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Title word cross-reference

\((-1,1)\) [DMN12]. 1 [FR19, RS11]. 2 [HOR17a, TWW15]. 2/3 [BT15]. 3
[BKW10, CCZ13, EMR19, LCH12]. 5 [BKW10]. \(\alpha\) [ABC15]. \(B\)
[BCM17, MMMKV16]. \(C^0\) [BNRS17, CCQ13, SH18, DLT12]. \(C^r\) [Mat13]. \(\delta\)
[YS13]. \(dG(1)\) [CLA19]. \(H\)
[BPZ12, FKS18, FKS19, FLOP10, GMS19, dVBR11]. \(H(\text{curl}; \Omega)\) [HLZ12],
\(H(\text{div})\) [dVBM16]. \(H(\text{curl})\) [dVBM16]. \(H(\text{curl}, \text{div})\) [DLT13]. \(H(\text{div})\)
[AT19]. \(h/2\) [FLOP10]. \(H^1\) [BY14, LC14]. \(H^2H^2\) [Bör10]. \(H^2\) [LMcS17]. \(hp\)
[BDGQ12, HM13, dVCM18, dVM19]. \(k\) [dVBR11]. \(L^2\)
[Har18, LC14, Mak18, NW18]. \(L^\infty\) [Hac13, LC14, CC10b]. \(L^p\) [Li15]. \(L^2\)
[BY14, Wil19, DS11]. \(L_p\) [BLM11a]. \(M\) [JLL15, XL17]. \(\text{hp}\) [CNS17]. \(\text{LP}\)
[CM18]. \(\mathcal{H}\) [DHS17, FMP15]. \(n = 5\) [HJZ14]. \(\nabla \cdot \mathbf{B} = 0\) [HMX17]. \(p\)
[EGLTP17, dVBR11]. \(P_1\) [LL10]. \(QR\) [CH19]. \(r\) [Dic12]. \(S^2\) [BD12b]. \(T\)
[CC13, CFL11]. \(\theta\) [GAB13]. \(H(\text{div})^*\) [CPS16]. \(W\) [LV13]. \(W^{1,p}\) [Mir12].
AFEM [CNSV17]. BEM [HM13, GMS19]. coercivity [CC13].

conforming [AT19, dVBM16]. D [CCZ13, FR19]. designs [CFL11].

discretization [Har18, NW18]. elements [Lms17]. elliptic
[DLT13, HLZ12]. error [CM18]. matrices [FKS19, Bor10, FKS18].

matrix [DHS17, FMP15, JLL15, XL17]. method [GAB13]. methods
[LV13]. nonconforming [CCQ13]. norm [EGLTP17]. projection [BY14].

refinement [dVBR11]. series [BCM17, MMMK16]. singularities
[YS13]. stability [BY14]. stable [Pru14].

1 [SB13a]. 2 [SB13b].

A-posteriori [RW12]. Absorbing [ABK13]. Abstract
[SDH14, Mas16, FGP10b]. Accelerated [SX15b]. Acceleration
[Sid11a, SCHH13]. Accuracy [HR14, BGR18, MR17]. Accurate
[Koe19, XXL12b, XXL12a, BZ17, CCLM15, CGSW16, DWWW17, DK11,
DH17, Lin17, NP15, XL17]. acoustic [KK15c, MP18b, dVMRR17]. action

adapted [EO17, Mir12]. Adaptive [AORS17, CHTV18, DM16, EPS17,
FGH+16, FJPS19, Gan13, GG12, GSM11, Git14, GY17, KSD11, Mir16,
SV16, BC17, CGMM11, CG11, CPR13, CGMM14, CSW16, CPB17, CXH10,
CCZ13, DS11, Dem16, Dem17, EMI19, FGHP17, FLOP10, Gal15, HX12,
KdS18, KS11c, OBI17, Plai15, Rei12, RS18, SZ13, SH18]. adaptivity
[KK15a, Rad19, dVM19]. Additive [LMR16, Bre13, DK16b, GS16]. ADI
[BBKS18, HJS15, MOR17]. ADI-type [BBKS18]. Adiabatic
[JML1]. adjoint [AN19, BBB17, CEM14, GGMO16]. adjoints [BMW14].
advection [AH14, AH17, BGHH16, DS18c]. advection-diffusion [AH14].

AFEM [CNSV17]. affine [KR16, MMMK16]. aggregation [PCCC18].

ALE [BNK13]. algebra [BCM17]. algebraic [AR16, BBK17, BM13,
BBKS18, BMP10, Men11, Not16b, FSV18, XXL12a, XL17]. Algorithm
[SCHH13, VVVF10, BCN19, BCPS10, BBKS18, CGSW16, CH19, Dic12,
EMB10, HHY14, HLS11, Ise11, JMM12, MMMS10, OYV17, Rei19, SG11,
ST16, Tu11]. algorithms [BLF19, BCGS11, CHTV18, DMG19, HH11, Kir11,
NP15, Nie10, PT10, SX13, SX15a, SX15b, XL17]. aliasing [BT15].

all-at-once [Tak15]. Allen [BM11, CCS17]. Almost
[WMS10, FJPS19, OTMS13, TOMS13]. alternating [BY15]. alternative
[Pin18]. Ampère [BCMO16, Nei10, NZ19]. analog [BY19]. Analysis
[ABER10, BD12a, BGJ18, BIM11, Ber16, CLLS19, DLT13, FKNP11,
GGM14, GV15, GGG+19, GGRG15, HPS16, KP17, LOSV16, PS11, QRB11,
RS11, RE14, Run14, SS18, SCHH13, TWW17, XZ10, Zha16a, ABM18,
AMORB16, AL17, ABC15, AG10, BDQ10, BL13a, BB12, BRK17, BJLZ15,
BBD16, BDLM18, BL13b, BC15a, BDQ11, BKN13, BM17, Bre13, BDS13,
CDNP16, CPS16, CGG19, CDL19, CP14, CS12, DES11, DS18c, DWWW17,
HR10, KSD10, KSD11, Kla15, Rad19, WHC14. contact-stabilized
KSD11, Kla15. Continuation BEK11, Bel11. Continuous
HW18, LL12, BRK17, CC13, DLT13, Li15, YBTB14. continuum
Cal17, LOSV16, MOS11, OLOV18, control
AORS17, ABM18, BM11, CQR16, DD16, GY17, HSLZ19, HFL12, JFW18,
KK15a, KSD11, LV13, NV12, OPS15, OW11, RW12, SG11, SA10, Tak15.
controlability [HL11]. controlling [DS11, Dem16]. controls [CHW12].
convection [ABH13, BBFP18, BBK17, BS12, BC12, BHLZ19, CJ14,
FKNP11, FH17, HT14, KKR12, LHQ14, TWW15]. convection-diusion
[BBFP18, BBK17, BS12, BC12, CJ14, FKNP11, HT14, KKR12].
convection-reaction-diusion [ABH13]. Convergence
AG10, BBD16, BC15a, BMZ10, BDS13, CNSV17, CPB17, CLA19, CXH10,
CDL19, CS12, DFL16, DS11, Dem17, DWW17, EH18, FKM16,
FLOP10, GS17, GH14b, GLW19, HS19a, HQ12, Har15, HLZ12, HJS15,
HK14, HSX12, HL18, Kds18, KS11a, KLLG17, KPR14, LS18, LZ15, Nak17,
NTT16, PGW18, Pie18, PCC18, SCH13, Tow18, Ais15, AR16, BL13a,
BT15, BH10, BG12, BR17, BC17, Cal17, CvN13, DE16, ER18, FM18,
FGH16, GFGP17, GGS15, Gan13, GLS17, FY17, HL19, HKK12, HY15,
HH10, KL18b, NN11, NZ19, OIS13, OTMS13, OYV17, SW17, Sid11a, Sin12,
SH19, SH18, SX13, SX15a, SX15b, TOMS13, Wan18, ZRK16, dVCMR18.
Convergent [CR12, AKST14, ABAC16, CLM15, FLS10, GW14, Kar13,
KL17, Ric19, Sch16]. Convex [CLMS18, DKS13, HRR11, E017, FN12,
FLMP12, GNS15, GW14, HHYY14, JZ14, JY16, LMSS17, Mir16, Wac17],
convex-nonconvex [LMSS17]. convexity [EMB10]. convolution
[BBSV13, BLM11b, Hac11, LFS16]. coordinates [DS10]. Cordes [SS16],
Coriolis [CDKL18]. corner [dVCMR18]. corners [FL15]. corrected
[HS15, JSW18, Not16a]. Correcting [ABB19]. Correction
[FKS19, BBK17, Fer13a]. corrections [CCP13]. costs [FHP19]. Coulomb
[GMS11]. counts [GMS19]. coupled
[BD118, BHLZ16, CDL19, DO17, LSY14, OS14, PSI17b, Sz12]. Coupling
[OB17, ADF18, AN18, AG10, BDQ10, BL15, Era15, EOS17, GHS12,
GMS11, HJH18, KL17]. couplings [FFKP15]. Covariance [DHS17].
Crank [KK15a, Wan18]. critical [PSV10]. cross
[BKV15, BC16, KK11, Mur17]. cross-diusion [Mur17]. Crouzeix
[HM16, LMR16]. crystals [GG12]. cubature [Che12]. cubic [ABB15],
cuboid [CCQ13]. cuboidal [AT19]. curl [KK15b, Sun16]. Curtis [HS15].
curvature [BGN19, ZLL12]. Curve [PS17b], curves [BGN12, EKAB16],
curvilinear [ABB15], customized [HHYY14]. Cut [BHLZ16, YBTB14],
CutFEM [BHLZ19]. cylindrical [AP10].

D [TW15, CCZ13, EMR19, FR19, HOR17a, LCH12, RS11]. DAEs
[SB13a, SB13b]. Damped [EK18]. damping [CGK18, PSV10]. Darcy
[BDQ10, BB12, BDG18, BGG16, BO18, CGH11, CGS16, CS17,
CHW17, DO17, GY14, LD11, LV14]. Data [BO18, AdST12, BGJ18,

HHK12, HT18, HR10, HZ12, HSX12, HHS15, HM17, HH11, JP13, KOZ16, KK15a, KS18b, Kir11, KT12, KK15c, LM11, LMS19, LV17, LA11, LMY18, LLY15, LCWW17, LMR16, LL10, LHQ14, Mak18, MSW13, Mat13, Nei10, NV12, OS14, OPS15, OR10, PS13, PC13, QRB11, SS15]. element [SG...12, SZ13, SS16, SW11b, Ste14, Ste10, Wac17, WX12, WXY12, ZBB14, Zha16b, ZRK16, dVBMR16, dVMRR17, dVCMR18, BSZ11]. elementary [EHRS12]. elements [AT19, BRK17, CCQ13, CGS14, CK16, CGK18, DLT12, EH13, GMÖ+18, GN14, HHNS16, HK17, HM16, KS18a, KK15b, KLLG17, KS11c, LL12, LMcs17, Mir12, dVM19]. ELLAM [CDL19]. elliptic [AV12, ABM18, BSZ11, Bör10, BS10, CDN16, CCQ13, DK16a, DGS15, DK16b, DLT13, Fuk10, Fuk13, GV15, GKK+19, Git14, GY17, GKN+15, GKN+18, HQ12, HPS16, mHZZ17, HSLZ19, HS19b, HLZ12, HHS15, JL13b, KS18a, LMR16, NW18, NTT16, OPS15, PT14, Sm10, Sti10, TSGU13, XZ10, ZZ15]. ellipticity [OS14]. embedded [DFL16, HNH16]. embedding [GKN+18]. enclosure [KKN14]. Energy [JSW18, Kop17, Say13, CHW17, Dem16, FLMP12, LMY18, OPS15, ZS17, ZVKG11]. Energy-norm [Kop17]. enhancement [MR17]. enrichment [Sch11b]. entries [BV12]. Entropy [BEJ14, HM14, FH17, Wil19, ZS12]. Entropy-stable [BEJ14]. Entropy-stable [BEJ14]. epitaxy [CW12]. equation [AY18, AKST14, ABH13, ABK13, ADM19, AP10, AN18, BFG13, BLS15, BO19, BD12a, BY19, BDG+18, BN16, BMGN18, BDS13, BDF12, BEJ14, BO18, Cal17, CG14, CP14, Cho18, CSS16, CMP13, CR12, DES11, DS18c, DKHR16, ER18, ER15, FS14, FL15, GL11, GGS15, GMÖ+18, GH14b, GWW14, HK19a, HT18, HS17, JM18, KK15a, KS11a, Kriel, LL12, LP15, MP18b, MNT13, Nei10, NZ19, OS14, PSV10, PT12, Pie18, QRSZ19, SW11b, VGG14, ZS14]. equations [AL15, AL17, AR16, AR12, BLF19, BZ17, BBK17, BM11, BGGH16, BB13, BBK18, BDL18, BC12, BPM10, BMZ10, Bör10, BGH14, BHL11, BV14, BC17, CCP13, CG17, CP18, CHW12, CCFM17, CMMV14, CCLM15, CLM17, CQR16, CKL14, CMLK18, CH12, CJ14, CS12, CLM15, DD16, DU15, DL15, DE16, DLT12, EH18, FGH17, FY12, GML19, GLS17, Git14, GKn19, GKL15, GLW19, HHNS16, HHH16, Hl13, HOR17a, HJS15, HP17, HPS18, HKT14, HJT14, HKXZ16, HJS17, HS18, HV12, JLZ18, KKR12, Kari13, KOZ16, KS18b, KKN14, KK15c, KL17, KL18b, KNW19, LA11, LCH12, LC14, Li15, LL10, MP18a, Man15a, Mas16, MOR17, Naka17, NPZ10, PS13, Pet12, PT14, PCC18, Pru14, Ren17, RS11, RE14, Rus10, SV13, Say13, Sch10, SH17]. equations [SS16, SWS16, SS16, SV12, ST18, SA10, Sti10, TT15, Ver17, Ver10, WZ10, Wan12, Wil19, WMS10, XZ10, XZ12a, XXL12a, XL17, YS13, ZT12, ZS12]. equidistant [BDHK12]. equilibration [CM13]. equilibria [GL11]. equivariant [MMKV16]. ergodic [HY15]. Error [ADM19, ABC13, BCS14a, BM11, BRK17, BL13b, CCS17, CDNP16, CD11, CC15, DS16, DD16, GMN19, GKI19, GGG11, GSV19, HS15, HP17, HPS18, LCWW17, LL10, OMS13, SZ13, XSW10, ZS14, AV12, AV11, AMN11, AMORB16, BLMN11a, BB12, BLDM18, BKN13, BM17, BKUV17, CCM12,
fields [BN16, BMO15, CCS17, DL11, FKS18, FKS19, dCMT16].

Filippov [DL11].

Fine [NGKN10]. finding [LGL17, WG13]. fine [PZ18]. Finite

[AGS10, AP11, AB15, BPS10, Bar13b, BSZ11, BDG+18, BHL+19, LLY15, PC13, SG...12, SzS12, ZS17, AV12, AH14, AORS17, AKST14, AB13, ADM19, AT19, BBL11, BY14, BBK17, BHK10, BRK17, BY19, BGJ18, BBN16, BC12, BPZ12, BDF12, BHLZ16, BO18, CCM13, CG13, CM14, CPS16, CSH16, CPB17, CXL16, CW12, CH18a, CHH18, CSS16, CK16, CG18, DS11, Dem16, Dem17, DCC18, DWWW17, DKS13, DU15, DO17, DSN16, DLT13, DHK16, ERI8, ER15, Era15, EOS17, EH13, FGL14, FH17, Fro18, GT14, GGM14, GM14, GY14, GKS13, GY17, GKN+15, G19, GGRG15, GLW19, GN14, HR14, HKK12, HZZ18, HR10, HLZ12, HW18, HHS15, HM17, JP13, KK12, KOZ16, KK15a, KS18a, KS18b, KK15b, Kir11, KT12, KK15c, KLLG17].

finite [KS11c, LM11, LL12, LMS19, LV17, LA11, LCH12, LC14, LMY18, LV14, LCWW17, LMR16, LL10, LQH14, Mak18, Mir12, Nei10, NV12, OS14, OP15, OR10, Pet12, QR11, SS15, SS18, SZ13, SS16, Ste10, Vac17, WX12, WX12, XZ10, ZBB14, ZZ15, Zha16b, ZRK16, BHT17, BG16L14, FGP10a].

finite-difference [HR14]. Finite-dimensional [FG10a]. finite-element [GGRG15].

finite-dimensional [FG10a].

Finite [GGRG15]. First

First-order [BHK10, MP18b].

fitting [GV19, IN18, OTMS13, TOM13]. fixed [EHRS12, HRS12].

Fliess [GEEF17].

Floater [dCM17].

flow [BG11, BB12, BG16, BMO15, CRS16, CS17, DD16, DH19, Fri15, GGM14, KP17, LDQ11, PS17b, SS15, YBTB14, ZLL+12].

flows [AH17, BPS10, BGN19, BHT17, BCN19, BEG14, GGG+16, CSS17, CHW17, GY14, LV14, RHM13].

fluid [AKY21, AG10, BJLZ15, BG17, DD16, Fer13a, GV15, LDQ11, NP15, SS12].

fluid-poroelastic [AKY21].

fluid-rigid [SS12].

fluid-structure [AKY21].

fluidic [BG16].

fluids [BBD16].

flux [BBK17, BHK10, BG16, BKT10, DSX16, PSV18, Tow18, WX12].

flux-correction [BBK17].

fluxes [CSS16].

Force [OLOV18, MOS11].

Force-based [OLOV18, MOS11]. forces [CDKL18]. forcing [RE14]. form [FG10a, FGP10b, Har15].

format [EH12]. formation [GT14]. formats [Nou19]. forms [ABB15, CH18a, Dem17]. formula [Not16a, Pin18].

formulas [AL15, Not19, PS16].

formulation [AMN11, BB12, DGB+15, EGH15, HJH17, HFL12, MP18b].

formulations [BKN13].

Fortin [MSW13]. forward [RS11]. foundation [Sny10].

four [HK19b].

Fourier [Ad10, BZ17, BT15, CG17, GP11, KK11, NGK10]. fourth [BMN11, BEJ14, CG13, CCQ13, HH11, Zha18]. fourth-order [BEJ14, CG13]. fractional [AN19, AdST12, BLF19, BO19, BLP19, CJ14, CM15, JLZ18, KY12, Mus15, Nov14].

fracture [DH19].

fractured [BGG+16, CS17, LDQ11]. framework
[CDM +18, HSV12, Man15b, Mas16, Olv12, YBTB14, Zha18]. free
[BDGQ12, CG11, HK19b, Krc17, SAI17]. frequencies [CLM17]. Frequency
[EÖ17, ABER10, BM17, CWHLT15, HL16, NGKN10, NDL14].
Frequency-adapted [EÖ17]. Fresnel [ACWL14]. friction [GMSS11],
frictional [BK12, BGIS17, CMR18, Rad19]. Froissart [BLM18]. front
[BCS14b]. full [DGS15, KL18a, BEG14]. Fully [AV11, AL15, BFG13, BM11,
CLLS19, CDL19, GLS17, HR12, KL17, Nak17, Nei10]. Function
[TSMM10, ABB19, FY11, HS17, Man13, SG11, SV12]. functional
[BV14, BMO15, EGLTP17, Mas16, Rus10, WZ10, YWY14, ZVKG11].
functionals [BBL11, BCMO16, Che12, DKS13, HW13, SS11]. functions
[BG12, BL18, BGR18, BAK19, BS17, BPZ12, CHW12, Che12, DV11,
DBV11, DGSY17, Fro18, Fuk13, GH14a, GT19, GN14, HMOU16, Hor17b,
KY12, KR16, LT10, MMMS10, Maz11b, Mir16, NNT15, NTT16, Not19,
OTMS13, PS16, PT14, PR13, SV13, SY17, Seg13, TOMS13, Wac17, WG13].
Further [TSGU13].
gain [BD11]. Galerkin
[AH14, AMN11, AD19, AP10, AR12, BBSV13, BBI12, BS12, BCS14b, BC15b,
BCGS11, BS10, CP18, CBHW18, CC13, CC10a, CM15, DM16, DK16b, EÖ17,
EPS17, EGH15, FKNP11, FLOP10, Fer13b, GLS17, HM13, HK17, HM14,
HW18, HKXZ16, JL13b, KP17, KNWW19, LMMR19, LV17, LMY18, LVY14,
LP15, MR17, MP18b, Mus15, RSV13, RMS17, SS12, SV13, Say13, SS16,
Ste15, Sti10, SH18, TT15, WHC14, Wan18, Wil19, Wor19, YS13, ZS14, Zha16a].
gamma [AHR14]. gaps [GG12]. gas [NDL14, ZS12]. Gasca [HSJ14]. gauge
[HS13]. Gauss [BCD15, JZ13, Ka15, Man15a, PS16, SY17, dS18b].
Gaussian [BCS14a, DM14]. Gegenbauer [Dri12]. General
[DMG19, ABH13, CCR14, DKS13, FKM16, GWX16, HW13, JY16, Olv12,
Sld11a, SX13, WS19]. generalising [Man15b]. Generalized
[AGK +14, BCN19, CH18a, HM18, LFS16, MS19, ABC15, BJLZ15, BB13,
Cha11, DBV11, DLT12, FN12, FY11, GV15, GS16, IG15, Nak12, PSV10,
RMS17, SS16, SDH +14, ZBB14]. generalized- [ABC15]. generation
[FKS18, FKS19]. generic [CCP13]. Geometric
[BR11, GM14, CM10, Maz11a]. geometrically [DGL +15]. geometries
[RHM13]. geometry [CHW17, Dic12]. Gilbert [AKST14]. Global
[Ais15, CK16, CGK18, EMB10, FGL14]. globally [PZ18]. GMRES
good [Maz11a]. Gordon [BZ17, BD12a, CCLM15, FS14]. grade [BJLZ15].
graded [BN16, BCGS11, CNX12]. Gradient
[BGG +16, DL15, CPS16, EGLTP17, LMcS17, OW11, PT10]. gradients
grid [Che16a, HT18, NTT16]. grids
[BHK10, BCD15, CNX12, GWX16, LVY14, RW17, Zha16b]. Gross
[AL17, HKT14]. ground [BFG13]. group [ABC15, DGL +15, HHNS16].
Guaranteed [CDM⁺¹⁸, CG14, GGS15]. Gummel [BC12].

H [Bör10, Bör10]. H- [Bör10]. half [Fuk10]. Halley [Kal15]. Hamilton [BMZ10, Cal17, CLM15, GK19, SS16]. Hamiltonian [BCM17, CCM12, CCFM17, CHL13, FGP10a, FGP10b, GKL15, HL16].
hanging [SW11a]. Hardy [HHNS16]. harmonic [BPS10, CCZ13, Dem17, GHI4a, HHNS16]. heat [BPS10, BDG⁺¹⁸, BDF12, BO18, HT18, QRSZ19, SzS12]. Hele [LCWW17, GGS19]. Helmholtz [BKV15, BM17, GMS19, GGS15, HK19b, HSZ13, SW11b, Wan18].
hemivariational [HSD18]. Herman [LS17]. Hermite [Jin17]. hexahedra [AT19, WXY12]. hexahedral [EH13]. Hierarchical [ZVKG11, EPS17, LO14, Mir16, SM16]. High [CCFM17, ABB19, AHR14, ABER10, ADBN16, BDF12, BO18, HT18].
high-dimensional [ABBI18]. high-frequency [ABER10, BM17]. High-order [CCFM17, AHR14, BDS13, HZZ18, HKT14, KNWW19, Ren17, WM17].
Higher [Nou19, SH19, ZBB14, BKN13, BGHL14, HU17, HK19b, HL18].
Higher-order [Nou19, HU17]. Highly [CLM17, XL17, CMMV14, CCLM15].
Highly-oscillatory [CLM17]. Hillbert [JT11, NTT16, Olv12, WZH13].
Hilbert-space-valued [NTT16]. Hilliard [CHW17, DWWW17, LCWW17, BM11, CCS17, CP14, ER15, GL11, GWW14].
Hölder [CvN13]. Holm [ADM19]. homogeneous [FHN⁺¹⁴].
homogenization [AH17, Ay18]. homotopy [CGMM11]. Hood [MSW13].
hybrid [BL13b, BGG⁺¹⁶, BKUV17, LSW11, LOSV16]. hybridizable [CM15, SH18]. hybridized [GWX19]. hydrostatic [GGGR15]. hyperbolic [ADBN16, BDF12, CMP13, HP17, HPS18, KK11, MR17, YS13, ZS14].
hyperelastic [CR12]. hypersingular [CH12, PT12]. hypotheses [GHS12].
ideal [BKW10, WS19]. identification [HQ12, JZ13]. Identifying [HKQ18].
IGA [FGHP17]. II [ABER10, BKW10, CG17, FGP10b, Not19, PS11, SX15b].
ill’in [GV19]. ill [CN19, HH10, Kal15]. ill-posed [CN19, HH10, Kal15].
image [CLMS18]. imaginary [AL17]. imaginary-time [AL17]. impedance [GS17, HHR11, HKQ18, HM18]. implementation [BKW10].
implementations [Rie19]. Implicit [VVVF10, AL15, AG10, CvN13, FGL14, GMN19, He13, HJHA17, HP17, HPS18, KL18a, SS18, WZ10].


Kahan [Bar13a]. Kármán [BNRS17]. karstic [CHW17]. Kato [KL18b].
KdV [HS17]. Keller [ZS17]. Kernel [FHN+14, BM17, DS16, NTW18].
kernel-based [DS16, NTW18]. kernels [Che12, FY11]. kind
[BK12, Fuk10, Mas14, Not16a]. Kinetic [BEG14, GV19]. Kirchhoff
[LL12, SH18]. Klein [BD12a, BZ17, CCLM15, FS14]. Kluk [LS17]. Koiter
[Zha16a]. Korteweg [PSV10]. Kronnecker [BS17, DLPV18]. Kronrod
dS18b]. Krylov [KS11a, MV15]. Kummer [LT10]. Kutta [AMN11,
BBSV13, BLM11b, GS16, HPS18, Man15a, Ver10, WE16, ZS14].

labeling [YBTB14]. Lagrange
[AKYZ18, BS12, BG17, EKAB16, Fer13b, HR10, Jun15, Ren17, SSS12].
Lagrange-projection [Ren17]. Lagrangian [Fer13b, Jin17, RS11]. Lamé
[BLS14]. Lanczos [Als15, Bar13a, LZ15]. Landau [AKST14]. Landweber
[CN19]. Langevin [FS17]. Laplace [BHL+19, CDM+18, vyKS14].
Laplacian [BLP19, DS10, GGS15]. Large
[Fr114, AH17, Bar13b, BGR18, BBKS18, BS17, JLL15, LC14, Lin17, Ren17].
largest [GGS15]. lateral [PS17b]. Lattice
[DNP14, GSY19, BD11, BFK+16, BKUV17, Dic12, DGSY17]. Lavrentiev
[BGJ18]. Lavrentiev-finite [BGJ18]. law [BG16, Tow18]. laws
[AGS10, BBC+18, BKTT10, GM14, HM14, MR17]. layer [CCZ13, KS11b].
layers [BHT17]. LDU [DK11]. least
[BGR18, BC17, CPB17, DMM11, IN18, JL13a, RS18]. least-squares
[BGR18, BC17, IN18]. Lebesgue [BDHK12]. Legendre
[BCD15, Is11, Lu17]. lemniscates [HN16]. level
[BK12, BSZ11, GT14, GKSS13, LCH12, Tu11, dHQS15]. Levenberg
[BGR18, HH10, Jin10, JY16]. lexicographic [HHB16]. Lie
[ABC15, BCM17, DGBL+15]. Lifschitz [AKST14]. like
[EGLTP17, FR19, GGG19, Ren17, SX15a, SX15b]. limit
[AN18, BD12a, BZ17, Cal17, CG17, FS14, GV19]. linear
[AL15, AL17, AP10, BBL11, BGIS17, BM13, BDGQ12, CDPN16, CHW12,
Che12, CV13, DL15, DE16, GWX19, GAB13, GGG11, HHYY14, HHB16,
HKX16, JMM12, KK15a, KKN14, KK15c, KL18b, LL12, LMc17, LM15,
LHQ14, Mur17, Sid11a, Sin12, Smy10, XZ10, ZS14]. linearization
[Chr11, HM18]. linearizations [DLP18]. linearized [BMGN18, NDL14].
Linearly [KL18a, AL15, PCC18]. Liouville [RI15]. Lipschitz [Li15].
Lissajous [EKAB16]. Lobatto [BCD15]. Local
[BBB17, BDL18, FM18, HH11, SX13, SX15a, SX15b, BV12, BG16, Dem16,
DH17, HS19b, LP15, Sch11b]. localizing [PSV18]. locally [AGS10, JP13].
Locating [Men11]. location [DV11]. locking [BDGQ12]. locking-free
lognormal [GKN+15, GKN+18, HS19b]. lognormal-parametric [HS19b].
Long [HL16, TW15, CGSW16, HOR17a, HS18, Wan12]. Long-term
[HL16]. Long-time [TW15, CGSW16, HOR17a, HS18]. Love [LL12]. Low
[BB13, GKL15, BBKS18, CP18, Hac16, Nou19, SSS16]. low-order [CP18].
low-rank [BBKS18, Hac16, Nou19, SSS16]. lower [CG14, HHS15]. LU
Lur'e [MOR17]. Lyapunov [BB13, BL13b, BV14, KS11a, SSS16].

M [XXL12b, XXL12a]. M-matrix [XXL12b, XXL12a]. MAC [GMN19].


matrix [BG12, BMP10, CCR14, CCGP17, Che16b, DHS17, DLPV18, DHM19, FMP15, FPD12, GKL15, HSL11, HAG17, JLL15, Kir17, Men11, OR10, SAI17, Str15, XXL12b, XXL12a, XL17, ZBJ18]. matrix-free [SAI17]. Max [GNS15, YBTB14]. max-flow [YBTB14]. Max-norm [GNS15].


Meshfree [Fro18, Nak17]. meshless [KNWW19, Sch10]. metamaterial [LS16]. method [AH14, AH17, AKYZ18, ABH13, AR16, ABAC16, BZ17, BT15, BGN16, BSZ11, BG12, BGR18, Be11, BIM11, Ber16, BBC+18, BL13b, BGHL14, BDGQ12, BNRS17, BDS13, BS10, CEM14, CPGS17, CGMM14, CSW16, CP18, CWHLT15, CW12, CCZ13, CQR16, CH12, CM15, DS11, DWWW17, DO17, DH17, DK16b, DLT13, ER15, EOS17, EH12, EGLTP17, FM18, FKM16, FKNP11, FL15, FGL14, FL50, FR19, GF12, GHP17, GGM14, Gau18, GV15, GKS13, GY17, GKL19, GXW16, GAB13, GSV19, HL16, HKK12, HPS16, HT18, HY15, HOR17a, HR10, HKXZ16, HSX12, HL18, HH11, Jin10, JZ13, JY16, Jin17, JL13b, Kal15, KdS18, Kar13, KOZ16, KS18b, Kim19, KSD11, Kla15, KS11a, KNWW19, LS18, LCH12].
LZ15, LMY18, LP15, LCWW17, LMR16, LL10, LJS18, Man15b. method [MLLR14, MOR17, MP18b, MNT13, Mur17, Nei10, NZ19, NDL14, OR10, PS17a, PS18, PT12, PCC18, RB11, RS18, Rus10, SSS12, Sau17, SV13, Sch11a, Sch11b, SV12, Sti10, SH18, Tak15, TT15, Wac17, WZ10, WXY12, WG13, YS13, YYW14, ZS14, ZBB14, Zha16a, ZBJ18, dVMRR17, dVCMR18, BHT17]. methods [AV12, Ais15, AMN11, AORS17, AHR14, AL17, ADM19, AP10, ABC15, BK12, BL13a, BD12a, BHK10, BMWB14, BGJ18, BB13, BR11, BS12, BDG+18, BV17, BC15b, BOS18, BHLZ16, BO18, CGHW11, CG17, CCH13, CPB17, CBHW18, CMMV14, CXH10, CNX12, CC13, CCS16, CJ14, CC10b, CS12, CHL13, DM16, Dem16, Dem17, DE16, DSX16, EÖ17, EMR19, EG15, ERA15, FGP10a, FGP10b, FG16, FGP17, Gan13, GG12, GGK+19, GY14, Git14, GWX19, GKN+15, GS16, HR14, HS19a, Har15, HLZ12, HP17, HPS18, HK14, HW13, HW18, HHS15, HMX17, HFL12, HV12, JP13, JT11, Jun15, KSD10, LV13, LMS19, LV17, LA11, LC14, LOSV16, LVY14, LFS16, LM15, MSV17, Man15b, MMMKV16, MR17, Mus15, Nak17, NTW18, OS14, OTMS13, 0Z17, PS11, Pru14]. methods [Rei12, RE14, RSV13, RMS17, Run14, Sch10, SZ13, SS16, SW11b, Ste14, SzS12, SX15a, SX15b, TOMS13, TSG13, Ver10, WX12, WH14, Wis19, Wor19, XZ10, Zam13, ZRK16, Zha18, ZS17, dVM16]. metric [ZLL12]. metrics [BCPS10, Mir14]. metropolized [FS17]. MFS [Smy10]. MHD [BK11, BL17, HM17], micromagnetics [FLMP12], midpoint [JM18], mimetic [LVY14, dVM11], min [YBTB14], min-cut [YBTB14]. Mindlin [BC15b, PS17a, dVM11]. Minimal [DS18a, CD11, SW19]. minimisers [DKS13]. minimization [EGLTP17, FLMP12, FLS10, HHYY14, LMSS17, YWY14]. minimum [ZS12], minmax [BV17]. miscible [CLLS19, CDL19]. misfit [HW13]. Mixed [CK16, CGK18, LM19, AMORB16, AT19, BG17, BHK10, BR17, BEG14, BKU17, CDN16, CGG19, CW12, DO17, DSX16, ER18, GGM14, GWX19, GN14, KK15c, KY12, LM11, LCWW17, Ste10, ST18, Ste10, Sun16, WX12]. model [AKYZ18, BB16, CDL19, DM19, GT14, GGM14, GGS11, GGG19, KPR14, LDQ11, Rad19, Sin12, Zam13]. Modeling [BDQ11, BG16, HJH17, QR19], modelling [DK17]. models [BBF18, CCS17, CK16, CGK18, HM17, MOS11]. Modified [BS12, NGKN10, Ver17, dS18b, Adc10, ACW14, SSS12, SW16, W13]. moisture [SzS12]. Molodensky [CGS14]. Monge [BCMO16, Nei10, NZ19]. Monotone [CCP13, BMZ10]. monotonicity [GS17]. monotonicity-based [GS17]. Monro [DMG19]. Monte [BSZ11, BC15a, BD12b, GGK+19, GKS13, GKN+15, HANT16, HMO16, PGW18, TSG13]. Morley [HSX12, HM16, HH11, Nei10, PS13]. Mortar [GY14, GSV19, WX12]. motion [DL11, GGS19]. moving [DS18c]. Muckenhaupt [NOS16]. Multi [BS11, CMM14, HANT16, LP11, BHK10, BC19, BL17, GKS13, LCH12, dHQ15]. Multi-index [HANT16]. Multi-level [BS11, GKS13, LCH12, dHQ15]. multi-marginal [BC19]. Multi-parameter [LP11]. multi-point [BHK10]. Multi-revolution
multidimensional [LS18]. multifidelity [PGW18]. Multigrid
[BFK+ 16, BCGS11, BLS14, BOS18, GWX16, HKXZ16, NN11, Not16b, Tak15].
multilattices [OLOV18]. Multilevel
[CQR16, Sch1a, BC15a, CNX12, DMG19, GWX19, TSGU13]. multilinear
[NTW18]. multilinear [CQR16, Sch1a, CNX12, DMG19, GWX19, TSGU13]. multilevel
[CQR16, Sch1a, BC15a, CNX12, DMG19, GWX19, TSGU13]. multilevel
[CQR16, Sch1a, BC15a, CNX12, DMG19, GWX19, TSGU13]. multigrid
[BFK+ 16, BCGS11, BLS14, BOS18, GWX16, HKXZ16, NN11, Not16b, Tak15].

Nash [CGS14]. natural [CRS16, CPB17, PS18]. Newton
[DWW17, BDQ10, DO17, FKM16, GMN19, GNS15, GKL19, He13, HOR17a, HJNS17, Kar13, LA11, LCH12, LC14, LL10, SWS16, Wan12, ZT12].

Nonlinear [CEM14]. nonconvex [CLMS18]. nonderivative [K15a, Ban18].

Noncylindrical [AP10]. nondegenerate [EKB16]. nonergodic [HY15].

Non-Fickian [BBFP18]. nonlinear [DL15, DE16]. nonlocal
[BV12, BG16]. nonmatching [YWW14]. nonmonotone [BZ10].

Nonorthogonal [YWW14]. nonperiodic [GSY19]. nonpermeable
[CP14]. nonproduct [Che12]. nonrelativistic [FS14]. nonrooted
[BMC17]. Non-satisfiability [HK19b]. non-self-adjoint [GGMO16].

Non-selfadjoint [GGMO16]. nondominated [Cal17].

Nonlinear [CEM14]. nonconvex [CLMS18]. nonderivative [K15a, Ban18].

Noncylindrical [AP10]. nondegenerate [EKB16]. nonergodic [HY15].

Non-Fickian [BBFP18]. nonlinear [DL15, DE16]. nonlocal
[BV12, BG16]. nonmatching [YWW14]. nonmonotone [BZ10].

Nonorthogonal [YWW14]. nonperiodic [GSY19]. nonpermeable
[CP14]. nonproduct [Che12]. nonrelativistic [FS14]. nonrooted
[BMC17]. Non-satisfiability [HK19b]. non-self-adjoint [GGMO16].

Non-selfadjoint [GGMO16]. nondominated [Cal17].
Nonlinear
[CBHW18, AV12, BFG13, BT15, BBK17, BGR18, BC12, BV17, BEK11,
CG17, CCLM15, Cho18, CGK18, FN12, FFKP15, FKNP11, GLS17, GMSS11,
HH10, HW18, JM18, JMM12, Jin10, Kal15, KKN14, LA11, MR17, Mur17,
Nak17, Nei10, SS11, SzS12, SX13, SX15a, SX15b, WZ10, Wan18, dHQS15].
nonlocal [GWW14]. nonmatching [DH17]. nonmonotone [AV12, PZ18].
Nonnegative [BSCZ12, Koe19, LN15, LGL17, ZBJ18]. nonobtuse [Dal10].
nonorthogonal [Str15]. nonoverlapping [ABAC16, DK16b]. nonperiodic
[DNP14]. nonrelativistic [BD12a, BZ17]. nonsmooth [LMM17, RE14].
nonstandard [Ste10]. Nonstationary [JZ14, HT18]. nonsymmetric
[CXH10, FFKP15, LGC14, RB11]. norm
[CPS16, DK16a, EGLTP17, GNS15, Kop17, Li15, Pru14, YS13]. normal
[FGP10a, FGP10b]. norms [AdST12, HZZ18, Mir12, PS18]. note
[BY15, CM18]. novel [GWCH10]. number [JL13a]. numbers
[DP16, Nak12]. Numerical [AH17, BDQ10, BBSV13, BM13, BLP19, Cal17,
DV11, DES11, DM14, DHM19, FLM12, Fri15, HSD18, NDL14, Nov14, RI15,
Rus10, AV12, AN18, BBL11, BLS15, BD12a, BGN16, BKW10, BD12b, CD11,
CCLM15, CHW17, CP14, CJ14, CC10a, CR12, DS16, DS18a, DE16, FKM16,
GGGS19, HS19a, HMOU16, HJT14, KKN14, LP11, MP15, MMMS10, Mas16,
PSV18, PSV10, RSV13, Ven11, WMS10, ZS17]. numerically [Olv12].
numerics [CLM17, LT10, TWW15]. Nyström [BDS13, FL15].

objects [Rie19]. observability [EZ15]. observers [HR12]. obstacle
[BC15a, CM18, ZVKG11]. obstacles [BCS14b, CWHLT15, CC10a]. Oliker
[NZ19]. once [Tak15]. One [BK12, HL18, OS14, SB13a, SB13b, ZS14]. One-
obstacle [BK12]. one-dimension [ZS14]. one-equation [OS14]. only [Pm18]. Ono
[DHKR16]. onto [BY14]. open [BGN12]. operator [BNI11, BAK19,
BCMO16, BFK+16, BHL+19, Eng14, LO14, MS13, Nov14, Sch10].
operators
[AN19, ABM18, BLM11b, BB17, BV12, Bör10, BC16, BR17, DM14, FY11,
Git14, GEEF17, HHS15, KKN14, KT12, MS19, Wor19, vyKS14]. Optimal
[CPR13, CNX12, FGH17, HMOU16, LR17, LC14, Rei12, SA10, AORS17,
ADF18, BC17, CRS16, CSW16, CQR16, DFL16, DD16, FGH+16, FHP19,
Gal15, GY17, GWX19, GWX16, HSLZ19, JSW18, LV13, NV12, NTT16,
OW11, PLA15, RS18, RW12, SG11, SH18, TWZ17, dGKL19]. optimality
[CNSV17, CXH10, DS11, Dem16, Dem17, GY17, HXS12, Jin12]. Optimally
[Mir12]. Optimization
[AY18, GV15, GP11, GNT11, LMSS17, NW18, PG17, Str15]. Optimized
[BGGH16, BAPZ12, MSV17]. options [MOGO17]. order
[AHR14, AdST12, ADBN16, BLF19, BMN11, BHK10, BS12, BPZ12, BKN13,
BGHL14, BDS13, BEJ14, BKT110, CGH13, CDN16, CP18, CCFM17,
CCQ13, CGSW16, CS12, DWW17, HU17, mHZZ17, HZZ18, HMOU16,
HKT14, HK19b, HL18, HH11, Jin12, JL13b, KS18a, KY12, KNWW19, Mir12,
MP18b, MNT13, NN11, NS14, Nou19, RS18, Ren17, Run14, SV12, SH19].
Wan12, WS19, YS13, ZS12, ZS14, ZBB14, ZZ15, ZRK16, Zha18. ordinary
[AR12, HHB16]. orthogonal [DBV11, ÖS13, PR13, YWY14, ZDQ17].
[AN18, CMMV14, CLM15, CLM17, Olv10, WZH13]. OSLC [Tow18]. other
[FHN⁺14, Man15b]. outflow [GKL19]. over-penalized [BC15b].
overdamped [FS17]. overdetermined [Str15]. overlap [BFK⁺16, MSV17].
Overlapping [EMR19, FLS10, MLLR14]. overlaps [SDH⁺14].
Overrelaxation [LM15].

P1 [KOZ16]. P1/P1 [KOZ16]. Padé [BRZ13]. Padé-type [BRZ13]. pair
[LGL17, Zha16b]. pairs [BEK11, Che16b]. Palindromic [HLS11, LLW10].
parabolic [AH17, AL15, ABH13, BRK17, BHL11, BS10, DE16, EH18,
KS18b, KKN14, KNWW19, LM11, LV17, Li15, LM13, MP18a, Nak17, NV12,
PrUl4, Rei12, RSV13, Sti10, ZDQ17]. parabolic-elliptic [Sti10].
paraboloïds [dCMT16]. parallel [DK16b, HH11]. parallelepiped [KK15b].
parameter [JZ13, LP11]. parameterized [BEK11, DP16, TWZ17].
parameters [dGKL19]. Parametric [BGN12, EH13, HBB16, HS19b].
parametrized [RHM13]. Part [FGP10a, FGP10b, PS11, SB13a, SB13b].
partial [BSCZ12, Bör10, Gt14, GLW19, HV12, Rus10, Sti10]. particle
[PC13, PCC18, Sch11a, Sch11b]. particle-particle [Sch11a, Sch11b].
particle [Sch11a, Sch11b]. partitions [BLM11a]. Pathwise [CvN13].
pattern [GT14]. PCG [FHPS19]. PDE [BO19, GKN⁺18, PG17, Sin12].
PDE-constrained [PG17]. PDEs
[FGP10a, FGP10b, GKN⁺15, HS19b, KS18a, LSW12, Lui17, NTT16, OR10,
PZ18, Rei12, SDH⁺14, TSGU13, TWZ17, WE16, ZRK16, BSZ11, PS11].
penalization [vyKS14]. penalized [BC15b, LL10]. Penalty
[DU15, KOZ16, BNRS17, HS19a, JZ14, KP17]. perfectly [CCZ13]. periodic
[AY18, CMP13, GSY19, GWW14, HMOU16, HJNS17, MOS11]. permeable
[AV11, DK16a, KS11b, Kop17, SH17]. Petrov
[CP18, CBH18, EGH15, HK17, Ste15]. Phase [BMO15, CCS17, CS17,
CHW17, DHM19, HIHNS16, Hor17b, KP17, SS15, SV12]. Phase-field
[BMO15, CCS17]. photonic [Eng14, GG12]. Piecewise
plane [GN14, IG15]. plate [BNRS17, LL12, dVM11]. plates
[BC15b, PS17a, SH18]. POD [Sin12]. point [BHK10, BLS14, BOS18, DM14,
FGH⁺16, HW11, KSZ13, PG17, PPS18, SG11, Sou13, Tu11]. points
[DFL16, EKAB16, Mas14, XCW10]. Pointwise [NZ19, NW18, OW11].
Poison [CCFM17, CCS16, HW13, LP15, RS11]. polarization [AGK⁺14].
polygonal [LVY14, Wei11]. polyhedra [GNS15]. polyhedral
[BN16, FM18, LN18, LVY14]. polynomial
[BD11, Bel11, CHT18, DGSY17, LLW10, MS19, NOS16, SV12, TWZ17].
polynomial-degree-robust [CHTV18]. Polynomials
[HN16, CCR14, DLPV18, Dri12, Eng14, HLS11, JO10, JHT13, Kir11, KT12, LT10, Not19, ŌS13, ST18, dS18b]. **poroelastic** [AKYZ18]. **porous** [BBFP18, BGG+16, CLLS19, CS17, CDL19, GGM14, KP17, KPR14, LDQ11, SS15].

**posed** [CN19, HH10, Kal15, Sch16]. **posedness** [BG16]. **positive** [AN19, BM13, MOR17, WS19]. **positivity** [HK19b, JLL15]. **post** [ER18]. **post-processing** [ER18]. **posteriori** [AV11, AMN11, AMORB16, BB12, CCM12, CDM+18, CGFS17, CM13, CGH13, CPS16, CGG19, CHTV18, CS17, DK16a, DSX16, Era15, HSV12, KK15a, KKN14, Kop17, KVV15, LM11, LMS19, LO14, LM13, NVPZ10, RW12, RHMI3, WX12, dVMM19].

**postprocessing** [CM13]. **potential** [ABK13, BM11, LO14]. **potentials** [GY12, SV16]. **power** [HL18, Pet12]. **powers** [AN19]. **precipitation** [ZBJ18].

**precise** [Fuk13, AKST14]. **Preconditioned** [PT10, LM15]. **preconditioner** [DGS15]. **preconditioners** [LR17, PPS18].

**Preconditioning** [BMN11, BFK+16, GGS15, LSW11, Sch11b]. **prescribed** [Men11]. **pressure** [LMS19]. **pressure-robust** [LMS19]. **Priming** [MOGO17, HFL12]. **primal** [ABAC16]. **primal-dual** [ABAC16]. **primitive** [BGHL14, HS18, Pet12]. **principal** [Nou19]. **principal** [DKS13, LHQ14, ZS12].

**priori** [AV12, AMORB16, BKN13, CM18, LN18, LJS18, MOS11, NV12, NW18, OW11]. **problem** [AORS17, AMORB16, BJLZ15, BY19, BDG+18, BHLZ19, CPR13, CRS16, CD11, CC15, CHTV18, CCQ13, CH18a, CM18, CN19, CGS14, DES11, DBV11, DO17, DLT13, FL15, GMS19, GKL19, GGRG15, HSV12, HQ12, HFL12, JMM12, JL13a, KS11b, KVV15, Kre17, LN18, LLY15, MLLR14, Nak12, OB17, QRB11, Sou13, ST18, Sun16, Tak15, Tu11, WHC14, Zha16a, Zha16b, dVM11, dVMRR17, dCMT16, GKSS13].

**problems** [AV12, AH14, AH17, Adc10, AV11, Ais15, ADF18, ABER10, AG10, BSCZ12, BBSV13, BLS15, BMN11, BGIS17, BT15, BRK17, BKV15, BGR18, BGJ18, BS12, BV17, BEK11, BC15a, BDQ11, BLS14, BOS18, BDS13, BS10, BHLZ16, CGMM11, CG11, CGH13, CGMM14, CDNP16, CXH10, CCZ13, CQR16, CC13, CM15, DD16, DK16a, DCC18, DGS15, DK16b, EO17, Egg19, EM19, EMB10, FN12, FFKP15, FKNP11, FGL14, GS13, GGMOM16, GV15, GGG+19, GMS11, GY17, GKL15, HL19, HS19a, HPS16, mHZZ17, HSLZ19, HR10, HLZ12, HH10, HW18, HW11, HH11, Jin10, JZ13, JIn17, JL13b, JSW18, Kal15, Km19, KKN14, KSD10, Kop17, KSV13, LM11, LR17, LLW10, LMR16, LHQ14, LMI13, Mas16, Mus15, NV12, NW18, NTW18, Not16b, OS14, OPS15, O1v12, OW11, PG17].

**problems** [PPS18, PT10, QRSZ19, Rad19, RI15, RSV13, RW12, Sch16, SH19, SX13, YBTB14, ZZ15, Zha18, ZDQ17, ZVKG11, dHQS15]. **procedure** [LA11]. **processes** [Ven11]. **processing** [ER18]. **product** [Che12, DS10, HS19b, SS11]. **program** [HHB16]. **programming** [PG17].

**projected** [dHQS15]. **projection** [AG10, BY14, BV17, Ren17]. **projections** [GH14a, Ste15]. **prolongation** [NN11]. **Prony** [Sau17]. **proofs** [CFL11].


Scattered [GSY17, HSW17]. scattering [ABER10, BDS13, CWHT15, CCZ13, CC10a, EÖ17]. Scharfetter [BC12]. Scheidegger [CLLS19]. scheme [AKST14, AMORB16, AG10, BC12, BMZ10, BCS14b, BL17, Che16a, CLM15, Cv13, FH17, GMN19, GW14, GK19, GGGS11, He13, HJHA17, HH10].
HS18, KP17, LS16, Ren17, SS15, SS18, Tow18, Ven11, Wan12, YWY14].
schemes [AGS10, ADBN16, BBK17, BC15b, BDF12, BKT10, Cal17, CCR14, CCLM15, CHW17, CDL19, CKL14, CDKLM18, CC10a, CR12, DL15, DHKR16, EZ15, FS14, Fer13a, FLOP10, Fer13b, GM14, GV19, HZZ18, HM14, JLZ18, MS19, PVS10, RS11, WS19, ZS12, ZZ15]. Schmidt [BS13].
Schoenberg [BR17]. Schrödinger [ABK13, AL17, AP10, AN18, BFG13, BZ17, CG17, CCLM15, KY12, GH14b, JM18, KK15a, LO14, Wan18].

Schwarz [AL17, BK12, BGGH16, Bre13, DK16b, EMR19, GV15, LMR16, MSV17].
SDEs [LS18, NS14]. SE [OTMS13, TOMS13]. Second [BKTT10, BK12, BJLZ15, BS12, CDNP16, CS12, DWWW17, KS18a, Mas14, MNT13, Not16a, SV12, Wan12]. second-grade [BJLZ15]. Second-order [BKTT10, CDNP16, CS12, KS18a, SV12]. Segel [ZS17].

Semi [LA11, AdST12, AN18, AG10, BM19, CG17, CvN13, HR12, HJHA17, Pie18, RS11, SB13a, SB13b, dGKL19, Fer13b].
semi-classical [AN18, CG17]. Semi-discrete [LA11, HR12, Pie18, dGKL19]. semi-explicit [SB13a, SB13b]. semi-implicit [AG10, HJHA17].

t [AdST12]. semiclassical [GH14b]. semidiscretizations [Say13, WE16].
semilinear [ChW12, FGP10a, FGP10b, KS11b, KNWW19, NV12, WE16]. Sensitivity [FPD12]. separable [IHYY14]. separation [Che16b]. sequences [Dri12, Sid11a]. serial [OYV17]. series [Adc10, BCM17, MMMKV16].
several [BL13a, Sau17, SX13]. shallow [BL17, CKL14, CDKLM18, TT15].
Shanks [Sid11a, SCHH13]. Shannon [MOGO17]. shape [AGK+14, ADF18, GS17]. Sharp [BLM11a]. Shaw [GGGS19, LCWW17].

Sobolev [AP11, AdST12, FY11, GSY19, KY12, NOS16, Wen10]. Solution
solution-dependent [HL16]. solutions [BY19, BBSV13, Bör10, CC10a, HL16, HHB16, HFL12, Mas16, OB17, PG17, RI15, Rus10, SSS16].

solv[135x586]able [CHW17]. solve [Bel11, SV12]. solver [BKW10, FHPS19]. solvers [GWX19].

t[135x550]olving [GS13, Jin10, Kal15, LSW12, dVBRS11, BR11, CXH10, Rus10]. SOR [OZ17]. SOR-type [OZ17]. sorting [Cal17]. source [BDLM18, SG...12].

space [BO17, BRK17, BHL11, FKNP11, HHNS16, HT18, HM14, KdS18, Lui17, Man15b, MP18b, NV12, NTT16, OPS15, Rei12, SG11, Ste15, Tow18, WZ10]. space-fractional [BO17]. space-time [HT18, MP18b]. space/time [BHL11]. spaces [BY14, BKUV17, EMR19, EGLTP17, FN12, FY11, FHN+14, GSY19, JZ13, JZ14, JY16, KY12, Maz11a, Maz11b, NOS16, SW11a, SM16, SDH+14, Wen10, dHQS15].


Spectral [ABM18, Engl14, HL15, ÖS13, RMS17, Wor19, BT15, GY12, HL19, HKT14, KSZ13, LN15, Lin17, Lui17, vyKS14]. spectrum [BV14, GMP+14, Pét12, ZB18]. speed [MNT14]. sphere [BD12b, HSW17, LSW11, PT12, PT14, TT15, VGG14]. spheres [BP10, FHN+14, KNWW19, LSW12, Nie10]. spherical [CFL11, GP11, PT12, TT15]. Spline [BAK19, SW11a, Maz11a]. splines [PT12, RMS17, Sor10, TT15]. split [Mat13]. splitting [BMN11, CG17, CCFM17, FGP10a, FGP10b, Gau18, GH14b, GWW14, HHYY14, HJS15, HKT14]. square [LO14]. squares [BGR18, BC17, CPB17, DMM11, IN18, JL13a, RS18]. Stabilised [KS11b].

Stability [BT15, DS18c, FFFK15, GLS17, KL18b, KSZ13, LSW11, SCH13, BFG13, BY14, CC10b, EK18, GHP17, HOR17a, HJS17, HS18, KK11, Li15, Mas14, RHM13, SWS16, WZ10, Wan18, Will19, WMS10, dCM17, dHQS15]. stabilization [Ber16, PSV10]. Stabilized [BGIS17, BHLZ19, BS10, BO18, HR10, Jun15, KSD11, Kla15, LA11, LCH12, MLLR14]. Stable [BLS15, HMX17, IN18, KL17, Sch11b, SW11b, Zha16b, BGN16, BEJ14, CHW17, HMI14, HV12, MSW13, Pru14, Sch16, ZBB14]. staggered [Che16a].

staggering [Che16a]. staircase [HR14]. state [CGH11, NW18, OW11, RW12, SG11]. states [BFG13]. Stationary [AN18, CCR14, CCGP17, HSD18, He13, LCH12, LC14]. statistical [Wan12].


Stieltjes [Not19, dS18b]. stiff [CS12, HT14]. stiffness [GMP+14]. stimulation [HJHA17]. Stochastic [AR12, BSZ11, CQR16, CS12, DMG19, EPS17, GGK+19, GKSS13, GLW19,
HL19, MNT13, TWZ17, WMS10, ZRK16. **Stokes**

[CHW17, AKYZ18, BDQ10, BJLZ15, BDLM18, BLS14, BC17, CGHW11, CPR13, CP18, CHTV18, CGSW16, CQR16, CH18a, DWWW17, DU15, DO17, FKM16, GMN19, GGY14, GNS15, GKL19, GGRG15, HSV12, He13, HOR17a, HKXZ16, HIJS17, Kar13, KOZ16, LMS19, LA11, LCH12, LC14, LYY14, LL10, MLLR14, Not16b, PPS18, QRB11, RE14, RHM13, SWS16, Tak15, Wan12, ZT12, Zha16b, vyKS14]. **Stokes/Darcy** [BDQ10, DO17].

**Stopping** [GMT11, Jin17]. **Stormer** [HL16].

**strain** [LMcS17]. **streamers** [RI15].

**stresses** [BDGQ12]. **Strong** [ZRK16, NS14]. **Strongly** [PT14, ABAC16, GMSS11, SzS12].

**structural** [KSZ13]. **Structure** [Egg19, AKYZ18, AG10, BS17, BG17, Eng14, Fer13a, FH17, GV15, HLS11].

**structure-preserving** [HLS11]. **Structured** [DP16, LLW10, Hac16, KS18a, LGC14]. **structures** [AY18, CMR18]. **studies** [GWCH10]. **Sturm** [RI15]. **subdivision** [CCR14, CCGP17, CM10, MS19, Rie19]. **subgradient** [BCPS10]. **subject** [dHQS15]. **subspace** [KS11a]. **subspaces** [GY19]. **Successive** [LM15].

**summation** [Pin18]. **sums** [EHRS12, Pin18]. **sup** [HW11, RHM13]. **Super** [ER18, AR16]. **super-algebraic** [AR16]. **Super-convergence** [ER18].

**supercell** [CEM14]. **Superconvergence** [HM16, LS16, AMN11].

**Superlinear** [BG12]. **supersmoothness** [Sor10]. **support** [HHR11].

**supported** [SV13]. **supports** [HS19b]. **sure** [WMS10]. **surface** [BDS13, BHLZ16, BHL19, DS18c, ER15, KL17, KL18a, OR10].

**surfaces** [BN16, BHLZ19, DM16, DL11, GM14, Man15a, SW19]. **sweeping** [Ven11].

**Sylvester** [XXL12b]. **Symmetric** [CHL13, GN14, Ais15, BCGQ12, BCGS11, CG11, CGG19, EOS17, FFKP15, Sid11b].

**Symplectic** [KK15c]. **Symplectic-mixed** [KK15c]. **system**

[BCCH19, BL17, BGHL14, CGHW11, CGSW16, CHW17, CKL14, DWWW17, FKM16, Gau18, GGGS19, LCWW17, RS18, SSS12, SzSi12, Wan18, ZS17].

**systems** [ADB16, ABC15, BM13, Bel11, BBC18, BLS14, BOS18, Ch11, CH18a, CHL13, EK18, EZ15, GAB13, HL16, HM14, LM15, Man13, Mur17, Sin12, Smy10, SDH14, SA10]. **Szegő** [PS16].

tangent [HAG17]. **tangential** [KdS18, NGK10]. **Taylor** [MSW13, MS19].

**TDNNS** [PS17a, PS18]. **techniques**

[AR12, Che16a, EZ15, HM18, MP18a, SH17]. **temperature** [CKL14].

**tempered** [BCS14a]. **Temple** [BBC18]. **Temple-class** [BBC18].

**temporal** [HS18, RSV13, SV13]. **tensor**

[Bal12, CLLS19, DS10, EPS17, EH12, FN12, Hac13, KS18a, LGL17, SS11].

**tensor-structured** [KS18a]. **Tensorisation** [Hac11]. **tensors**

[AGK14, EH12, EHR12, HU17, HRS12, HL18, LN15, Nou19]. **term** [BDLM18, HL16, RE14]. **terms** [JZ14, JY16]. **tetrahedral** [CCQ13].

**tetrahedron** [Mat13]. **textile** [SzS12]. **Their** [SCHH13, ABB15, BK12, DLPV18, Hac11, ZT12]. **theory**

[ABM18, DK11, HS13, Nie10, Sin12]. **thermistor** [GLS17]. **thickener**

Unsymmetric [Sch10, FPD12]. upper [HHS15]. upscaling [MP15]. upwind [CKL14, SS18]. UQ [NTW18]. used [LT10]. using [BRK17, BO18, GN14, HR12, Kir11, KT12, NP15, PSV18, PS18, Pla15, ZLL+12].


Wideband [BK15]. Willmore [BMO15]. Winther [CGG19]. without [BLM18, BC15b, MSV17, PZ18]. Worsey [Mat13].

XFEM [LR17]. Xu [HH11].

Yee [LS16]. yields [FHPS19].
REFERENCES

Z [Che16a]. Z-grid [Che16a]. Zakharov [Gau18]. zero [Koe19]. zeros [Dri12, JO10, JJT13, NNT15, Seg13, WG13]. Zimmermann [Str15].

References


Angelini:2013:FVM  

Antoine:2013:ABC  

Allonsius:2018:SAD  

Alazah:2014:CFI  

Aregba-Driollet:2016:TAH  
Denise Aregba-Driollet, Maya Briani, and Roberto Natalini. Time asymptotic high order schemes for dissipative BGK hyperbolic systems. *Numerische Mathematik*, 132(2):399–431, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
REFERENCES


Aishima:2015:GCR


Alouges:2014:CPF


Ambartsumyan:2018:LMM


Akrivis:2015:FIL


Antoine:2017:ASW


REFERENCES


REFERENCES


Ballani:2012:FES


Barlow:2013:RGK


Bartels:2013:FEA


Barrios:2012:PEA


Benner:2013:LRM


Barrenechea:2017:LTS

REFERENCES


[BBKS18] Peter Benner, Zvonimir Bujanović, Patrick Kürschner, and Jens Saak. RADI: a low-rank ADI-type algorithm for large


[BC15b] Paulo Rafael Bösing and Carsten Carstensen. Weakly over-penalized discontinuous Galerkin schemes for Reissner–Mindlin


Bogfjellmo:2017:HSL


Benamou:2016:DFI


Benamou:2019:GIF


Benmansour:2010:DRM


Bachmayr:2014:EEH

[BCS14a] Markus Bachmayr, Huajie Chen, and Reinhold Schneider. Error estimates for Hermite and even-tempered Gaussian approxima-


Bernardi:2018:FEM


Bramwell:2012:LFD


Bos:2012:LCB


Bertoluzza:2018:LEA


Baden:2010:NAN

REFERENCES

Blanco:2011:MDH

Bruno:2013:CAH

Bourdarias:2014:UMF

Bukal:2014:ESE

Beyn:2011:CEI
REFERENCES


[BG16] Sebastien Blandin and Paola Goatin. Well-posedness of a conservation law with non-local flux arising in traffic flow model-
REFERENCES

Bou:2017:FD

Bren:2016:GDH

Bennequin:2016:OSW

Bousquet:2014:HOF
REFERENCES


REFERENCES


REFERENCES


REFERENCES


**Bartels:2011:ECA**


**Baum:2013:NIP**


**Borm:2017:AHF**


**Bini:2019:ESI**


**Besse:2018:ABC**

REFERENCES

[BMN11] Eberhard Bänsch, Pedro Morin, and Ricardo H. Nochetto. Pre-


[BMZ10] Olivier Bokanowski, Nadia Megdich, and Hasnaa Zidani. Conver-
REFERENCES


Brenner:2018:MMS


Banas:2010:FEA


Beuchler:2012:SOH


Berlinet:2011:GIS


Bosner:2017:QCA

REFERENCES


REFERENCES

Barlow:2013:RBC


Benzi:2017:AFL


Bai:2012:NIE


Barth:2011:MLM


Bardos:2015:SSC


REFERENCES


REFERENCES


Cai:2017:EET


Ciarlet:2016:IFE


Chen:2013:AAP


Casas:2011:EEN


Chertock:2018:WBS

Cheng:2019:CAF


Cances:2018:GRP


Carstensen:2016:EAN


Cances:2014:NCA


Chen:2011:CEP


REFERENCES


REFERENCES


Colbrook:2019:IDQ


Chavez:2011:DDS


Chen:2012:PSK


Chen:2016:STN


Chen:2016:EST

Christiansen:2018:NFE


Console:2013:SMM


Cho:2018:CBS


Christiansen:2011:LRC


Cermak:2018:AII


REFERENCES


REFERENCES

spr</p>


[CMR18] Franz Chouly, Rabii Mlika, and Yves Renard. An unbiased Nitsche's approximation of the frictional contact between two


REFERENCES

Chambolle:2019:TR


Carstensen:2017:CNA


Carstensen:2013:OAN


Carstensen:2016:NDG


Chen:2016:MWR


Cohen:2012:CNS

Carstensen:2016:NNF


Cohen:2012:CA


Chen:2017:RBP


Carstensen:2016:OAF


Cox:2013:PHC

REFERENCES


REFERENCES


REFERENCES


REFERENCES


REFERENCES


REFERENCES

Duan:2012:CEG


Duan:2013:ACF


Digne:2014:NAD


Dedner:2016:ADG


Dereich:2019:GMA


Drineas:2011:FLS


REFERENCES


**Dijkema:2010:SLT**


**Demlow:2011:CQO**


**Davydov:2016:EBK**


**Davydov:2018:MND**


**delaCalleYsern:2018:MSP**

REFERENCES


REFERENCES


REFERENCES


References


REFERENCES


REFERENCES


[Fer13a] Miguel A. Fernández. Incremental displacement-correction schemes for incompressible fluid-structure interaction. *Na-
REFERENCES


REFERENCES


REFERENCES


REFERENCES


[Falco:2012:PGD]

[Ferreira:2012:SEU]

[Fornberg:2019:IGL]

[Fritz:2015:NRD]

[Froese:2018:MFD]
REFERENCES


REFERENCES


[GKN+18] Ivan G. Graham, Frances Y. Kuo, Dirk Nuyens, Rob Scheichl, and Ian H. Sloan. Circulant embedding with QMC: anal-

[**Gittelson:2013:MLM**]


[**Gameiro:2011:RCS**]


[**Gao:2017:SCF**]


[**Gunzburger:2019:CFE**]


[**Giesselmann:2014:GEF**]

Jan Giesselmann and Thomas Müller. Geometric error of finite volume schemes for conservation laws on evolving surfaces.
REFERENCES


[GMSS11] Heiko Gimperlein, Matthias Maischak, Elmar Schrohe, and Ernst P. Stephan. Adaptive FE–BE coupling for strongly...


Gunther:2016:MGA


Garde:2017:CRM


Gustafsson:2019:EAN


Grohs:2017:SMV


Goda:2019:LRN


REFERENCES


REFERENCES


REFERENCES


[HHYY14] Deren Han, Hongjin He, Hai Yang, and Xiaoming Yuan. A customized Douglas–Rachford splitting algorithm for separable con-
REFERENCES


Henriquez:2017:BIF


Hsia:2017:TPS


Hochbruck:2015:CAS


Hong:2014:NAS


Hakopian:2014:GMC

REFERENCES


REFERENCES

Hofstatter:2014:CAH


Hong:2016:RMM


Hall:2015:SVI


Hairer:2016:LTA


Hu:2018:CRA


REFERENCES

Hu:2016:SBC


Hyvonen:2018:GLT


Hinrichs:2016:OQM


Hu:2017:SFE


Huhtanen:2016:PLI

Heister:2017:ULT


Horsley:2017:BPF


Hochbruck:2017:EAI


Hochbruck:2018:EAI

Hao:2012:CR


Hild:2010:SLM


Haine:2012:RID


Haggblad:2014:ASA


Holtz:2012:MTF

REFERENCES

Halvorsen:2013:SGT


Hasegawa:2015:EEC


Hofmanová:2017:ETI


Hsia:2018:LTS


Han:2019:CAP


Herrmann:2019:QIL

REFERENCES

Han:2018:NAS


Hernandez-Santamaria:2019:GOC


Hannukainen:2012:UFP


Hesse:2017:RBF


Hu:2012:COA


Hu:2013:DWH

REFERENCES

Harbrecht:2018:FSG

Hackbusch:2017:IBH

Huang:2012:USD

Howell:2011:ISC

Hohage:2013:IRN
REFERENCES


Holm:2018:CDG

He:2015:NEC

He:2018:MNE

Imbert-Gerard:2015:IPG

Ito:2018:SPR


REFERENCES


REFERENCES


REFERENCES


REFERENCES

Kammerer:2011:SHC


Katsaounis:2015:PEC


Kim:2015:NCC


Kirby:2015:SMF


Kinoshita:2014:PEI

REFERENCES


REFERENCES


Kumar:2014:CA


Kristensen:2016:PAA


Kress:2017:TIE


Knizhnerman:2011:CAE


Kopteva:2011:SAI


Kreuzer:2011:DRA


REFERENCES


Li:2012:SML


Liu:2017:EAM


Lesinigo:2011:MDB


Lopez-Fernandez:2016:GCQ


Li:2014:FSL

REFERENCES


[LL10] Xiliang Lu and Ping Lin. Error estimate of the $P_1$ non-conforming finite element method for the penalized unsteady


[Larsson:2012:CPL]


[Lubich:2013:IPE]


**Louka:2015:CES**


**Li:2017:TRN**


**Lepe:2019:MDG**


**Loneland:2016:AAS**


**Lederer:2019:RPE**


Xingjie Helen Li, Christoph Ortner, Alexander V. Shapeev, and Brian Van Koten. Analysis of blended atomistic/continuum hy-

Lu:2011:MPR


Liu:2015:LDG


Lehrenfeld:2017:OPN


Li:2016:SA


Lasser:2017:DHK

References

September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).


REFERENCES


REFERENCES


Mansour:2015:GRK


Manton:2015:FGN


Mascarenhas:2014:SBI


Maset:2016:AFN


Matt:2013:TME


REFERENCES


REFERENCES


Moiola:2018:STT


Meng:2017:DGM


Merrien:2019:GTO


Magoules:2017:AOS


Mardal:2013:USF

REFERENCES


REFERENCES


REFERENCES


REFERENCES


Olver:2010:SGO


Olver:2012:GFS


Okayama:2013:EEE


Of:2015:ESF


Olshanskii:2010:FEM


Öffner:2013:SCO

Philipp Öffner and Thomas Sonar. Spectral convergence for orthogonal polynomials on triangles. *Numerische Mathematik*, 124
REFERENCES


REFERENCES


REFERENCES


Pozzi:2017:CSF

Pechstein:2018:ATM

Pazoto:2010:USN

Papez:2018:ELA

Pytlak:2010:PCG
R. Pytlak and T. Tarnawski. Preconditioned conjugate gradient algorithms for nonconvex problems with box constraints.
REFERENCES

Pham:2012:DDM


Pham:2014:SEP


Pollock:2018:UDS


Quarteroni:2011:AFV


Qiu:2019:TDB

REFERENCES


Rademacher:2019:MMA


Rafiei:2011:RIF


Reusken:2014:ATD


Reichmann:2012:OST


Renac:2017:RHO


REFERENCES


Rieger:2017:SIS


Stewart:2010:OCS


Saibaba:2017:RMF


Sauer:2017:PMS


Sayas:2013:EEG


Scott:2013:IBSa

REFERENCES


[SCHH13] Jian-Qing Sun, Xiang-Ke Chang, Yi He, and Xing-Biao Hu. An extended multistep Shanks transformation and convergence acceleration algorithm with their convergence and stability anal-
Spillane:2014:ARC


Segura:2013:CCZ


Schiela:2011:IPA


Seidman:2012:FEA


Schmidt:2017:AET

REFERENCES


REFERENCES


REFERENCES


REFERENCES


REFERENCES


REFERENCES


REFERENCES


[TOMS13] Ken’ichiro Tanaka, Tomoaki Okayama, Takayasu Matsuo, and Masaaki Sugihara. DE-Sinc methods have almost the same con-


REFERENCES


REFERENCES


Wang:2018:USC

References:


Wulf:2016:RKT


Weisser:2011:REE


Wendland:2010:MAS


Wilkins:2013:MBM


Wang:2014:DGM

[WHC14] Fei Wang, Weimin Han, and Xiaoliang Cheng. Discontinuous Galerkin methods for solving a quasistatic contact prob-


REFERENCES

Wheeler:2012:MFM

Wang:2010:PSI

Wang:2013:AEF

Xiang:2010:EBA

Xue:2017:HAD
REFERENCES

Xue:2012:ASMb

Xue:2012:ASMa

Xu:2010:ALQ

Yuan:2014:SCM

Yang:2013:DGM
REFERENCES

Yin:2014:CFM

[135x681] References


Zampini:2013:BNN


Zhang:2014:HOS


Zhao:2018:RIN


Zhu:2017:IAP


Zhang:2016:ADG

Sheng Zhang. Analysis of a discontinuous Galerkin method for the bending problem of Koiter shell. Numerische Mathematik, 133

Zhang:2016:SFE


Zhang:2018:RDF


Zeng:2012:CQM


Zhang:2012:MEP

Zhang:2014:EET

Zhou:2017:FVM

Zelati:2012:MAT

Zou:2011:HEE

ZZ15
Zhimin Zhang and Qingsong Zou. Vertex-centered finite volume schemes of any order over quadrilateral meshes for elliptic boundary value problems. *Numerische Mathematik*, 130(2):363–393,