06, KPV06, KM09, Lam12, LY15, MV13, MMN^+10, MNCT07, RS01, SSB15, TSPSO06, UMO09, WQ07, WQZ09, Web10b, Web10a, XSZ09, XS11].

order-reducible [BCR14]. ordered [Bea94].

Ordering [HS05, HS15, Sco99].

orderings [DS10, NA97]. ordinary [BCR11, BCR14, Bot13, ZCW11]. oriented [TC10].

Orthogonal [FB95, VVM05a, AM95, BF96, DBG06, Kem12, MO94, PN18].

orthogonality [Par92]. Orthogonalization [Jia96, LBG13, LL97, SW96, VS17].

orthogonalizations [Dax04].

orthogonalizing [Mat96]. Orthotropic [GL96].

Oseen [CBE18, HBB10, KLM^+06, Ols99]. outer [Cor04, Xia12]. output [LW05]. outs [LPW06]. ovals [KVC12].

over Penalized [BPS13]. overall [BS01]. overlap [KK02, mMvdV00, Kem12, MO14, PN18].

Overlapping [CS96, GQ15, CM01, Gan99, GVT03, JS96, KP00, LMM00, MO11].

overrelaxation [BGN07, Gus03]. Owe [Cao13, Vas05].

p [SP06, HMS99]. p-level [SP06]. Padé [BLV08, GZ12, LZ90]. PageRank [LLNV17, MP18b, WW07, YYN12]. pairs [CLC11, GMS18]. pairwise [FLR03].

palindromic [LYL15, MM09]. panel [PR06]. Papers [Ano08, LD08]. parabolic [AT15, JM10, KK13]. Parallel
[AO07, AMMP06, Bas00, BLE97, BGM^+12, BS10, CR16, FJP16, GR05, GL96, KR11, Lee16, LSL01, LGS12, NO04, RT99, The98, Voe92, WH94, ZYFG11, AGG^+16, ACR^+00, AMMR17, AMP99, BPS00, BMS17, BMS18, BvDV00, CS09, CS11, CJT03, DFN08, FJP12, FM99, GMR05, GSS01, GMOS06, GL98, GL02, GL13, Hae92, HS05, JO94, KK02, Kuz92, LW01, LSS03, LWC16, MW16, MM97, MBW97, MC04, MR14, Pad99, PR95, PR96, Rak99, RK18, Ren98, Sid97, TSPSO06, Van00, WLH12, mMMvdV02, mM04]. parallelism [Vom12].

parallelizable [GL95]. parameter [AK99, BEG18, GNR14, GS05, KPT14, MSV13, Not02b, Yan18].

parameter-dependent [BEG18, GS05, KPT14]. parameter-free [Not02b]. parameterized [CCvG06, HW18]. parameters [Bai09, BNP15, GHO15, HW18, Mai06, Yan04, Yan18, ZHJ12].

parametrization [Hua12]. Parlett [Bun95, EM95]. pARMS [LS03]. Partial [GL98, GL02, GL13].

Performance [BT15, Sei10]. PDEs [AT15, AMMR17, Hem96, Hóm06, MO11, VSG09, VZ08, ZMO10]. Peaceman [LR95].

pEERS [KS04]. penalized [BPS13, Dos99]. penalties [MG08]. penalty [BCS09, BPS13, BDR17, DH04, Lai97, PSW14]. pencil [LW05]. pencils [BB01]. Penrose [DW07, DWWQ13, KKM12, LXW13].

periodic [KK13, Var08, WZZ18]. periodicity [BDS94]. permanents [WLH12].
permittivity [PR11], permutation [May07]. Perron
[ES09b, KNX01, LCN13, MP18b, NX03].
Perron-based [MP18b].
perspective [BMS17, OST10a]. persymmetric [XHZ03].
Perturbation
[Cas11, CLC11, GCLG18, GW00, WW08b, YL08, CTP09, Cha12, CLTW11, FT98, JLW05, LS05, LS06, LCN13, LW15, O’H14, WKP95, WL03, YDH11]. perturbations
[AIT05a, AIT05b, LXW13].
perturbed [Sau95].
Petrov [CGM11].
phase [DY04, HS13, HLLL16, NH06, SY18a].
planar [BLE97, Ypm95].
planewise [mMP99], planewise-like [mMP99].
plants [Ozb13].
plasticity [ABK97, Car97, HJR97, Wie99].
plate [AY11, CYZ99]. player [AD12].
Plemmons [NN15].
plus [BLP17, Fas05, HN05, KN07, MCV01].
point [AN06, Axe15, Bai09, Bai12, BMM06, Ber12, BG05a, Bir15, Cao04, Cao08, Cao09, CJZ11, CH03, EG16, HP04, HD07, KPO0, KO18, KKR14, Kz11, KMM12, LOV08, LOS04, LW07, LMV04, LSS18, MZ15, PW13, RS18, SJBH14, SX15, TH19, VL96, Wan18a, Web18, WBL14, Zha18, MST16].
point-type [Cao08]. points [HM96].
Poisson
[CKW02, CJL08, Dah02, RSR10, TSPS06].
polar [CCG00, LS06, RT02, YL08].
Pole
[Dod11, LC13, LW04, LW05].
poles [Mee01].
policy [BLLA11].
polyhedral [Dah02].

polyhedral [Dah02].

polynomial [CR16, Gan05, GKV12, HM96, HS08, HVX6, Le16, LW98, WCZ15].
polynomials [BB97, BGW05, BG05a, HDIS18, KR14, MO94, MN05, Nov03].

population [DHSW11].
poroelasticity [GLOW04, LRG017].
porous [NH06, SB15, WW10, Yot01]. posed
[CLTW11, DNR12, DHN18, Est09, GORR16, NR14b].
positive
[ARMW14, AIT05a, AV94, Bai16, Bai18a, BP13, BMAA16, BT03, CS09, CS11, DPP16, DJ09, Kap98, Kol05, LHL07b, MV08, PS11, yPES07, PW13, SB12, WW08b].
positive-definite
[DJ09, Kol05, LHL07b, MV08, SB12].

positivity
[KSB13]. possible [VL11]. Post
[KL13]. Post-processing [KL13].

posteriori
[AM96, BLP01, CS18, OOO16, Pul09, Ney02].
potential [Kho96, MRT96, Shi02, Shi04].

potential-reduction [Shi04]. potentials
[KK16].

powers
[HLM+18].
predictive
[AM96, BLP01, CS18, OOO16, Pul09, Ney02].
preconditioner
[TT10, BPS15, BT03, Bm03, BC12, BPS13, CGPV13, CJZ11, CNP96, CJWT06, CS95, CV13, Doh07, ESO7, EGF11, GN00, GTZ18, HFW01, ISZ09, KS04, KWS+18, KV96, Kuz92, KP10, LS04, May05, May07, MC09, NL16, SPD05, SP06, SLV13, SGP14, UMO09, Xia12, XS11, XM17, Zha18, Zhu14, vN00].

Preconditioners
[CP01, Est09, GS07, PSW14, AL11, AN13, Bai16, BM17, BDM18, Bla02, BMN05, BCHT04, BIA18, BSI17, Cao08, CDG00, CDGM04, CGM01, CC92, CW97, CEL+96, DDG99, DP03, FP15, FK15, FS09, GMTV16,
Preconditioning

[ABM17, AN03b, AB10, ABNP15, ABK15, CFAM16, Egg07, Gro00, HW19, HSCTP05, MW11, Pul09, SMSW00, SW12, Vas92, VL96, WDS09, WBWM04, AFSCSU14, AT15, AK94, AV94, AFK02, Axe15, BCR11, BCR14, Bas00, BGM09, BPS00, Bla94, CDDSC12, De 13, DLVZ06, DD07, Dos99, DKVB15, FJP12, FJP16, GM11, Gus03, GL95b, HPPS03, JZ09, JK17, Kap94, Kap98, KK02, Kap02, KM09, KPV08, KOV17, Kra02, Kra06, KMS08, LV04, LW03, MFFJ18, MM95, MM02, NO04, NR11, NA97, Not98, Not02b, NCV05, PW13, Pol00, SP18, SL10, Vas02, WH94, AB13, Ca03].

Preconditionings [GKY97, KNY99, NY03].

Prediction [BS10, PGT14].

Predictive [FM15].

Prediction [Axe02, AK10, Cve09, Dat01, NT04].

Prefiltration [NY03].

Preordering [LSS18].

Preservation [EJK01].

Press [Nab97, Amb15].

Pressure [Lay05, LWC16, vKVW00].

Prestructuring [How18].

Price [Nab97], pricing [LSS12, Rag14].

Primal [HP04, RT02, FLP00].

Primal-dual [HP04].

Principal [GH06, LB17].

Principal [BC02, Vos09].

Principles [Gar04].

Priori [HM96].

PRISM [Axe98].

Prize [Ano08].

Probabilistic [WWC+15].

Probabilities [NX03].

Probability [BH16, LCN13, MM98].

Probing [TS12].

Problem [AH02, AK99, ABK15, Bai95, BDK+15, BFPS10, CZ15, Car97, CPSM06, CGLO5, CG15, CFAM16, CJT03, DL97, DMS17, DWQ13, Dod11, DBLP16, ES07, ES09a, ER96, GKK04, Gus98, HBH10, Hla99, HS08, IV04, KABH17, KP06, KH07, KMM19, KN03, LLLJ16, pLL07, LYL15, LD07, MV13, MRT96, MLV05, Mee01, MP15, Ols99, OC04, yPyHZ04, Ren98, RSR10, Rja98, RT99, Sau95, SH14, Sim03, Sot13, VF013, Vla00, WKS95, XZS10, YHS18, ZJ06, ZYFG11, ZYL13, ZVO14].

Problems [CGK94, GL96, Ada04, AB00, AW11, ALT05b, AG99, AV94, Axe98, AN03b, BBP03, Bai09, Bai10, Bai12, BZ13, BZ17, BKY10, BKP02, Bar02, BLE97, BBS12, BMM06, BG09, BGM11, BL08, BCV03, Bla94, BC02, BB13, BMS18, BvdV00, BRT07, Bö01, BO13, BDM+14, BIA18, CL96, CNT07, CQX11, CGPV13, CRS05, CR16, CQZ07, Ca04, CJZ11, CCV06, CC92, CNP96, CW97, CS02, CTP09, CEL+96, CCK06, CWs18, CW97, CC03, CLTW11, CP12, CBE18, CV13, CR14, CK14, Dax94, DE98, DW07, Dia09, DN12, DJ09, DGP19, DHR+04, DP03, DR03, DHRN18, Egg07, EGF11, ELV94, EWY03, FY01, FGT11, Gar04, GGO08, GH01, GORR16, GHT09, GV03, GZ12, GTZ18, GMT16, GL98, GL02, GL13, HJ18, HP97, HKST12, HJR97, Han13, HW19, HS13, HL16, HD07, HLLL13, HM16].

Problems [HLLW05, JZ11, JK18, JM10, KKP18, KMM18, K02, KR11, K00, KK13, KR06, KT08, KMS08, KLM14, Kr11, KM92, LL97, LR95, Lay05, LP01, LV99, LW07, Lin12, LZ12, LW16, LW17, Liv04b, LL97, LV98, MZ15, MM09, MS07, Mar00, Mar98, MRT02, Mar16, MS07, May01, MS13, MP13, MM97, MBW97, MM02, MSB18, MZ98, NR14a, NR14b, Nov03, OS10, Pad99, PBN05, PSS14, Pen08, PH19, RR12, ROA13, SLK16, SX15, Sh02, Shi04, SY18a, SV11, Sta96, Sto92, TDH+18, Tre13, TT15, VJM16, VL96, Ver00, Wan00, Wan18a, Web18, WWC+15, XG10, XZS15, XXW19, wX15, XCG16, YCY17, ZZ15, ZN18, Zha18,
shift-and-invert \[\text{MP14, WtFW15, Sim03}].
Shift-invert \[\text{PS11}].
Shifted \[\text{DP16, CV13, JR94, JHY17, SLV13, TT15, UM09}\].
shifts \[\text{SHJC18}].
Short \[\text{Lai97, SHT11, Yon96}\].
sided \[\text{FK15, ZJ11, ZJ06, Zik08}\].
sides \[\text{ARSO14, ARMW14, SHJC18}\].
Sign \[\text{Nab97, CJC11, GM17, GGZ12, SST18}\].
sign-indefinite \[\text{GM17}\].
Sign-Solvable \[\text{Nab97}\].
signal \[\text{Dat01, HM03}\].
signless \[\text{XC13}\].
Signorini \[\text{Hla99, IV04}\].
similarity \[\text{VVM05a}\].
similarly \[\text{Tre05}\].
SIMPLE \[\text{LV04, KNY99}\].
simpler \[\text{JYH17, LSJ18, WZ94}\].
simplified \[\text{BM06, ZVO14}\].
simplifying \[\text{MC04}\].
simulation \[\text{BFPS10, BvdV00, BO13, PR11}\].
simulations \[\text{AK16, KR11, LWC16, NO04}\].
simulator \[\text{LVW01}\].
simultaneous \[\text{DK15, Pen03, AT15, GM11, LT11}\].
sinc \[\text{BRC11, BCR14, NSCTP05}\].
Sine \[\text{CW97}\].
single \[\text{PDV05}\].
single-channel \[\text{PDV05}\].
singly \[\text{HS05}\].
Singular \[\text{AFSCSU14, BCC98, CKW02, Cao08, CL13, Dod11, EN17, FP99a, FH94, GT116, HS11, HS41, HILL16, J LW05, JK18, KR06, Krz11, KKKM12, KMM19, LSL01, LHL07, LH11, LT13, MPS96, NRI4b, PH19, Roh92, Sau95, SS97, Sz94, THCO9, Trec05, ZW10, ZSKA18}\].
Singular-value \[\text{AFSCSU14}\].
singularities \[\text{BLZ08, CKW02, Dab02, LLW09}\].
singularity \[\text{Ver00}\].
sixtieth \[\text{LPQ06}\].
size \[\text{BMMR18, FJP12}\].
skew \[\text{BGN07, KKR14, LH07b, SB12, Wu15, BAI18a}\].
skew-Hermitian \[\text{SB12, BGN07, KKR14, LH07b, Wu15, BAI18a}\].
sliding \[\text{AMR18}\].
small \[\text{DXW12, KV96}\].
smallest \[\text{MV08, MM11}\].
SMASH \[\text{CCE+18}\].
Smith \[\text{BES14}\].
smooth \[\text{Car97, HKKP07, The98}\].
Smoothed \[\text{BDM+14, CDW06, OS10, Sch12, BMM+08, BVV12, GHT09, KWS+18}\].
smooth \[\text{LRGO17, ZVO14}\].
smoothers \[\text{BO18, GGLO08, GKV12, HBH10, LJM14, MO11, Yan04}\].
smoothing \[\text{BC09, EZ96, GLOW04, HP97, TC10}\].
smoothness \[\text{Ch03}\].
SNAP \[\text{ITS07}\].
Sobolev \[\text{AFK02}\].
social \[\text{GB15}\].
software \[\text{Voe92}\].
solid \[\text{Ad04, SV11}\].
Solution \[\text{Bar02, BFPS10, Ben11, JL09, ACR+00, AD11, Axe98, Axe99, BDGL09, BAI95, BKP02, Bau08, BMM06, BLP08, BS01, BPS00, BMP11, BEG18, BRT07, BDS94, Bot13, BVD+18, BM12, CFPV13, CLR01, Che15, CA99, Cor04, DMS17, DSV18, DO18, DDL1, FZCW17, FJP12, Gem00, GTY97, Gra08, GS05, GL08, GL02, GL13, HJR97, HG00, Hla99, ITS07, JZ11, JQ94, KRW08, LX08, LPV01, LV99, LGS12, Lin12, LL97, Lot07, MS14, MZHB17, MP13, MM97, MBW97, Mj15, MSB18, Ols99, yPES07, PH19, Ren98, SGSM15, Sim03, Ste95, TPS06, WWC+15, ZN18, ZYL13, VW01].
Solutions \[\text{GL95a, Pen08, AW11, BGM06, CH03, DE98, DBG06, HM96, KR06, fHyH11, pLL07, Mi17, PP+95, Tia13}\].
solvability \[\text{XHZ03}\].
Solvable \[\text{Nab97}\].
solve \[\text{BG13, KBF15, Liv04b, MZHB17, ZJ06}\].
solver \[\text{BvdV00, CHV05, GKK04, KK13, KR06, LSS03, LM06, MNCT07, MRT02, Ols99, Pad99, PR11, RNT03, Rak99, RGG07, RGM17, SS02, SL14, SKR08, TH19, Yot01}\].
solvers \[\text{AGG+16, AG99, ABK97, Ber01, BC02, BO13, FS09, HLM92, HLM+18, HS05, KKPS18, LR08, Lee16, Mey94, MSB18, NO04, Sch12, Sco99, Web18}\].
solves \[\text{Cha07, GP18}\].
Solving \[\text{BG05a, Nov03, WZZ18, AH02, AMMR17, AK99, AK00, BAI18b, BS17, CA04, CQ10, CVwS18, CC03, CN05, DN12, EM11, FH94, HKKP07, HM14, JLW05, JH04, KS15, KKKM12, KM92, LT09, Liv14, MZ15, MLV05, NQ96, PM07, yPSCP06, QACT18, RSR10, Shi02, Sto92, SHJC18, TT10, Var08, Vl00, WTZD10, mMP99, mMO4, vGSZ15}\].
Some \[\text{BFG95, BM05a, CGK94, CZ02, HM14}\]
LS06, Mar95, Sun06, Ber01, BB06, CDW06, DS10, GL02, LV08, LHL07a, Pe~n09, XZS15. **SOR** [Che02]. sorting [Bra02]. source [TH19]. Space [Lee12, AT15, AMM04, AFK02, BPSH13, BMS17, BMS18, BV13, BC12, DHNR18, GB15, How18, ITS07, KV92, KLM15, RS18, RSR10, SY18b, WRW18].

**Space-angle-energy** [Lee12]. spaces [GH06, LV12, LZY11, LPW06, VSG09]. Sparse [CDG00, CDGmM04, Vas02, WWC+15, AB00, BPS95, Bas00, Bau08, BF11a, BEH+17, BPS00, BV00, BG00, CS96, DCT18, DR03, EW13, FJP12, FSS18, GHO15, Gus03, HLM+18, HS15, How18, HS05, Huc98, ISZ99, JZ09, JK17, KKNY01, KNY99, LLL97, LV98, LSS18, Mey94, NLZ11, NY03, NH98, RTN03, RK18, RS18, SZ99, SS02, SY18a, WRW18]. sparsity [Poi00]. spatially [OZB+18]. SPD [HLM+18, Mar16]. Special [Ano08, CLR13, Fal06, LD08, VW01, Vas05, Ben08, Dat01, ES07, Mey94, A xe99].

specially [SHT11]. specified [FLyHZ11]. Spectral [CDDSC12, MST16, SGSM15, mMvdV02, BPS95, BFdP13, BM17, CQZ13, CNZ17, CIX05, LQY13, LNQ13, MS14, MC09, Par03, SK01, ZWQ18, DFF+18]. spectrum [Cao09, Lor14]. Speed [LY15]. sphere [ALM18]. spheres [WCM15]. Spline [LPS16, EFG+18]. splines [LY15]. Split [HR05]. Splitting [HN05, LXX17, BGN07, Bai10, Bai12, BLPP17, CJJ11, Che15, Gan99, HLM+16, HMR+14, KKR14, LHL07b, SB12, Wan18b, Wan18a, Wu15, xW15]. spring [EKS02]. spring-mass [EKS02]. SQP [AH02]. Square [DNR12, TY10, Mor09]. squares [BES14].

squared [BES14]. squares [AB00, AK99, BDGL09, Bar02, BMM06, BG00, BMG09, BGM11, BGM+12, CYZ99, CNP96, CTP09, CP12, CP06, DE98, DH18, DW07, DWWQ13, ES07, ES09a, ER96, FB95, GW00, GR05, KMM18, KLM+06, LVD02, pLL07, LZ12, LW17, LL97, MMN+10, MVK04, MLV05, Miy15, Pen08, Ren98, RLG12, Sto92, TDH+18, Tia13, WKS95, WWC+15, XZW19, ZHZ10]. SSOR. [Bai16, GKY97, WH94]. **SSOR-like** [Bai16]. Stability [CJW06, DHS95, OCM08, BV13, DGB+13, DS13a, EM11, KSB13, Lee10, NX03, Pe~n03, Sau95, ST17b]. stabilization [AB12, DGB+13, DGR11, Lay05]. Stabilized [BH07, Cao04, EWY03, KVO17, LMM00, RGM17]. Stabilizing [VW97]. Stable [OS01, ABK15, Gen00, GMS18, LWX13, LSJ18, MCV01]. stage [AMMP06, BM17, JS96, MPS96]. Staggered [DFF+18, OCM08]. standard [Han13, LPV01]. standard-form [Han13]. standpoint [Voe92]. start [IW98]. State [DGRR11, BV13, BF11b, CD11, DK15, KV92, LCH18, PSV14]. state-constrained [PSW14]. state-space [BV13, KV92]. state-time [DK15]. static [LNY15]. stationary [AMP09, BH16, LMM00, MM98, NX03, RBV08, ZW10]. statistical [DXW12, LX08, LT08]. Steady [HG00, BF11b]. steady-state [BF11b]. Steepest [De 13, NZ14, Shi02, Shi04]. Stein [BES14]. step [AV94, CWW818, CK10, L100, PBN05]. stepping [Lam12]. steps [Fas05, Shi02]. Stewart [HC05]. Stiefel [CZ15]. Stieljes [AN94, FSS18]. stiffness [DKV15]. stochastic [AD12, BMMR18, BDM+14, DMS17, GHR98, Lee16, MM98, RBV08, ROA13, SGP14, TY10]. Stokes [ABM17, AB12, AK99, BKP02, CA99, CBE18, DFF+18, HM18, HFW01, KVO17, LR08, Lee10, LMM00, LD07, Ols99, PT17]. Stokes-like [Lee10]. Strange [ZCW11, CNP96, NR12]. Strang-type [ZCW11, NR12]. strategies [AGG+16, BE98, CDG00, DMM+08, GTY97, HSCTP05, Kap94, PM97, PGT14, SGSM15, SS00]. strategy [BBM+06, BM05b, BM06, GP18, Sco99, SY18a, WLH12].
strength [OST10a]. Strengthened [AALS01, AM96, Bla03, Mar94]. stress [MM02]. stretch [TY10]. stretched [KM92, ZMO10]. stretching [AB00].

Strong [DBG+13, Bai18a, DS13a]. strongly [ABK15, KW99]. structural [GMTV16]. structure [BS01, FZwCW17, Hem96, HHL16, PR16, Rja98, WRW18, WN05]. structure-preserving [HHL16, PR16].

Structured [BGW05, BG05b, CCE+18, CCLN05, MCC+12, SLV04, Tyr05, CCLQ18, DDG99, Dia09, GLGR10, Gem00, HM18, LVD02, LYL15, MMC12, MKV04, MLV05, MP13, NR11, NR17, Poi00, Sun05, SHT11, Tre05].

Strongly [DGB+13, Bai18a, DS13a]. strongly [DGB+13, Bai18a, DS13a]. strongly [DGB+13, Bai18a, DS13a]. strongly [DGB+13, Bai18a, DS13a]. strongly [DGB+13, Bai18a, DS13a].

Subdomain [HLM92]. subgraph [BCZ12].

Subspace [CS02, DDG99, BMAA16, Bot13, CS97, Dam08, DK95, GLJ19, GTI16, HCD15, HS11, HS14, IP13, KS10, LS15, NR14a, RLG12, Sid97, SS07, ZS08].

Subspace-based [GZ16].

Subspace-by-subspace [DDG99].

Subspaces [BDK+15, DF01, IT05, MP16, PPv95, VS17].

Subtracting [GMRO5].

Subtracting [GMRO5].

Successive [BGNO7, Gnu03, WQ07].

Subtracting [GMRO5].

Super [CNSY05].

Super-resolution [CNSY05].

Superconvergence [FY01].

Superfast [CHV05].

Superlinear [Kap05].

Superlinearly [CQ10].

Superoptimal [CJW06].

HCD15, WQ07].

Supply [CPSM06].

Supported [FP15].

Supported [FP15].

Supported [FP15].

Survey [CQZ13, SK01].

Survey [CQZ13, SK01].

Survey [CQZ13, SK01].

Survey [CQZ13, SK01].

Survey [CQZ13, SK01].

Sylvester [Bau08, BMAA16, BHHJ13, CLR01, CD11, DXW12, HJ18, JMR18, MP15].

Sylvester-observer [CLR01, CD11].

Symbol [DGM+16].

Symmetrization [GM11].

Symmetry [Pen92].

Symmetry [Pen92].

Symmetry [Pen92].

Symmetry-constrained [Pen08].

Symplectic [DS13a].

Synchronization [CGV11].

Synthesis [RGG07].

System [AALS01, BC09, Baz08, BB06, BvdV00, BMAA+12, CJL08, GLOW04, GP18, HES15, HL10, KLM+06, KRW08, LW04, MMN+10, SB12, SCQ14, ZS08].

Systematic [GLOW04].

Systems [Jia96, Nab97, ARSO14, AM96, Ada04, ACR+00, AMP99, AMMP06, AK00, AN03b, BPS15, BLP17, Bai18a, BG13, BB17, Bus00, Bat95, BGM09, BFP10, BEH+17, BDDSM18, BMN05, BW17b, BGE18, BRT07, Bot13, BVD+18, BS17, CS09, CS11, CDGM04, CD11, CPSM06, CPS01, CSCTP05, CC03, CNY05, CK01, CA99, CHV05, CS95, CP06, DSV18, DDG99, DGRR11, Dob99, Dod11, DGM+16, DN12, EKS02, Ema12, EN17, EM16, ECA19, ECA20, EM17, EM18, EM19, EM20].
EM11, FP15, FLM09, FM18, FH94, Gem00, GLJ19, GM11, GSS01, GTY97, GA18, GKY97, GS05, GD11, HLM+18, HKKP07, HS11, HN05, HW18, HSCTP05, JZ09, JK17, JYH17, JL09, Jou94, KBF15, KM99, KKR14, KKMM12, Lai97, LX08, LOY08, LOS04, LJ04, LHL97b, LT09, LC13, LC05, LC07, LW03, Lot07, LSS18, MO11, MS14, MW11, MZH17, MCV01, Mey94, MPS96, systems [MST16, NSCTP05, NCV05, PM97, PW13, QACT18, RK18, RS18, RVW98, SZ99, SS02, Sac05, SPD05, SP06, SP18, SS07, SMSW00, Ste95, Sm05, SL10, SHJC18, Szu14, TT10, TC10, VFV13, VZ08, WD08, WM12, Wan18b, WTWG14, Wu15, ZW10, vGSZ15, HS14].

\[ t \text{ [mM04].} \]

\[ \text{tangential [AN03a, AN07].} \]

\[ \text{technique [HM03, IP13, NY03, WZZ18].} \]

\[ \text{techniques [ACR}+\text{00, BB00, Bla94, CDDSC12, CS97, CFAM16, Dat01, ELV94, GKL18, GNR14, HK02, HS05, LM06, SZ99, Ver00, BFG}+\text{18].} \]

\[ \text{template [LB17].} \]

\[ \text{Tensor [BFG}+\text{18, DHW16, JYZ17, AT15, AK16, BG13, BMAA16, BH16, CLNY15, DW15, DH18, DQW15, DK15, DS13b, FzwCW17, HKST12, HS18, HDS18, KK16, KN14, LQV13, LC13, LXX17, LP16, OST10b, STZ12, WQZ09, XC13, ZQ12, ZQLX13, ZSKA18, ZQW13]. tensors [BW17a, CQZ13, CCLQ18, FMPS13, HCD15, HHQ13, KJ12, LLK14, LNQ13, MCC}+\text{12, O}’\text{H14, PN18, WQ07, WN18, ZWQA18].} \]

\[ \text{term [BDR17, Lai97, WM12]. Termination [Bir15]. tessellations [DE06]. test [BC09, CCLQ18]. tetrahedral [Bla03]. th [AEHV15, LZ09, LH17]. their [BKPO2, CEQN07, KCC16, Kuh92, LY15, LH11, Tia13, Vöm10, Xie11]. theorem [Adi08]. theorems [BBP03, BKPO2, CP99]. Theoretical [MO14, Gar04, MM18, Not05b, WF15]. theories [BDRS12, BNR18]. theory [ABK97, ABNP15, CCvG06, CQZ13, FT98, GW00, GL98, HM14, JLO9, LQY13, LNQ13, Miy17, Pu16, VV97]. thermal [HK12]. thermoacoustics [SGSM15]. thin [The98]. third [ABBP10, BCR11, BCR14]. third-order [ABBP10, BCR11, BCR14]. Thomas [LV12]. three [AALS01, BO18, BB96, CGPV13, DM10, HW18, Ibr02, KT08, Rja98, XZ15, YW12]. three-dimensional [AALS01, CGPV13, KT08, Rja98]. three-way [Ibr02]. threshold [Saa94, SZ99]. thresholding [LM06]. Tight [OOO11]. Tikhonov [BCR14, BDR17, CRS05, CLTW11, Don05, FRR16, GNR14, LHW11]. time [AT15, ABK15, Bai12, BW17b, BMS17, BMS18, Bot13, CNT07, Cas11, CLNY15, CJL08, DGRR11, DK15, GZ16, GS07, HG00, HNR}+\text{18, Kem12, KK13, Lam12, LLS12, LGS12, LC13, LPVS18, MV13, MC09, RBV08, SY18b, TH19, WZ18, ZYFG11, ZSWX13, vKVW00]. time-delay [DGGR11, LC13]. time-dependent [CNT07, MV13, RBV08, ZYFG11]. time-exact [Bot13]. time-fractional [LPSV18]. time-harmonic [Bai12, GS07, LGS12, ZSWX13]. time-independent [CJL08]. time-periodic [KK13, WZ18]. times [KVW10]. tire [SMSW00]. Toeplitz [AH02, BLP17, BG05a, BG05b, CNP96, CPS01, CGK05, CNY05, CHV05, CS95, Don10, DGM}+\text{16, ESC18, Est09, FLM09, HR05, Hem96, HSCTP05, KN07, LC05, LC07, Lot07, LPS15, MS14, MMV08, NR11, NPR13, NCV05, PS11, SP18, WtFW15]. Toeplitz-block [SP18]. Toeplitz-plus-Hankel [KN07]. tolerant [RTN03]. tool [FM15, GS07]. tools [BBP03]. topology [HP04, Vas02]. Total [CLNY15, CTP09, FB95, GRS95, LVD02, LW17, MKV04, MLV05, XXW19, ZZ15]. totally [BP13, Hua12]. Trace [KCS11, BFM12]. tracking [LB17].
transfer [Don10, GVT03, KV92]. transfers [WTWG14]. transform [CW97].
transformation [FLPW01, HSY18, LL97, MC09, OOO16, VVM05a]. transformations [CHV05, Dax04, Han13, J001].
transforming [Lin12]. transforms [WTWG14]. transform [CW97].
transformation [FLPW01, HSY18, LL97, MC09, OOO16, VVM05a]. transformations [CHV05, Dax04, Han13, J001].
transient [KWS+18]. transition [BH16, LC13]. translation [KY95].
transport [Cha07, CGM11, HM14, Mgy17, TC10].
travel [TH19]. treatment [JM10, MM09].
tree [Vom12]. Trees [BMP11]. Tretz [LLW09].
triangle [RSCTP15]. Triangular [Zho16, BNT94, BF11a, FP95a, GLGR10, KABH17, KKR14, LPS15, MmMm09, Mit10, RS10, SRGL13, SST18].
Tridiagonal [NPR13, Zho16].
trigonometric [CHV05, FP05].
trigonometry [Gus97, Gus98, Gus03].
trilinear [BG02]. triplet [LT11]. triplets [SS97].
truncated [GKk04, KS15, GTI16, LHlW11, NR14b].
Two [BM17, CSCTP05, CwwS18, DLV06, ES09b, rFS09, HH06, JS96, KM99, KV96, PB05, ZXS10, Yon96, Zha92, ZSWX13, Zik08, vRH05, AM96, AD12, AABHV18, AMMP06, AN13, BS17, CGFV13, CGM01, CG15, DY04, DFNY08, DBG06, EN17, ELV94, FVZ05, FK15, FH94, GVT03, HHvR04, HVX16, HHLl16, IAn16, Jz11, KWS+18, MCV01, MSV13, MP15, Mps96, NN10, NH06, Not10, NCV05, SY18a, VSG09, WM12, Wan18b, XS09, Yan18, XZ13, ZJO6]. two-by-two [AN13, MP15, Wan18b].
two-component [NH06]. two-dimensional [DY04, XS09].
two-grid [CSCTP05, ZSWX13, CGFV13, CG15, ELV94, FVZ05, HVX16, NN10, Not10].
Two-level [DLV06, HH06, KM99, KV96, XZS10, vRH05, CGM01, EN17, GVT03, HHvR04, KWS+18, NCV05, VSG09, YXZ13, Zik08].
two-parameter [Yan18]. two-phase [HHL16, NH06, SY18a]. two-player [AD12]. two-real-parameter [MSV13].
Two-sided [Zik08, FK15, Jz11, ZJ06].
Two-stage [BM17, JS96, AMMP06, MPS96]. Two-step [CwwS18, PB05].
two-term [WM12].
Two-Way [Zha92, MCV01]. type [ABB10, AABHV18, BR07, Baz08, Ben08, Cao08, CwwS18, CWS97, E016, FG02, GKK04, HM14, KKNY01, KCV09, LHLs07, LT13, MP15, NR12, SC9D4, Via00, ZCW11].
typical [ZXS15].
UK£30.00 [Nab97]. unbalanced [FLM09].
uncertain [DGB+13, DGRR11].
unconstrained [Ris19]. underdetermined [QACT18].
Unified [Axe15]. Uniform [BLZ08, Lee10, Hms99, Xc13].
unification [Sid11]. unilevel [Tre13]. uniqueness [Llnv17]. unit [WCZ15].
unitarily [Y08]. unitary [JR94, Lor14, Mat96].
University [Nab97]. unreduced [MST16].
unsteady [OC04]. unstructured [Cho03, KV96, May01].
Unsymmetric [Jia96, EM11, GR04, HS05, MS14].
untangling [GKK04]. unwrapping [DY04].
update [ZZ15]. updates [BDDSM18, DEM18, TT10, Tyr92, Zho06].
US$49.95 [Nab97].
Use [HKST12, Bla02, BDS94, FH94, HS15, Yan04]. used [KV15]. users [GB15].
Using [BBB03, GB15, Kap02, AW11, AMR18, A FK02, BBl6, Bp13, BTT13, BC02, Buc11, CKW02, CS18, CNSY05, CHV05, DK15, GP18, HDIS18, IS09, KMMR10, KRW08, Kra06, Laz16, MGF+02, NG15, NX03, OZB+18, OOO11, Özb13, PDV05, PH19.
Pul09, RTN03, Sim03, VY14, VS17, vNR07.
usual [BG05b].
References [Cao04, HW18, LRGO17, MZ15, SX15].

validation [CH03, OO016], value [AFSCSU14, BBP03, BWN05, CL13, Che15, JK18, LHW11, LT13, MSB18, NR14b, Nov03, PBN05, PH19, RT99, ZSKA18].
valued [AK00, DGM+16, MZHB17, Xie11].
values [FP95a, GR99, LHLS07, THC09, Tre05, Vom10].
Variable [AV94, DHR+04, GVT03, GR05, RS07, SX15, VS17].
Variable-step [AV94].
variant [JYH17, Sim99, Zha18].
variants [VY14, Wu15].

Validation [CH03, OO016], value [AFSCSU14, BBP03, BWN05, CL13, Che15, JK18, LHW11, LT13, MSB18, NR14b, Nov03, PBN05, PH19, RT99, ZSKA18].
valued [AK00, DGM+16, MZHB17, Xie11].
values [FP95a, GR99, LHLS07, THC09, Tre05, Vom10].
Variable [AV94, DHR+04, GVT03, GR05, RS07, SX15, VS17].
Variable-step [AV94].
variants [VY14, Wu15].

References

Amat:2018:THO

AABHV18

Achchab:2001:SCB
REFERENCES


Axelsson:2015:PMH


Adler:2017:PMC


Axelsson:2015:PIM


Axelsson:2011:MCN


Amodio:2000:ABD


Amparore:2011:RMF


Akian:2012:MMT

Adams:2004:AMM


Adib:2008:HPG


Amestoy:1996:MFM


Amat:2014:AIO


Axelsson:2002:SSP


Akinola:2014:CDN

REFERENCES


[Czech-US Workshop in Iterative Methods and Parallel Computing, Part I (Milovy, 1997)].


[AIT05b] P. Amodio, F. Iavernaro, and D. Trigiante. Symmetric schemes and Hamiltonian perturbations of linear Hamiltonian

**Andreev:1994:CDS**


**Axelsson:1994:DCR**


**Arushanian:1999:ILS**


**Axelsson:2000:RV**


**Axelsson:2010:P**


**Arismendi:2016:MCA**


**Alber:2006:MCS**

[Alb06] David M. Alber. Modifying CLJP to select grid hierarchies with lower operator

**Adler:2018:CGM**


**Axelsson:1995:GCG**


**Achchab:1996:ECT**


**Ambikasaran:2015:GRP**


**Austin:2004:RMA**


**Arnal:2006:PNT**


**Appelhans:2017:LCP**

David J. Appelhans, Tom Manteuffel, Steve McCormick,

**References**


**References**


[AN07] Y. Achdou and F. Nataf. Low frequency tangential filtering


[Ano09] Anonymous. *Numerical Linear Algebra with Applications* impact factor for 2008 has been published to be 0.822. *Numerical Linear Algebra with Applications*, 16(9):i, 2009. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


REFERENCES

Anonymous:2013:Ia

Anonymous:2013:Ib

Anonymous:2013:Ic

Anonymous:2013:Id

Anonymous:2014:Ia

Anonymous:2014:Ib

Anonymous:2014:Ic

Anonymous:2014:Id

Anonymous:2014:Ie

Anonymous:2014:If
Anonymous:2015:IIa


Anonymous:2015:IIb


Anonymous:2015:IIc


Anonymous:2015:IId


Anonymous:2015:IIE


Anonymous:2015:II


Anonymous:2016:IIa


Anonymous:2016:IIb


Anonymous:2016:IIc


Anonymous:2016:IId

|-------------------|-------------------|
REFERENCES

Anonymous:2018:IIc

Anonymous:2018:IIId

Anonymous:2018:IIe

Anonymous:2018:II

Anonymous:2019:II

Alber:2007:PCG

Abdel-Rehim:2014:ISM

Abdel-Rehim:2014:EEA

Andrew:2000:ICD
[AT00] Alan L. Andrew and Roger C. E. Tan. Iterative computation of derivatives of repeated eigenvalues and the corresponding eigenvectors. Nu-
REFERENCES

Andreev:2015:MPL

Axelsson:1994:VSM

Axelsson:1999:ESI
REFERENCES

Axelsson:2002:P

Axelsson:2003:E

Axelsson:2004:E

Axelsson:2010:PYN
Owe Axelsson. The past 16 years of NLA. *Numerical Linear Algebra with Applications*, 17(1):1, 2010. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Axelsson:2015:UAP

Aksoylu:2011:RMP

Bai:1995:PNS

Bai:2009:OPH


REFERENCES

Batterson:1995:DAN


Baur:2008:LRS


Bazan:2008:NEP


Broyden:1996:CTB


Bazan:1997:ZLP


Becker:2000:MTF


Benner:2001:EPM

REFERENCES


Beuchler:2006:ISC

Bangay:2016:FLM

Boffi:2013:CAH

Barkouki:2017:MRL

Bronstein:2006:MMS

Brannick:2006:EBA

Bacuta:2003:UFE
REFERENCES

with Applications, 10(1–2):33–64, January/March 2003. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


REFERENCES


**Brannick:2012:AMM**


**Bujanovic:2015:NFI**


**Bergamaschi:2018:BLU**


**Baboulin:2009:CCC**


**Bates:2015:MLV**


**Brezina:2014:SAA**

REFERENCES


[Beu03] Sven Beuchler. AMLI preconditioner for the $p$-version of the FEM. *Numerical Linear Algebra with Applications*, 10(8):
REFERENCES

Berry:1996:LRO

Bebendorf:2011:PAD

Busic:2011:ICW

Bebiano:2013:ACP

Borges:1995:SIE

Benner:2018:WME
Peter Benner, Heike Faßbender, Lars Grasedyck, Daniel Kressner, Beatrice Meini, and Valeria Simoncini. 7th Workshop on Matrix Equations and Tensor Techniques. *Numerical Linear Algebra with Applications*, 25(6):??, December 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Brezinski:2012:MLO
Claude Brezinski, Paraskevi Fika, and Marilena Mitrouli. Moments of a linear operator, with applications to the trace of the inverse of matrices and the

**Benzi:2010:SLS**


**Boley:2000:LSP**


**Branets:2002:DMT**


**Bini:2005:SQM**


**Bottcher:2005:SCN**


**Ballani:2013:PMS**


**Bellavia:2009:RPK**

Stefania Bellavia, Jacek Gondzio, and Benedetta Morini. Regularization and precondition-


655–674, 2006. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


REFERENCES

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

Benzi:2011:RAS


Baker:2010:IAM


Brezina:2012:RCB


Bohl:2003:IMP


Bakhvalov:2002:ETS


Blaheta:1994:DDI


Blaheta:2002:GGP

Radim Blaheta. GPCG—generalized preconditioned CG method and its use with non-linear and non-symmetric displacement decomposition preconditioners. *Numerical Lin-
REFERENCES


Blaheta:2003:NTG


Bastian:1997:PAM


Bai:2017:DTS

Buzdin:2008:IDB


Brannick:2008:UCM


Brugnano:2005:SLA


Bunch:2006:SPS


Benner:2013:PII


Bergamaschi:2017:TSS


Beik:2016:KSM


approximation scheme in space and time for linear problems. *Numerical Linear Algebra with Applications*, 25(6):??, December 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Bouyouli:2009:NRC**


**Bai:2012:E**


**Berisha:2015:EAP**


**Bai:2018:ENM**


**Beauwens:1994:IUT**


**Bell:2008:AMF**


**Borzi:2013:FSS**


**Brenner:2018:MMT**

Susanne C. Brenner and Duk-Soon Oh. Multigrid methods
for $H(\text{div})$ in three dimensions with nonoverlapping domain decomposition smoothers. *Numerical Linear Algebra with Applications*, 25(5):??, October 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Borm:2017:DMC**


**Bor17**

**Botchev:2013:BKS**


**Bot13**

**Barreras:2013:ACM**


**BP13**

**Barnard:1995:SAE**


**BPS95**

**Bergamaschi:2000:AIP**


**BPS00**

**Brenner:2013:BDD**


**BPS13**
REFERENCES

Bagci:2015:CAS
Bey:1999:CBI
Baglama:2007:AGT
Bardsley:2013:KSA
Brandts:2002:MCS
Bonettini:2007:SIS
Bennett:2001:EOD


[BS01] Beth Anne V. Bennett and Mitchell D. Smooke. The effect of overall discretization scheme on Jacobian structure, convergence rate, and solution accu-

**Buckeridge:2010:PGM**


**Buranay:2017:TCH**


**Bischof:1992:GIC**


**Benzi:2003:RIF**


**Blanchard:2015:PCG**


**Benner:2013:ODS**


**Buchholz:2011:BRM**

REFERENCES

919–930, November 2011. CODEN NLAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


REFERENCES


**Cao:2008:ABP**


**Cao:2009:NSD**


**Cao:2013:CPM**


**Carstensen:1997:DDN**


**Caswell:2011:PA**


**Coley:2018:GMM**


**Chan:1992:CPE**

Raymond H. Chan and Tony F. Chan. Circulant preconditioners


[Chen:2018:SPA] Haibin Chen, Yannan Chen, Guoyin Li, and Liqun Qi. A semidefinite program approach for computing the maximum eigenvalue of a class of struc-

**Cavoretto:2012:SAP**

**Carpentieri:2000:SPS**

**Carpentieri:2004:SSP**
NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Cucker:2006:SAS**


**Chen:1996:MPM**


**Canha:2007:MMD**


**Chen:2016:PTI**


**Chu:2005:CMR**


**Chen:2015:AAB**


**Cai:1994:CSD**

Xiao-Chuan Cai, William D. Gropp, and David E. Keyes. A comparison of some domain decomposition and ILU preconditioned iterative methods for nonsymmetric elliptic prob-
REFERENCES


REFERENCES


[Cho04] Delin Chu. On the computation of the infimum in H-optimization. Numerical Linear Algebra with Applications,
REFERENCES

[102x681] REFERENCES


Anthony T. Chronopoulos and Andrey B. Kucherov. Block


REFERENCES


REFERENCES

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


REFERENCES


**Chen:2010:GSC**


**Cai:2011:FNM**


**Chang:2013:SST**


**Campos:2016:PIR**


**Calvetti:2005:TRL**


**Cools:2014:NLD**


**Concus:1995:MDP**

REFERENCES


REFERENCES


REFERENCES


REFERENCES


[DCT18] Alex Druinsky, Eyal Carlebach, and Sivan Toledo. Wilkin-


REFERENCES

Deng:2009:IO


Dendy:2012:MM


Dendy:2014:MM


Dendy:2018:MM


Dieci:2001:CIS


Dumbser:2018:SDG


DeSterck:2008:DTI


DiFiore:2005:LCM

Dabkowski:2013:SPS


Donatelli:2016:PHM


Dopico:2019:CRK


Dey:2011:SFS


Dostal:2004:SFO


DeSterck:2018:NPB


Dykes:2018:RMD

Laura Dykes, Guangxin Huang, Silvia Noschese, and Lothar Re-
ichel. Regularization matrices for discrete ill-posed problems in several space dimensions. *Numerical Linear Algebra with Applications*, 25(4):??, August 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


Dolgov:2015:SST


Dostal:2015:RBS


Dai:1997:NMG


Dobrev:2006:TLP


Dendy:2010:BBM


DeSterck:2008:EBR

REFERENCES


Dodig:2011:PPP

Dohrmann:2007:ABP

Donatelli:2005:MID

Donatelli:2010:AGL

Donatelli:2019:ACL

Dostal:1999:PPM

Dryja:2003:PMD

Delgado:2016:AFC
Jorge Delgado, Guillermo Peña, and Juan Manuel Peña. Ac-

**DiNapoli:2016:EEE**


**Ding:2015:FHT**


**Durazzi:2003:IPC**


**Du:2008:NMI**


**Dollar:2010:NFA**


**Dosso:2013:SSS**


Gregory Dardyk and Irad Yavneh. A multigrid approach to two-dimensional phase un-

**Ekstrom:2018:EBS**


**Estrin:2016:TOC**


**Elmaliki:2011:EHP**


**Egger:2007:PCI**


**Elsner:1995:MNN**


**Elmroth:2001:CPG**


Elden:2005:MLE

Elfving:2007:BPS

Elfving:2009:DMR

Elhashash:2009:TCM
Abed Elhashash and Daniel B. Szyld. Two characterizations of matrices with the Perron–Frobenius property. *Numerical Linear Algebra with Applications*, 16(11-12):863–869, ???.

Ekström:2018:EEB

Estatico:2009:PIP

Eastwood:2013:FDE

Ewing:2003:SDF
REFERENCES


Ecker:1996:SPM


Falgout:2006:SIM


Falgout:2008:MM


Falgout:2010:MM


Fasino:2005:RKM


Fierro:1995:OPT


Ferket:1996:FDB


Fasino:2002:LTA

Dario Fasino and Luca Gemignani. A Lanczos-type algorithm for the QR factorization of regular Cauchy matrices. Numerical Linear Algebra with Ap-
REFERENCES

Fezzani:2014:BFD


Fares:2011:FRL


Freund:1994:UTA


Ferreiro:2005:LRS


Ferronato:2012:EPR


Ferronato:2016:PJD


Freitag:2015:TP1

REFERENCES

175–196, January 2015. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Favati:2009:RAU


Farhat:2000:SDP


Ferng:2001:NTM


Farkas:2003:CAP


Li:2011:NSC


Freund:1999:CUW

REFERENCES


REFERENCES


Fan:2017:NSL

Gosea:2018:DDM

Gander:1999:WRA

Gander:2005:CBP

Garanzha:2001:BVG

Garanzha:2002:MNO

Garanzha:2004:VPG
V. A. Garanzha. Variational principles in grid generation and
REFERENCES


Gleich:2013:PAM


Gomilko:2012:PFI


Gatica:2001:MRI


Galantai:2006:JPA


Greif:2011:BSC


Gratton:2016:RCA


Griebel:2015:OSP


Glunt:1998:NDS


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


Mahadevan Ganesh and Charles Morgenstern. An efficient multigrid algorithm for heterogeneous acoustic media sign-
indefinite high-order FEM models. *Numerical Linear Algebra with Applications*, 24(3):??, May 2017. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Griebel:2006:CGC**


**Giraud:2005:IVD**


**Gillis:2018:CNS**


**Gratton:2016:LMP**


**Gander:2000:APB**


**Grigori:2015:OPB**

REFERENCES


Grosz:2000:PIB


Govaerts:1997:RDM


Genseberger:1999:ACE


Gu:2005:NSP


Greif:2007:PDT


Golub:2001:PBS

REFERENCES

**Gopalakrishnan:2009:CMC**


**Gratton:2016:SOE**


**Goreinov:1997:MFI**


**Gong:2018:ROP**


**Gustafson:1997:OTM**


**Gustafson:2003:OTP**


**Gustafson:2004:IPL**


**Gustafson:2004:ND**


**Giraud:2003:GTO**


**Gulliksson:2000:PTG**


**Guo:2014:NUB**


**Gonzaga:2008:FNL**


**Gillard:2016:WNS**

J. W. Gillard and A. A. Zhigljavsky. Weighted norms in subspace-based methods for time series analysis. *Numeri-
REFERENCES

Hackbusch:1992:PCG


Hansen:2013:OPS


Hamilton:2010:NMS


Huckaby:2005:SPQ


Hao:2015:SSP


Hu:2007:IBB


Hollander:2018:ADM


Hemmingsson:1996:TPB


Hemmingsson-Fränden:2001: NOP


Hetmaniuk:2007: RQM


Huang:2016:NTP

Tsung-Ming Huang, Wei-Qiang Huang, Ren-Cang Li, and Wen-Wei Lin. A new two-phase structure-preserving doubling algorithm for critically singular M-matrix algebraic Riccati equations. Numerical Linear Algebra with Applications, 23(2):291–313, March 2016. CODEN NLAAEM. ISSN 1070-
Haber:2010:NOC


Hu:2013:FEE


Hemker:2004:FTL


Hached:2018:CKB


Han:1997:NAP


Hackbusch:2002:BKA


Howle:2012:BPF

Victoria E. Howle and Robert C. Kirby. Block precondition-

Holm:2006:MDC


Haslinger:2007:PSC


Hlavacek:1999:RSS


Huang:2013:SGA


REFERENCES

He:2018:LFA

Heuer:1999:PMR

Hömke:2006:MMA

Howell:2018:PSM

Hackbusch:1997:DGS
REFERENCES

wiley.com/cgi-bin/fulltext?ID=15001017&PLACEBO=IE.pdf.


REFERENCES


REFERENCES


[IK00] Khakim D. Ikramov and Andrey B. Kucherov. Bound-


REFERENCES

intersciencie.wiley.com/cgi-bin/abstract?ID=15001005.

Jian:2017:EEI

Johnson:2009:STC

Jia:2017:RBS

Jun:2010:SOT

Jarlebring:2018:KML
Elias Jarlebring, Giampaolo Mele, Davide Palitta, and Emil
REFERENCES


**Anonymous:1992:JNL**


**Joubert:1994:IIC**


**Janovská:2001:NHT**


**Joubert:1994:CBR**


**Jagels:1994:FMR**


**Jones:1996:TSM**


**Jing:2017:SGA**

REFERENCES

Jiang:2017:TTC


Jia:2009:PSA


Jiang:2011:DAS


Ke:2017:BTP


Kaporin:1994:NCR


Kaporin:1998:HQP


Kaporin:1999:PAF

REFERENCES


Kaporin:2002:UMO


Kaporin:2005:SCM


Kaufman:2007:RAF


Kolberg:2015:EAS


Kostic:2017:IBM


Kostic:2016:PLT


Kokiopoulou:2011:TOE

Kostic:2009:GTL


Kemper:2012:LTB


Kiskiras:2007:NCS


Khoromskij:1996:FCI


Kong:2012:SBR


Kaporin:2002:PBO


Kollmann:2013:PMS

REFERENCES

**Khoromskaia:2016:FTM**


**Kalantzis:2018:DDA**


**Kucera:2012:MPI**


**Krukier:2014:GSH**


**Kim:2006:FOS**


**Kraus:2014:RMM**

[KLM14] Johannes Kraus, Maria Lymbery, and Svetozar Margenov.

[Kraus:2015:ASM]


[KL99]


[KM92]


[KM09]


[KM15]


[KMC16]


[Kostic:2016:ACM]
REFERENCES

2016. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


Kirkland:2001:DCA


Kolotilina:1999:FSA


Kolotilina:2000:IFA


Kolotilina:2005:BEB


Kolesnikov:2018:CAP


Konshin:2017:FPS

Igor Konshin, Maxim Olshanskii, and Yuri Vassilevski. LU factorizations and ILU preconditioning for stabilized discretizations of incompressible Navier–Stokes equations. *Numerical Linear Algebra with Applications*, 24(3):??, May 2017. CODEN NLAAEM. ISSN 1070-
REFERENCES


REFERENCES

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

**Kressner:2014:MEA**


**Kraus:2002:APM**


**Kraus:2006:AMP**


**Kostler:2008:MSO**


**Krzysanowski:2011:BPS**


**Klawonn:2004:PEL**


**Knizhnerman:2010:NIE**

REFERENCES


REFERENCES

Kuzel:2015:EIS


Kostic:2012:LGE


Kincaid:2010:LTD


Khoromskij:1999:RSC


Kong:2018:FCT


Kim:2003:MMB


Kharchenko:1995:ETB

REFERENCES


[LB17] Geunseop Lee and Jesse Barlow. Updating approximate principal components with applications...
to template tracking. *Numerical Linear Algebra with Applications*, 24(2):??, March 2017. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Leon:2013:GSO**


**Lin:2005:ITP**


**Liu:2007:NBE**


**Li:2013:P**


**Lin:2018:CDS**


**Li:2013:PBP**


**Lukas:2007:OMP**


REFERENCES

Li:2008:ECN

Ling:2017:AEE

Li:2007:SSM

Li:2007:MHS

LHLS07

Li:2011:ICT

Li:2000:CBC
Linsenmann:2012:CR


Livne:2004:CCR


Livshits:2004:AMW


Livshits:2014:SMM


Lei:2004:BPS


Lu:2014:HGA


Longley:1997:AGS

REFERENCES

Li:2014:NEI

Lai:1997:III

Li:2009:ECN

Lee:2012:FET

Li:2017:UMP
Wen Li, Dongdong Liu, Michael K. Ng, and Seak-Weng Vong. The uniqueness of multilinear PageRank vectors. *Numerical Linear Algebra with Applications*, 24(6):??, December 2017. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Li:2016:NFD

Limon:2006:MAS
REFERENCES

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

Lube:2000:NNO


Lim:2013:STT


Li:2015:MFB


LeBorne:2013:RER


Litsarev:2015:FLR

M. S. Litsarev and I. V. Osledets. Fast low-rank approximations of multidimensional integrals in ion-atomic collisions


REFERENCES


Luo:2017:USM


Langville:2004:KPA


Li:2005:PBE


Li:2006:SRP


Lin:2015:NSI


Liu:2018:MGS


Li:2001:PMI

REFERENCES

Li:2003:PPV


Lungten:2018:PSP


Liu:2011:SDM


Liu:2013:HTG


Lu:2005:NIN


Li:2009:MER


Luksan:1998:IPI


REFERENCES


Sébastien Lacroix, Yuri V. Vassilevski, and Mary F. Wheeler. Decoupling preconditioners in the implicit parallel accurate reservoir simulator (IPARS). Numerical Linear Algebra with Applica-
REFERENCES


[LW16] Xin-Guo Liu and Wei-Guo Wang. On convergence of it-

Liu:2017:WMM


Liu:2016:FCP


Liu:2009:GBD


Laub:2008:ASC


Li:2016:SCB


Li:2013:NSP


Li:2017:SMT

 REFERENCES

**Levi:2015:SLQ**


**Lu:2015:NLD**


**Laszkiewicz:2009:PFI**


**Liu:2012:LEB**


**Liu:2011:NIM**


**Mainlybaev:2006:CME**

References


REFERENCES


Mayer:2005:ICI


Mayer:2007:MCI


Meynen:1997:APA


Murillo:2004:FIP


Michelini:2008:SAA


Meerbergen:2009:CCB


L. C. Matioli and C. C. Gonzaga. A new family of penal-


REFERENCES


Mitchell:2018:AIT


MacLachlan:2012:RAM


MacLachlan:2006:ARB


Mackey:2009:NMP


Manteuffel:2010:FRE


MongaMade:1999:EPL


Manteuffel:2010:OBI


**mongaMade:2002:SAP**


**Moriya:2000:DGM**


**Moret:2005:IFM**


**Mardal:2007:OOS**


**Manteuffel:1994:ROP**


**MacLachlan:2011:LFA**


REFERENCES

Mehrmann:2016:IFA


Mainar:2018:ACC


Meini:2018:PBA


Migallón:1996:BTS


Marques:2006:CES


Myllykoski:2014:PRB


Maryska:1996:PFF

REFERENCES


[MST16] Benedetta Morini, Valeria Simoncini, and Mattia Tani. Spectral estimates for unreduced symmetric KKT systems aris-
REFERENCES

- **Meyer:2013:JDM**

- **Mastronardi:2005:NLA**

- **Mancini:2013:ISP**

- **Markovsky:2004:CMS**

- **Mastronardi:2008:FA**

- **Mardal:2011:PDS**

- **Maurer:2016:SPF**
  Daniel Maurer and Christian Wieners. A scalable parallel factorization of ﬁnite element

**Mehl:2006:COS**


**Morgan:2016:PBD**


**Morgan:1998:HPM**


**Ma:2015:CUM**


**Marioni:2017:NAS**


**Nota:1997:NOP**

Nabben:1997:BRM


Noutsos:2005:PPI


Neymeyr:2002:PEE


Neymeyr:2005:NII

Naumovich:2010:AMW


NGuessan:2015:CAM


Noordmans:1998:CRS


Niessner:2006:MSM


Nithiarasu:2009:JCN


Napov:2016:AMP


Anonymous:1994:NLA

*Numerical Linear Algebra with Applications*, 1994. ISSN 1070-
REFERENCES

5325 (print), 1099-1506 (electronic). John Wiley and Sons, New York, NY, USA; London, UK; Sydney, Australia.

Ng:2011:SLD

Napo:2010:WDT

Napo:2011:AAA

Nagy:2015:DRJ

Nakajima:2004:PIS

Notay:1994:DD

Notay:1998:OCA


REFERENCES


[NT04] Esmond Ng and Wei-Pai Tang. Preface 2 Editorial comments.
REFERENCES

*Numerical Linear Algebra with Applications*, 11(8–9):693, October/November 2004. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


Ovtchinnikov:2004:OLN


Oishi:2008:SNS


OHara:2014:PRO


Olshanskii:1999:ISO


Ozaki:2011:TEE


Ozaki:2016:EFT


Olshevsky:2001:SFH

REFERENCES


REFERENCES

171


Parlett:1992:RMS


Parlett:2003:SDF


Pan:2005:TSW


Papy:2005:EDF


Pena:2003:SBS


Pena:2007:R GD


Peng:2008:SSC


Pena:2009:EBS

Perrone:2006:KP


Pflaum:1999:AAM


Pestman:2014:CSW


Pitton:2019:AIS


Liao:2007:LSS


Payer:1997:ISS


Pultarová:2011:PP1

REFERENCES

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


[PR16] Federico Poloni and Timo Reis. A structure-preserving dou-

**Petkovic:2009:CLR**


**Pranic:2016:RAP**


**Pang:2011:SIL**


**Pironkov:2008:PDC**

REFERENCES


[PT17] Andrey Prokopenko and Raymond S. Tuminaro. An algebraic multigrid method for $\mathcal{Q}_2 - \mathcal{Q}_1$ mixed discretizations of the Navier–Stokes equations. *Numerical Linear Algebra with Applications*, 24(6):???, December 2017. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


REFERENCES

[176] Pestana:2013:CPS


[162] Qian:2009:SLR


[186] Pencheva:2003:BDD


[102] Qian:2018:MSU


[196] Quaife:2015:PLD


[311] Rakowsky:1999:SCM

Rosseel:2008:AMS


Renate:1998:PMS


Reusken:1996:MMB


Fang:2009:TCM


Ren:2007:ELP


Ruthotto:2017:SMS


Rietsch:2009:CIE

Riseth:2019:OAU


Rjasanow:1998:SBE


Rao:2018:HPA


Renaut:2012:MRL


Ruijter:2013:FCS


Rohn:1992:AFS


Ritter:2012:EAF


Reid:2001:RRO

J. K. Reid and J. A. Scott. Reversing the row order for

Reitzinger:2002:AMM


Routray:2007:FAD


Rees:2010:BTP


Rees:2018:CSN


Russo:2015:QOP


Ritter:2010:FAC

REFERENCES

2010. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Rossi:1999:PFD


Raydan:2002:PPA


Raghavan:2003:LTH


Reps:2012:AWN


Rusten:1998:DEP


Reichel:2008:GLA

Saad:1994:IDT

Saad:2000:E

Saad:2000:FAM

Sacksteder:2005:ADS

Sauter:1995:SIC

Solak:2003:NBN

Salkuyeh:2012:EMH
REFERENCES

885–890, October 2012. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic). See [LHL07b].

[182]


Yixun Shi. A projected-steepest-descent potential-reduction algorithm for convex program-

**Sun:2018:BGM**


**Sun:2011:SNI**


**Sidje:1997:APK**


**Sidje:2011:IUG**


**Simoncini:1999:NVR**


**Simoncini:2003:AFS**

REFERENCES

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

Shen:2014:EDP

Shu-Qian Shen, Ling Jian, Wen-Di Bao, and Ting-Zhu Huang.
On the eigenvalue distribution of preconditioned nonsymmetric saddle point matrices.
ISSN 1070-5325 (print), 1099-1506 (electronic).

Sayed:2001:SSF

A. H. Sayed and T. Kailath.
A survey of spectral factorization methods.
Numerical Linear Algebra with Applications, 8(6–7): 467–496, September/November 2001. CODEN NLAAEM.
ISSN 1070-5325 (print), 1099-1506 (electronic).

URL http://www3.interscience.wiley.com/cgi-bin/abstract/85007288/START;

Sturmer:2008:FFM

M. Stürmer, H. Köstler, and U. Rüde.
A fast full multigrid solver for applications in image processing.

Sun:2010:CPN

Li-Ying Sun and Jun Liu.
Constraint preconditioning for nonsymmetric indefinite linear systems.

Saibaba:2016:RAG

Randomized algorithms for generalized Hermitian eigenvalue problems with application to computing Karhunen–Loève expansion.

Schuermans:2004:SWL

M. Schuermans, P. Lemmerling, and S. Van Huffel.
Structured weighted low rank approximation.

Schuermans:2006:BRH

M. Schuermans, P. Lemmerling, and S. Van Huffel.
Block-row Hankel weighted low rank approximation.
Numerical Linear Algebra with Applications,
REFERENCES

Sheikh:2013:CSL

[SLV13]

Sosonkina:2000:PSL

[SMSW00]

Soleymani:2014:FCI

[Sol14]

Soto:2013:FRC

[SP13]

Salapaka:2006:ANP

[SP06]

Schneider:2018:IGF
F. S. Schneider and M. Pismarenco. Inverse generating function approach for the preconditioning of Toeplitz-block systems. *Numerical Linear Algebra with Applications*, 25(5):??, October 2018. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

[SP18]

Salapaka:2005:ACB
Salinas:2013:MMC


Simoncini:1997:AAS


Saad:2002:AAR


Simoncini:2007:RCD


Stoyan:2004:GDA


Sundar:2015:CMA


Stotland:2018:HPD

Sadkane:2017:CA


Scott:2017:ISR


Starko:1996:MMR


Stoer:1992:DAS


Savostyanov:2012:FTM


Sun:2005:NBE

REFERENCES

Sun:2006:SEI

[Sun06]

Stammberger:2011:AML

[SV11]

Saad:1996:DDQ

[SW96]

Stoll:2012:PPD

[SX15]

Sosonkina:1998:NAG

[SWKW98]

Schleicher:2007:MMM

[SWY07]

Shen:2015:UAV
Hailun Shen and Hua Xiang. Uzawa algorithms with variable relaxation for nonsymmetric generalized saddle point problems. *Numerical Linear
REFERENCES


Song:2018:TPS


Steinbach:2018:CAM


Saad:1999:DTT


Shi:2011:NEM


Szularz:2014:ISA

Szylr:1994:ECC


Szyld:1994:ECC


Thum:2010:TPO

Tabeart:2018:CLP


Thekale:2010:ONM


Treister:2019:MSH

Eran Treister and Eldad Haber. A multigrid solver to the Helmholtz equation with a point source based on travel time and amplitude. *Numerical Linear Algebra with Applications*, 26(1):??, January 2019. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


W. F. Trench. Asymptotic relationships between singular val-


[Treister:2010:SSM] Eran Treister and Irad Yavneh. Square and stretch multigrid for stochastic matrix eigenprob-
REFERENCES


REFERENCES


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


REFERENCES

2009. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).


Fernando Guevara Vasquez and Benjamin Z. Web. Pseudospec-


Fernando Guevara Vasquez and Benjamin Z. Web. Pseudospec-
REFERENCES

198


REFERENCES


Weiss:1994:PGC


Wu:2015:TCF


Washio:1994:PBP


Weiners:1999:MMP


Walden:1995:OBP


Wei:2003:IPB


Wei:2008:GFM


Wang:2012:LBS


Wang:2012:PTT


Wei:2005:DSG


Wang:2018:LRA


Wang:2018:SPC


Wang:2009:PMC


Wang:2018:SPC


Wu:2015:ISI


**Wheeler:2010:EAM**


**Xu:2015:MBB**


**Walker:1994:SG**


**Wu:2018:STP**


**Xie:2013:ESL**


**Xu:2016:PP1**


**Xia:2010:FAH**

REFERENCES


[XS11] Yingxiong Xiao and Shi Shu. A robust preconditioner for higher

**Xiao:2009:GBA**


**Xie:2019:RAT**


**Xu:2010:TLA**


**Xiao:2015:EAM**


**Yang:2004:URP**


**Yang:2010:LRI**


**Yang:2018:SNM**

[Yan18] Ai-Li Yang. Scaled norm minimization method for computing the parameters of the HSS and the two-parameter HSS preconditioners. *Numerical Linear Algebra with Applications*, 25(4):??, August 2018. CO-
REFERENCES

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

**Yavneh:2004:E**

Yavneh:2004:E


**Yin:2017:FAO**

Yin:2017:FAO


**Yang:2011:CNB**

Yang:2011:CNB


**Yang:2018:MIM**

Yang:2018:MIM


**Yang:2004:MFC**

Yang:2004:MFC


**Yong:1996:SCT**

Yong:1996:SCT

[Yon96] Xue-Rong Yong. Short communication: Two properties of diagonally dominant matrices. *Numerical Linear Al-
REFERENCES

[102x681] 207


Yotov:2001:MNK


Peng:2007:PDS


Peng:2004:IPB


Yavneh:2012:NBB


Yu:2013:ATL

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

**Yin:2012:AAA**


**Ye:2013:AAA**


**Zhang:2011:STP**


**Zha:1992:TWC**


**Zhang:2018:EVH**


**Zhang:2012:FIC**

Yong Zhang, Ting-Zhu Huang, Yan-Fei Jing, and Liang Li. Flexible incomplete Cholesky factorization with multi-parameters to control the number of nonzero elements in preconditioners. *Numerical Linear Algebra with Applications*, 19(3):555–569, May 2012. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

**Zhou:2006:SJD**


**Zhou:2016:TTE**

Weiqi Zhou. Triangular truncation and its extremal ma-

**Zhou:2018:CEN**


**Zh:2014:AMP**


**Zhu:2010:PLS**


**Zikatanov:2008:TSB**


**Zitko:2000:GCC**


**Zitko:2005:CCR**

REFERENCES

[**Zeng:2006:DAS**]

[**Zhong:2008:CCR**]

[**Zubair:2010:GMM**]

[**Zhang:2012:LCA**]

[**Zhang:2013:DEE**]

[**Zhou:2013:LES**]

[**Zhou:2008:AIS**]
Yunkai Zhou and D. C. Sorensen. Approximate implicit subspace iteration with alternating directions for LTI sys-

**Zhong:2010:CAE**


**Zhang:2018:RTS**


**Zhong:2013:TGM**


**Zhao:2014:MFS**


**Zhang:2010:CGS**


**Zhou:2018:FAS**


**Zhang:2011:PCF**

