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Nelson H. F. Beebe  
University of Utah  
Department of Mathematics, 110 LCB  
155 S 1400 E RM 233  
Salt Lake City, UT 84112-0090  
USA

Tel: +1 801 581 5254

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org),  
[beebe@computer.org](mailto:beebe@computer.org) (Internet)

WWW URL: <https://www.math.utah.edu/~beebe/>

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## Title word cross-reference

1 [AAN11, Käm13]. 2 [CK16, DH15a, HMP11, Liu11, Loi13, NS10, RBGS17].  $2k$  [CZZ15].  $2p$  [HZZ19]. 3 [DH15a, GKR13, LOR11, RBGV13].  $A$  [CC14, KLL16].  $B$  [LL15, LO13b].  $BDM_1$  [BFK16].  $C^*$  [XWG10].  $C^0$  [BGGyS12, BSZZ13, BGSZ17, BGyS18, DLT13, KS14, Poe19].  $C^1$  [ABSV16, MM10, Moo16, Wal14a].  $C^2$  [BMV18, BD19].  $C_0$  [GG17].  $dG$  [SZ15].  $\ell_1$  [Woj12].  $\ell_q$  [LXY13].  $f \in L^2$  [CK10].  $G$  [BHHN14].  $H$  [CK11, DW12, Sau10, YG15].  $H(\text{curl})$  [GHV18].  $H(\text{div})$  [BMRB19, AC16].  $H^1$  [BJ19, CFQ18].  $H^2$  [CLS18].  $H_{\text{div}}$  [DHH13].  $hp$  [HLM13, SSW13a, SSW13b, ZW13, ASV15, BHH10, BTG12, LM11b,

MPSV18, MBMS11, Sau10, SZ15].  $L$  [CCCS16, Ste13].  $L^1$  [WSD15, HN11].  $L^2$  [ANP17, DEM15, DLT13, HS13, LYZ15, TV16, WL16, XZwSW19, ZLY16].  $L^\infty$  [SW19].  $L^p$  [LM14a].  $L_1$  [YKF18].  $L_2$  [Ku11b].  $\lambda$  [Sau10].  $M$  [CFQ18, Mor16, Sch16].  $\mathbf{R}$  [PWZ13].  $\mathbf{R}^s$  [Dic11].  $\mathbf{P}_q$  [JMN14].  $\mathcal{C}'$  [BN11].  $\mathcal{O}(\infty/\| \cdot \|)$  [HYZ16].  $\mathcal{O}(N)$  [CCCS16].  $N \geq 2$  [ASW10].  $\mathcal{O}(1/n)$  [HY12].  $p$  [BBDR12, BCD<sup>+</sup>11, GB10, HFE18, HMP11, Sau10, YG15].  $p(\cdot)$  [BDS15].  $p(x)$  [DLM13].  $P_1$  [WZ12].  $P_1$  [AC12, KWC10, KWC17].  $P_N$  [ES19, LHM<sup>+</sup>16].  $R^N$  [ASW10].  $W^{1,\infty}$  [ALS13].  $W_p^2$  [NZ18].

**-Approximations** [ES19]. **-Based** [DHH13]. **-BEM** [BHH10, LM11b]. **-Chains** [RBGS17]. **-Conforming** [WZ12, BMRB19].

**-Conformity** [LLS18b]. **-Conjecture** [CZZ15]. **-Convergence** [CLS18, LL15]. **-D** [CK16]. **-Decompositions** [CFQ18]. **-DGFEM** [SSW13b, SSW13a]. **-Dim** [Liu11]. **-Discontinuous** [ASV15]. **-Finite** [MPSV18, Sau10]. **-graded** [Mor16]. **-Inequalities** [CFQ18]. **-Lagrange** [Loi13]. **-Laplacian** [DLM13, BDS15, HFE18]. **-Method** [Ste13]. **-Module** [XWG10]. **-Nonconforming** [BTG12, KWC17, AC12, KWC10]. **-Norm** [BJ19, Ku11b, NZ18, XZwSW19]. **-Potts** [WSD15]. **-Problems** [GHV18]. **-Projection** [TV16]. **-Semigroups** [GG17]. **-Series** [LO13b]. **-Setting** [Poe19]. **-Splines** [BMV18]. **-Stability** [DEM15]. **-Stable** [CC14, CCCS16, KLL16, SW19]. **-Stokes** [BBDR12]. **-symplectic** [BHHN14]. **-Version** [BCD<sup>+</sup>11, GB10, HMP11, MBMS11].

**Absolutely** [FW14]. **Absorbing** [BRD15, LZZ18]. **Abstract** [FPvdZ16, HS14, LS16, VZ18a]. **Accelerated** [PRX19]. **Acceleration** [DSZ17, KKN19, TK15, WN11]. **Accepting** [GWW12]. **Accretive** [Pla17]. **Accuracy** [AVZ15, AP16c, ARwS19, ABBM11, AHZ18, BCE14, BRO10, BH12, Kol14, LL11, LLN18, Liu13b, MJRK11, ZH15]. **Accuracy-Conserving** [MJRK11]. **Accurate** [BCZ14, BCJT16, BS19, CW19, CGSW13, CD14, FMT12, GRT14, Gra17, KM12b, LJC17, LXZ18]. **Acoustic** [BLRX15, BS11, CW13, NW19]. **Acoustics** [IGVGF19]. **Acting** [GY16]. **Action** [FS11, WYZ18]. **Adams** [RD17]. **Adaptation** [KH14]. **Adapted** [ANP17, XZO19]. **Adapting** [PBL15]. **Adaptive** [AABR13, AHZ18, BD16a, BMS10, BM11, BET11, BY17, BPRR19, BG19, BN10, BDN13, BD16b, BCS18, BOS10, CNSV16, CG12a, CR12, CGS13b, CP15, CH18b, CS11, CX10, CW17,

DHSW13, Dem10, DO12, DTZ13, Era13, EP16, FKMP13, FFP14, Fei19, GL10, HKS11, HY18, HHX11, KAD19, KRR15, KY18, Li19, Mig19, MAF19, NSS19, OP12, PWZ13, SMSF15, WBL<sup>+</sup>15, ZWGB15]. **Adaptivity** [Bin18, CR17, FPvdZ16, PVWW13]. **Addendum** [GL12]. **Additional** [DH15a]. **Additive** [CHL17, CHJ19b, Jen11, KLS10, Kwo11, LC15, SG15, Zou18]. **ADI** [BC17b, DKS11, EJS19, ZLL<sup>+</sup>14]. **Adini** [HS13]. **Adjoint** [CBHW13, GU10a, GU10b, HS15, IPP13, SNSM13]. **Adjusting** [ZF16]. **Admitting** [CFQ18]. **Advection** [BH19, CQR13a, CBHW13, DDE15, DEV13, HH14, HL10, KHCR19, LD19, LH12, PV16, PW14, WW10b, WSZ15, Wel11, Zha13a, ZTRK15, ZHA19, ZW11]. **Advection-Diffusion** [BH19]. **Advection-Dispersion** [ZW11]. **Advection-Dominated** [CQR13a, HL10, LH12]. **Affine** [DKG<sup>+</sup>14, DKGS16, GHS18, HVC15]. **Affine-Parametric** [GHS18]. **Age** [CGKMC19, MKW14]. **Age-Structured** [CGKMC19, MKW14]. **Aggregation** [JV15]. **ALE** [BKN13, Liu13b]. **Aleksandrov** [CHW19]. **Algebra** [BDSV10]. **Algebraic** [BJK16a, BS14, BCKZ13, DGK13, LB13, LB16, LM11a, TYK11, TYK14, XZ18]. **Algorithm** [AKK<sup>+</sup>11, BMK10, BLRX15, BdBE17, BCG<sup>+</sup>10, BCHB10, BMV18, BR15b, CET<sup>+</sup>16, DW12, DW13, DTZ13, Fio18, Fou11, GWW12, HYZ16, HH14, JMN14, JML13, Kuz13, LTX13, LK16, LW18, Mac15, MT18, Oh13, PWZ13, SY12, TL15, Yin09, ZHS16]. **Algorithmic** [SYY19]. **Algorithms** [ARwS19, ABGJ13, ASV15, AKT14, BG14a, BLFS17, CPCD19, CKW13, DT17, GRT14, Gra17, LO17, Wan15, Zha13a]. **All-At-Once** [Kal16, TZ13a]. **Alleles** [XCLY19]. **Allen**

[BMO11, DY16, DJLQ19, FLZ17]. **Almost** [GKR13, KP12, Mao15]. **Along** [DDP17, MM16, Käm13, LCJ<sup>+</sup>18]. **Alternating** [HY13, HY12, JYLW16, LYZZ18b, ORU18, RU13, YH16, nZzSZ12]. **Alternative** [DW13, ILNS19]. **American** [KTK17]. **AMLI** [HVX13]. **AMLI-Cycle** [HVX13]. **Ampère** [CHW19, FJ17, FO11, FO13, Ham19, LN18, NZ18]. **Analogues** [GT19a]. **Analysis** [ALS13, AP16a, AM17, AU14, ANS15, AKP14, ABBM11, ABPV12, AGK<sup>+</sup>11, BBHJ15, BJK16a, BDS17a, BMO11, BLWW13, BBK15, Bec11, BKT13, BCPS12, BNS13, BLM10, BSS10, BCHB10, BB12, BB13, BO11, BPS12, BPS11, BPP15, BSO12, BCM10, Bré13, BBE11, BGSZ17, BRK14, BFK16, BK10, BTG12, BTDG13, BM16, BES12, CHWG15, CHP10, CKP11, CST13, CR15, CNBW17, CET<sup>+</sup>16, CH13, CL18, CQ17, CG17, CG18, CZ13, CY10, CH18d, DF12, DG16, DG11, DDD<sup>+</sup>14, DFW15, DD12, DS10, DGM<sup>+</sup>17, DE11, DKS11, DW15, DZZ19, EJS19, EO14a, EO14b, ELN13, FLL<sup>+</sup>19, FPvdZ16, FW12a, FLX16, Gal17, GH15, GMM12, Gau15, GL15, GGNV10, GMP15, GKR13, GG13, GKN<sup>+</sup>18, Gra15, Gra17, GLR18, GMS18, GK10, GS11, GHY17, HT16, HKS11, HSB17]. **Analysis** [Han13, HH13, HS14, HR13, HMP11, HS16, HT17, HWZ17, HH10b, HVX13, HY18, HJWZ16, JLQX14, JL18, JML13, Jin11, JLPZ14, JLZ18, JN11, JN15, KTK17, Kar18, KCDQ15, KWB15, KK18b, KP10, KHCR19, KV10, Krö19, KL15, KPR13, KST15, KWC10, KWC17, KM12c, LK18, Lau17, LTT13, LSW10, LG11, LOR11, LSBTS19, LR13, LH12, LY11, LC15, LS15, LSW18, LLX19, LM10, LCY13, LWW<sup>+</sup>15, LK16, MLMS17, MMR13, MS11, MNP12, MT13, Moo19, Moo16, Mor16, NSS19, NS10, OR14, PF13, QTX15, QD11, RL13, RGMP16, Ren16, RW17a, SV10, SS17a, SW12, SLY16, SX18, SSS11, SU12, SV15, SOG17, SL15, TZ13a, TT15, Tha13, TD13, TK15, Tow15, TW18, VL11, WYZ18, WSS14, WZ19, WP19, Wel11, WW10c, WS18, WZ18, Wu18, XQ10, XZwSW19, Yam19, YKF18, YS13, YLH18]. **Analysis** [ZS10a, ZG12, ZLB16, ZHS16, ZD10, ZZLB13, ZW13, MMT16]. **Analysis-Based** [Tow15]. **Analysis-Suitable** [Mor16]. **Analytic** [AKT14, GK13, Spa14, ZF16, ZWX13]. **Analytical** [BG14b, LR15, LR16]. **Analytically** [KW16]. **Analyze** [AD18]. **Anderson** [PRX19, TK15, WN11]. **Anderson-Accelerated** [PRX19]. **Angle** [Ran13]. **Angular** [HM17, KW14a]. **Anisotropic** [CC18, CC19, CHP10, EWK13, HPS17, HKL16, IGVGF19, Kop15, Mir14, Mir16]. **ANOVA** [BG14a]. **ANOVA-Type** [BG14a]. **Anti** [HM14]. **Any** [LYZ15]. **Aperiodic** [LZ17]. **Application** [AD18, BDLV17, CK10, CDM13, CST13, CET<sup>+</sup>16, Col10, EST18, GLZ18, LL19, LMM<sup>+</sup>13, NZ12, NV14, PS19, SWWW12, TW18, DDD<sup>+</sup>14]. **Applications** [Bac13, BR15b, CS18a, Cim12, D'A12, DKS16, GB10, Ku11a, ILMZ19, LA11b, RGMP16, SV14, SYY19, TD14, TZ13b, mXqW10, ZD12, dVBD<sup>+</sup>18]. **Applied** [Bec11, BD17, DP12, Mas13, MT18]. **Applying** [ACCE10]. **Approach** [AAEM15, AZC14, BPR17, BD17, BES12, CEH15, CC14, ES19, FJK13, GS14, HNSV13, HZZ11, HO14, Kar18, LSW18, LCYC15, NOS16, PM14, RZ18, SG15, SPH18]. **Approaches** [GH12, GHK25]. **Approximate** [ADGP14, ADGP16, DHP13, GRT14, GWW12]. **Approximated** [BH12, Lee13]. **Approximating** [CHL17, GR18, RD17, Ye13]. **Approximation** [AVZ14, AM17, AJ19, AMK19, AC19, AR10b, AGP17, BCDS17, BCGS10, BC12a, BMO11, BMR12, Bar13, BBDR12, BMS14a, BK12, Bin18, BSO12, BG14b, BCL13, BMV12, BL18, BDS15,

BOS10, CPCD19, CS13, CMS16, CGS13b, CLY19, CCM10, CFNP18, CLJ<sup>+</sup>16, CL19, CDS10, CH19, D'A12, DS11, DKS13, DHS17, EO14a, Erv13, FHW12, FW12a, FF14, FLM18, FKLL18, GS19, GG13, GRZ15, GG10b, GG17, GK10, GP16b, GP17, HLZ15, HKL16, Ing11, KCDQ15, KW16, KLW16, Kou17, KLS10, KLM11, KLM14, Krö19, KMU16, LM13a, LMV13, LMO12, LV16b, LV17, LX14a, LM11a, LMR10, MZ13, MH18, MW12, Mig19, Mir18, MW19, NKK13, NW19, NFM18, OS16, OTB18, PST15, PWZ13, PBL15, RöB10, SK13, Sel10, SY12, SS13b, SS14, SDG16, Ste13, TW17, WYZ18]. **Approximation** [WW11b, WW10c, Xia16, Yam19, YDG10, ZB15]. **Approximations** [AB17, AP16c, AR10a, AABR13, ACSW12, ACSW14, ADM17, ADM21, BPS12, BJ13, BDO18, CDM<sup>+</sup>17, CGH<sup>+</sup>10, CELR11, CR18, DKS16, Dör12, DY16, ES19, FH10, FSX13, GU10a, GU10b, Git13, GG10a, GWW14, GY16, GMR15, GN18b, HR13, HWZ17, Jen11, KWB15, KM12c, LL11, LS14, LWD17, LYYM10, LY13, MNP12, Mur14, NV14, PLR11, SW10, TD13, VL11, WZ12, WYZ14, WZ19, YZ11, Zhe14, Zou18, dFGAN10]. **Arbitrarily** [FMT12, WN18]. **Arbitrary** [AP16c, AR10a, BLM11, CS12b, GN18b, IPP13, LO13a, MH18, PBL15, Sch16, TX19, Yam19, YLH18]. **Arbitrary-Order** [BLM11]. **Area** [BGN16]. **Arguments** [Mas15b]. **Arising** [AP16b, AT16, BBHJ15, BDdSM13, KTK17, WCF19]. **Arlequin** [ABIR19]. **Arnold** [GMM12]. **Arnoldi** [BSS10, Nov17]. **Arnoldi-Based** [Nov17]. **Aspect** [ABW15]. **Aspects** [Ebn14]. **Assimilation** [MT18, XA16]. **Associated** [MV14]. **Assumed** [BMcS10]. **Assumption** [Fis15]. **Assumptions** [CDNP18, DH15a]. **Asymptotic** [ASW10, BCR16, BCCHV14, CZAL10, CZAL13, CG12a, CS18b, DP13, GK10, HSZ18, JLQX14, KFJ16, LLS16, LLS18a, LM10, LCY13, NR12, Nic17, Sin14, TYK11, TYK14, Tow15]. **Asymptotic-Preserving** [HSZ18, LLS16, LLS18a]. **Asymptotically** [DY16, FR16, FR17, LD19, SDM18a, SDM18b, TD14]. **Atmosphere** [TW17]. **Atomistic** [OBLS14, OZ13]. **Atomistic-to-Continuum** [OBLS14]. **Atomistic/Continuum** [OZ13]. **Attractivity** [Poe19]. **Attractor** [BCGS10]. **Augmentation** [CCWX11]. **Augmented** [BO11, CGOT16, CGLY17]. **Auto** [ZLB16]. **Auto-Convolution** [ZLB16]. **Automatic** [GG17]. **Auxiliary** [GNV18, SX18]. **Average** [Bla18, Ran13]. **Averages** [Wan14]. **Averaging** [MST10]. **Avoiding** [JN15]. **Axioms** [CR17]. **Axisymmetric** [Erv13, LL11]. **B** [DGM<sup>+</sup>17]. **B-Spline** [DGM<sup>+</sup>17]. **Back** [TT10]. **Backscatter** [Han11]. **Backward** [AC10, Akr15, DF12, Gao14, GHL18, PKK<sup>+</sup>15, Pot16, SZZ18, ZZJ10]. **Balance** [Gos14, SNSM13, SSS11]. **Balanced** [AGP17, BdL10, BCL13, DCdL18, LS13b, SGMS13]. **Balancing** [BN16, DD12, Lee15]. **Ball** [LX14a]. **Banach** [Jin15, MRL14]. **Bandlimited** [Che11b]. **Barrier** [AHS14a]. **Barycentric** [GK13, GN18b, KB12]. **Based** [AGT18, AX13, AAN11, AKT14, BG10a, BdBE17, BG11, BCKZ13, BIT13, CZ10b, CM14, CN17, CH18c, CH13, DHH13, DO12, DGM<sup>+</sup>17, ELS15, EV10, ELN13, GW18, GWW12, Gra17, GHSS19, GM17, GL19, HLY13, HNSV13, HT17, JL10, Kal16, KPK11, LZ17, LLN18, LM14b, LQB14, MW12, MT11, Nov17, Reu13, RW13, Sel10, SW10, Tow15, VL11, WCK15, YB11, ZCY12, ZHA19, BC12a, CEH15, OBLS14]. **Bases** [FHN<sup>+</sup>13, MM10]. **Bashforth** [RD17]. **Basis** [CQR13b, HSW13, Mir14, PS19, RÁM<sup>+</sup>17, RBGV13, ZDK18]. **Bayesian** [CDS10]. **BDDC** [BCLP10, GKR13]. **BDF** [BC17b, CWYZ19, WCF19]. **Beam** [QTX15, Zhe14]. **Bean** [WY19, You17]. **Beavers** [CGH<sup>+</sup>10, SZ13]. **Bed** [Tak13].

**Behavior** [BR15a, BCCHV14, FJK13, HN11, MZ14, YB13]. **Bellman** [GS19, HFL12, JS13, SS14, WR11]. **below** [KV10]. **Beltrami** [BDO18, BD19, WCH10]. **BEM** [BHH10, CGS13c, FT17, GM19, LM11b, RW13]. **BEM-Based** [RW13]. **Bending** [Bar13, BCLP10, HHX11, RZ18]. **Best** [AC19, AZC14, LV16b, LV17]. **Best-State** [AZC14]. **Between** [CELR11, HDVV10, GHM10]. **Bézier** [JKK<sup>+</sup>13]. **BGK** [HSZ18, RSY12, RY18]. **Bi** [CCD18, SL15]. **Bi-Projection** [CCD18]. **Bi-quadratic** [SL15]. **Biased** [Ket11]. **Biharmonic** [BG11, HS13, JWX14, Zul15]. **Binary** [ZG18]. **Binding** [KK18a]. **Bingham** [CCD18]. **Biot** [Nor16]. **Biquadratic** [LL13]. **Bivariate** [GL18, SVD14]. **Black** [LX14b]. **Blended** [AW10a, VL11]. **Bloch** [DS18, LZ17]. **Block** [LX17, PL10, RP13, RL15]. **Block-Centered** [RP13, RL15]. **Blow** [KM12c, YB13]. **Blow-Up** [YB13, KM12c]. **Body** [BCM10, GHM10]. **Boltzmann** [AGT18, RSY12, RY18, ZG18]. **Boosting** [Mac15]. **Bose** [BDLV17, HMP14]. **Both** [Hu15, Liu13a]. **Bound** [HS13, LXZ18, LYZZ18b]. **Bound-Preserving** [LXZ18]. **Boundaries** [BK12, BMS14c, BMS14b, GL15]. **Boundary** [ANS15, ANP17, AN10, BHHS15, BH11, Bea15, BRD15, BY17, BRY15, BS11, BCG15, BP10, BGGyS12, Bur12, CM18, CX10, CCWX11, CQR13a, CSZ19, CK14, CdTGGP18, DK14, Era12, Era13, FW13b, FKMP13, GHM<sup>+</sup>18, GL11, GL12, GLL11, Ham19, HH10a, HLM13, HJHUT14, JWX14, Kas13, KCDQ15, Kaw19, KSU14, KSS12, KP12, LZZ18, LM13b, LM14a, Mas15a, Mas15b, PL10, PW19, RN17, RBGS17, SDKS13, Ste11, SU12, SCP18, WYZ14, WBL<sup>+</sup>15, Wan15, YHX17, ZD10]. **Boundary-Value** [Kaw19, WYZ14]. **Bounded** [UU16, WY11]. **Bounds** [AR10a, ADGP14, BH11, CDM<sup>+</sup>17, CE18, Die14, FGS14, LZ14, Ovt11, Peñ07, SV14, Sin14, Spa14, WW13, WL11, Xia10, Xia12, Ye13, YXL19, ZWX13]. **Box** [DP12]. **Box-constrained** [DP12]. **Boxcar** [BCS13, CGKMC19]. **BPX** [LX16]. **Breadth** [LZ12]. **Breakage** [KST15]. **Bregman** [HYZ16]. **Brinkman** [Tak13, HK16, VV14]. **Brittle** [BOS10]. **Broken** [KWC10, KWC17]. **Bromwich** [Wei19]. **Brusselator** [CKK19]. **BSDE** [GL10]. **BSDEs** [Cha14, CR15]. **Buckling** [LMR10]. **Bulk** [DER14, DFS17]. **Burgers** [AGK<sup>+</sup>11, BJ13, LMO12]. **Butterfly** [KM12b, Yin09]. **Cahn** [FW12a, AM17, ABSV16, BMO11, BMS14a, BGGyS12, CDMP16, CWYZ19, DFW15, DY16, DJLQ19, FLX16, FLZ17, FKLL18, KLM11, KLM14]. **Calculate** [CBHW13]. **Calculation** [ADGP14, ADGP16]. **Calculations** [Bac13]. **Calculus** [Li19, MM13a]. **Capturing** [ZM16]. **Caputo** [LL19, RD17]. **Carleman** [BdBE17]. **Carlo** [AHS14b, AHS16, AKP14, BFRS16, CST13, DSZ17, Dic11, GHS18, GLZ18, GSY16, HW15, He19, JML13, KSW14, KY18, KSS13, MA18, Ull17, WCK15, Yam19]. **Cartesian** [BG18, CK16, Mir14, Mir19]. **Case** [BC17a, Dic11, ER18, JMN14, LZ12, LO13b]. **Cauchy** [BLO18, CvN10, DHH13, GL19]. **Causality** [Mir16]. **Cavitation** [SL15]. **Cavities** [LMS13]. **Cell** [FR16, FR17, LR18b, Nor15, Nor16, OHBNX15, PW14]. **Cell-Centered** [Nor15, Nor16, OHBNX15]. **Center** [PKK<sup>+</sup>15]. **Centered** [EP16, Nor15, Nor16, OHBNX15, PV16, RP13, RL15]. **Centered-Potential** [PV16]. **Central** [CSV19, LSZ18]. **Centroidal** [BR15b, Urs17]. **Certain** [FFP14]. **Certified** [MGGJ13, RÁM<sup>+</sup>17]. **CG** [Wal10, Wal14b]. **CG1** [BBK15]. **Chain** [DMP13, JML13]. **Chained** [AF16]. **Chains**

[And13, CG17, CG18, RBGS17, WP19]. **Changes** [BMO11]. **Chaos** [ZTRK15]. **Chaotic** [WXZ18]. **Characteristic** [AW10b]. **Characteristics** [LR18b, WSS14]. **Characteristics-Mixed** [WSS14]. **Characterization** [MB16, Urs17]. **Characterizations** [HW17]. **Characterizing** [LQT16]. **Chebyshev** [DW14, KPK11, LR14, PGvD12]. **Chemical** [CL19]. **Chemistry** [FLL<sup>+</sup>19, LK18]. **Chemotaxis** [NR12]. **Choice** [FNP14, JL10, PST15]. **Ciarlet** [Zul15]. **CIP** [BS16b, DW15, LW19, ZW13]. **Circuits** [AKGR14]. **Circulant** [GKN<sup>+</sup>18]. **Circular** [GX14]. **Clamped** [BSZZ13, BGSZ17]. **Class** [ABIR19, Che10, CRR16, CR18, DP12, DHL17, FFP14, KSS13, Kwa12, LR13, LYZ15, LX17, OP12, Pet10, Pet11, RSW17, San19, YH16, ZSZ15, ES16]. **Classical** [GTW<sup>+</sup>12, VZ19a]. **Clenshaw** [DGK13, XB13]. **Cloaks** [YLH18]. **Close** [ARwS19]. **Closed** [HLZ15]. **Closest** [MM13a]. **Closures** [LHM<sup>+</sup>16]. **Cluster** [FLL<sup>+</sup>19, LK18]. **Clusters** [BD16b]. **Coagulation** [BMK10, PW14]. **Coalescing** [HKL19]. **Coarse** [DW13, KRR15, SVZ12, TT10]. **Coarse-Grained** [TT10]. **Coefficient** [CH19, FF14, Mac10, WY13]. **Coefficients** [BBHS14, BDN13, Cha12, CST13, CLJ<sup>+</sup>16, Gal17, GS19, GKR13, mHLZ16, KSS13, LLS13, LJC17, ILNS19, MLMS17, Oh13, PH16, SVZ12, SS17b, SS13b, SS14, TZ13b, Wan16]. **Coercivity** [BS11]. **Coherent** [ABGJ13]. **Cohomology** [RBGV13]. **Collocation** [Bie11, BIT13, CLS18, EST18, FW13b, GN18a, HJWZ16, KPK11, LB13, LB16, LB19, Mas15a, Mas15b, SWG14, YB13, ZG12, ZZK15, ZTRK15, ZLB16]. **Combined** [BBK15, HFL12, Wal14b]. **Common** [GM17]. **Communication** [AKP14]. **Commutative** [LR18a]. **Commutators** [IKS18]. **Commuting** [CF17]. **Compact** [DH15b, Kol14, LXZ18, lLzSsS10, SDKS13, Wan15, nZzSZ12]. **Compactness** [BCD<sup>+</sup>11, Wal10]. **Comparative** [HVX13]. **Comparison** [CPS13, TD13, Wan16]. **Compatible** [BPS11, DY16, LD19, SDM18a, SDM18b, TD14]. **Competitive** [LCS15]. **Complete** [KZ15]. **Complex** [ALS13, ABS12, ABS15, GNV18]. **Complexes** [FN13, FS17]. **Complexity** [AHS14b, BMS10, CG12a, CGT15]. **Component** [GO12]. **Components** [GKR13, KLP10]. **Composite** [Bie11, BS16b, CZAL10, CZAL13, DGS13, LCYC15]. **Composition** [Ver12]. **Compressed** [BRD15]. **Compressible** [BC17b, CK16, EGHL10, KK10, KSW18, OHBNX15, SS13a, Sväl16]. **Compression** [BH17]. **Compressive** [Fou11]. **Computable** [AR10a, BMW19]. **Computation** [AGK<sup>+</sup>11, BORM18, BPS11, CI12, CET<sup>+</sup>16, Che11b, DK13, HL15, JO10, LJC17, LCY13, Seg10, SL15, XZO19, YZ14]. **Computational** [BGN16, BBE11, BES12, CG12a, DFS19, Pet10, Pet11]. **Computations** [HMP14, MTKO17, WNPN14]. **Computes** [FW13a]. **Computing** [BDSV10, Gra17, GM17, Hül10, KW14a, LZ12, LCS15, QW19, Wan14, WXZ18]. **concave** [BS15]. **Concentrated** [PW19]. **Concerning** [GF12]. **Condensates** [BDLV17, HMP14]. **Condition** [BJS13, Kas13, Loi13, Peñ07, Ran13, SCP18, WBL<sup>+</sup>15, Xia10]. **Conditional** [He19]. **Conditioned** [ACSW10]. **Conditioning** [AU14, CD12]. **Conditions** [AKGR14, AN10, BRD15, BRY15, BP10, BGGyS12, Bur12, CGH<sup>+</sup>10, CHP10, CdTGGP18, Der12, HW17, KZ15, KSS12, LZZ18, LYZZ18b, PL10, SDKS13, SZ13, XQ10, ZD10]. **Conductivity** [LCYC15]. **Conformal** [HSW17]. **Conforming** [CZ10a, CZ12, CDM<sup>+</sup>17, EV15, Hu15, KS14,

WZ12, BMRB19]. **Conformity** [LLS18b]. **Conjecture** [CZZ15]. **Conjugate** [ZJB16]. **Connection** [CELR11]. **Conservation** [ACG15, AHZ18, CS13, CMS16, DG16, DHL17, FN13, FMT12, FS16, FLM18, FS11, GPS16, GMP15, GU10a, GU10b, GNPY14, GP16a, GP17, HLY13, Ket19, LY11, LAFS16, MZ16, MSZW13, MT11, Ren15, Ren16, Sol18, ZM16, ZS10b, ZS10a, ZH15]. **Conservative** [AGT18, AW10b, CFMP13, CER14, LY12, LWZ19, WBN16, WBN17, WN18, WY13, ZG18]. **Conserved** [CHWG15, CLL10, HZZ11]. **Conserving** [GMS18, MJRK11, ZGD17]. **Consistency** [OZ13]. **Consistent** [BV10, BNP10]. **Constant** [mHLZ16]. **Constants** [BS11, Krö19, SV14]. **Constrained** [BBS16, CS13, CGT15, CG12b, CK14, HM16, Kou17, LVW18, SW16, XA16, ZCY12, DP12]. **Constraint** [DLTZ13, LYYM10, Log17, MT11]. **Constraints** [ACCE10, BN16, BKS17, BG10b, BF17, BGyS18, DD12, Lee15, LCY13, MM10, MO14]. **Construct** [WBN16]. **Construction** [CF17, DL11, FN13, GSY16, MB16, OZ13, RBGV13, RBGS17]. **Constructions** [BO15]. **Constructive** [NKK13]. **Contact** [BBHJ15, CH13, DH15a, Sch11]. **Context** [BRO10]. **Continuation** [MGGJ13]. **Continuous** [And13, AGP17, GT19a, GWW14, GP16b, GP17, Kwo11, LM13a, LLMS17, LT13, LB19, LA11a, LA11b, WP19, WR12, YG15, ZGD17]. **Continuum** [OBLS14, OZ13, VL11]. **Contours** [DH13b, DTV15]. **Contractive** [Li10]. **Contractivity** [WZ19]. **Control** [ARwS19, ANS15, AF12, AF16, BKM13, BY17, BF17, BGyS18, BHHN14, CDG14, CM14, CK17, CHYL11, CG12b, CQR13a, CSZ19, CK14, DG13, DGGQ16, DEV13, DP12, GLV11, GL10, GY16, GLT<sup>+</sup>17, GHM<sup>+</sup>18, GLL11, HMP15, HL10, HPS13, HM16, Kay10, KL15, LG11, LH12, LV13, LYYM10, LCY13, MZ13, MT13, MW19, PVWW13, Pot16, RW17b, SW16, SSZ11, SD19, SYY19, TZ13a, WR12, YZ17]. **Control-Constrained** [SW16]. **Control-State** [CG12b]. **Controlled** [ELM15]. **Controlling** [Dem10]. **Controls** [GY16]. **Convection** [AKK14, BB12, BB13, CF12, CSZ19, CPXZ19, CS10, CM10, DH13a, Der12, DJY14, DEM15, Fio18, GHM<sup>+</sup>18, JP17, JLZ16, JN11, Kno10, LXZ18, LYZZ18a, LWZ19, WW10a, XH14, ZLY16, dFGAN10]. **Convection-diffusion** [CM10]. **Convection-Dominated** [AKK14, DH13a, Der12]. **Convergence** [ACCD13, AP16b, AGT18, ABS15, ABPV12, AW10b, AWJ16, AN10, BCE14, Bar12, BLWW13, BCG<sup>+</sup>10, BO11, BHH10, BPRR19, BCJ19, BC10, BSO12, BN10, BD16b, BJ19, BCM10, BCS13, BCS18, BM16, CHWG15, CHP10, CP13, CP15, CH18b, CDM13, CZ10c, CW13, CW17, CTZ18, CHW19, CHJ19a, CS12b, CLP12, CLS18, CWZ14, CDGQ10, CvN10, CR18, CH19, Dem10, DL11, DH15a, DZZ19, DAA13, DKR15, EO14a, EO14b, EGMP13, EWK13, Eng15, EGK13, Era12, EP16, EST18, EGHL10, FHW12, FKMP13, FFP14, FS16, FKLL18, Gaz14, GU10a, GU10b, Git13, GG13, GT16, GMS18, GHY17, GK13, HYZ16, Hal16, Ham19, HY13, HH13, HS14, HY12, HW15, HS15, HW14, HVX13, HY18, HZZ19, HHX11, JLLO19, JS13, JML13, Jin11, JZ12, KCDQ15, KKN19, KWH16, KS13, KPR13, KST15]. **Convergence** [Kuz13, LO17, LS13a, LC15, LL15, LQZ17, LZH18, Li19, LB19, Liu13a, LM13b, LM14a, LK16, LYZZ18b, Mac10, MMT16, MLMS17, MFD17, MK18, Mas15a, MST10, MZ16, MS11, MM14, MN11, NZ18, NSS19, Ney13, Nor15, NS10, OP12, OPW19, PC16, PRX19, Rat16, RZ19, Rid16, RW11, RU13, RSY12, RY18, SS17b, SSW13b, SLY16, SX18, Sol18, SU12, Ste13, TZ13a, TT15, Tha13, TK15,

TZ13b, WYZ18, WMI10, Wan14, XB13, Xia16, YH16, ZM16, ZHS16, Zhe17].

**Convergent** [BdBE17, BMS10, BSW18, CER14, CRR16, DTZ13, FHM16, FJ17, FO11, FO13, GMR15, Grü13, KK10, LZ17, LNR11, Svä16, WW11a].

**Converse** [HW17, Pla17]. **Convex** [BLWW13, BC10, BS15, CGR12, GHY17, HN11, HLM13, JL10, Jin15, LV16a, OP12, RU13, SWWW12, YH16]. **Convex-concave** [BS15]. **Convexity** [MO14].

**Convexity-Like** [MO14]. **Convolution** [CC14, CCCS16, EJ17, ZLB16]. **Cook** [KLM11, KLM14]. **Coordinates** [FGS14].

**Coprime** [GM17]. **Cordes** [Gal17, GS19, SS14, SS13b]. **Corner** [ERW14, GT19b]. **Corners** [DH13b, DTV15, GSS12]. **Corrected** [AW10b, ERW14, KPK11]. **Correction** [ACEL18, BB16, BJK16a, ORU18, Xia10, XZO19]. **Corrections** [GWW14].

**Corrigendum** [ACSW14, ADM21, GHK25].

**Corrosion** [AKK<sup>+</sup>11]. **Cosine** [GLMV16, HM14]. **Coulomb** [DE11].

**Countably** [EST18]. **Counting** [KMU16].

**Coupled** [ARYZ18, BG10a, BM16, D'A12, DFS17, DJY14, FLL<sup>+</sup>19, GHM10, HMO19, KSU14, LK18, MS12, RGMP16, ZZLB13].

**Coupled-Cluster** [FLL<sup>+</sup>19, LK18].

**Coupling** [ABIR19, BDS17a, BCL13, CGS13c, DGGQ16, DLLT18, EES18, Era12, Era13, FT17, GMM12, GM19, GN17, LL17, OBLS14, OZ13, PVWW13, Ste11].

**Covariance** [DT17]. **Crank** [AF12, BKM13, GLS14, LGS14, ILNS19, MC18, ZLL<sup>+</sup>14, nZzSwW11, Zou18]. **Credit** [LZH18]. **Critical** [DS10, KK18b, WY19, You17].

**Critical-State** [You17, WY19]. **Cross** [DKP10, Käm13, Loi13, LY13, Mur14, SW10].

**Cross-Diffusion** [Mur14]. **Crouzeix** [CGS13a, VZ19b]. **Crystal** [BLWW13, GR15, WW11a]. **Crystals** [AAEM15, NWZ17]. **Cubature** [Dör12, HNSV13, UU16]. **Cubic** [Arà13, KOS19]. **Cuboid** [Hu15]. **Curl** [DLTZ13, BPS11, DW12]. **Curlicurl** [DLT16]. **Current** [FT17]. **Curtis** [DGK13, XB13]. **Curvature** [BGN16, HLZ15, Zha17]. **Curve** [BDS17a].

**Curved** [BMS14c, BMS14b, BS16a, LMO12].

**Curves** [HJHUT14, JKK<sup>+</sup>13, RL13, Zha17].

**Cycle** [HVX13]. **Cycling** [LO17]. **Cylinder** [QW19]. **Cylindrical** [GPV13].

**D** [AAN11, CK16, DH15a, GKR13, HMP11, LOR11, NS10, RBGV13]. **Damped** [CH18d]. **Damping** [CCKW15]. **Darcy** [DFW15, BG10a, CGH<sup>+</sup>10, CGHW11, CGSW13, DFS17, DGGQ16, Erv13, FW12a, GHL18, Hes15, MS12, RP13, RL15, SW12, SZ13, ZZLB13]. **Data** [AMK19, ANP17, BPS12, CK10, CR17, CQR13b, CTZ18, DLQW18, FW12b, Han11, KOS19, LLX19, MT18, WCF19, Woj12, XA16, YKF18, ZG12]. **Decay** [AC19, GL18].

**Decomposition** [BN16, BG14a, BCHB10, CGHW11, CX13, DD12, DGGQ16, GH12, GHK25, GJS17, HJJ<sup>+</sup>13, HJKR16, LG19, Lee13, Lee15, LT13, LX14b, LCG<sup>+</sup>10, RZ18, TL15, WX18].

**Decompositions** [CH18c, CFQ18, GX14, LM11a].

**Deconvolution** [GRT14]. **Decoupled** [CHL12, KSW18, SY15, ZHS16].

**Decoupling** [CH18c, GSS12, GHL18].

**Defect** [ACEL18]. **Defect-Deferred** [ACEL18]. **Defects** [CEM13, WL14].

**Deferred** [ACEL18]. **Deficient** [IKP11].

**Defined** [DHS17]. **Definite** [FW12b, Hag11, Wil14]. **Definition** [CSV19, Mor16]. **Degenerate** [AT16, BJK10, BC10, CGR12, JP17, MW19].

**Degree** [EV15, ESV17, GL19, NWZ17].

**Degrees** [Sch16, Wal14a]. **DEIM** [CS12a].

**Delay** [BHX10, CL19, DKS16, MKW14, TYK11, TYK14, ZFX17]. **Delta** [Col10, DLTZ13, LM13b].



**Delta-Regularization** [DLTZ13]. **Deluxe** [Lee15]. **Denoising** [LM13a, LG19, ZCY12]. **Densities** [Grü13]. **Density** [CCD18, GH10, GS11, LWW<sup>+</sup>15]. **Dependence** [BY12]. **Dependent** [Ben17, CLMV19, CR18, ES16, GLS14, HM17, IKS18, KW16, KKN19, KHCR19, LLS13, MC18, MKW14, SK13, Tak15, WW10a, WS18]. **Derivation** [MKW14, SDKS13, LMO12]. **Derivative** [Cim12, MK18, RD17, UU16, Wan14]. **Derivatives** [DH15b, KB12, LL19, Owe19, PW19]. **Deriving** [BDS12]. **Descent** [KV10, Ney13]. **Description** [BY12]. **Design** [CL15, DHJ17, LCYC15]. **Designs** [ACSW10, ACSW12, ACSW14]. **Detection** [GG17, ZWGB15]. **Deterioration** [BH12]. **Determinant** [ZB15]. **Deterministic** [Liu13a, LW18]. **Development** [KST15]. **Deviating** [Mas15b]. **DFNs** [BBS16]. **DG** [CCF14, CDGQ10, GR19, JLQX14, LR13, Wal10, Wal14b]. **DG-FEM** [GR19]. **DG2** [BBK15]. **DGFEM** [SSW13b, SSW13a]. **Diagonal** [LLN18, MM14, Peñ07, Xia10]. **Diagonally** [BDdSM13]. **Diagrams** [BR15b]. **Diffeomorphic** [BG10b]. **Difference** [ACCD13, AP16b, Akr15, And13, ABS12, ABS15, BC12b, BCST19, BGN16, BJK10, CLL10, CLJ<sup>+</sup>16, CL18, CRR16, FO11, HZZ19, HO14, KL11, LZH18, LZZ18, LXZ18, LLN18, MLMS17, NV14, Rid16, RP13, RL15, SDKS13, SOG17, WBN16, WL11, WW11a, Wan15, nZzSwW11]. **Difference-Quadrature** [BJK10, HO14]. **Differences** [KB12]. **Differencing** [DJLQ19]. **Different** [TD13]. **Differentiable** [HHZ11]. **Differential** [AP16b, AHS16, BH17, BS18, Bla18, BCD<sup>+</sup>11, BMV12, BHX10, BK10, BRSV11, CFZ15, Cha12, CNBW17, CQR13b, CRR16, CH19, DSZ17, DER14, DHP13, FO13, GT19a, GR16, GL11, GL12, GL17, GO12, HS14, HZZ11, KSS13, LOX18, LR18a, LR14, Li10, LL15, LMY18, LM11a, Mao15, MZ14, Mas15a, Mas15b, MMJ<sup>+</sup>17, MBMS11, NSS19, NHNY17, OPW19, PS16, Rie14, RW17b, Röβ10, SV14, SZZ18, TYK11, TYK14, WBN16, WY13, WZ19, YKF18, YZ11, YG15, ZG12, ZZK15, ZZJ10, ZFX17, KTK17, WCF19]. **Differential-Algebraic** [LM11a, TYK11, TYK14]. **Differentiation** [AC10, BH12, GHL18]. **Diffraction** [Kal12, Nic17, WBL<sup>+</sup>15]. **Diffuse** [FW12a, Grü13]. **Diffusion** [ACCE10, ABS12, ABS15, AGK<sup>+</sup>11, BDS17a, BB12, BB13, BCCHV14, BG18, BG14b, BH19, CZ12, CF12, CD14, CSZ19, CPXZ19, CS10, DH13a, DDD<sup>+</sup>14, DJY14, DEM15, DDE15, DEV13, DTZ13, DLLT18, GPV13, GHM<sup>+</sup>18, HH14, HPS17, HK17, HJJ<sup>+</sup>13, HKL16, JP17, JLZ16, JN11, KHCR19, Kno10, Kop15, LMV13, LNR11, LS15, LX16, LXZ18, LLX19, LS13b, LYZZ18a, LLNS19, LM10, Luc11, MLMS17, MK18, MPSV18, Mur14, MM13b, MAF14, ORX14, SOG17, TD13, WW10b, WW10a, WYZ14, WSZ15, Wel11, XH14, ZLL<sup>+</sup>14, nZzSZ12, ZTRK15, ZLY16, ZX19, dFGAN10, BMRB19, CM10, KL11, LWZ19]. **Diffusion-Dispersion** [LS15]. **Diffusion-Reaction** [DDE15, GPV13, JN11, Kno10, LYZZ18a, Wel11, ZTRK15]. **Diffusion-Wave** [nZzSZ12]. **Diffusions** [LL17]. **Diffusive** [FSX13, GK10, JLQX14]. **Diffusivity** [CLJ<sup>+</sup>16, WXZ18]. **Digital** [Dic11]. **Dim** [Liu11]. **Dimension** [AC16, CS10, CS12b, FHW12, FS17, MSZW13, Owe19]. **Dimension-independent** [FHW12]. **Dimensional** [BG14a, BG18, BCM10, CHWG15, CSYZ15, CW16, DW12, DK14, GL13, GY16, Gos14, IPP13, JV15, Kaw19, KM12a, LD19, LZZ18, LY13, Mac10, MZ13, Mor16, OZ13, Rid16, SNSM13, SDKS13, SW10, SDG16, TL15, YHX17, ZLL<sup>+</sup>14, ZS10b, nZzSZ12, ZWGB15, dVBD<sup>+</sup>18,

BLFS17, CLJ<sup>+</sup>16, D'A12, GTW<sup>+</sup>12, KFJ16].

**Dimensions** [ACG15, BRSV11, CCM10, CLL10, DH15b, FO11, GMM12, GM19, GB10, GN18b, JMO17, PH16, RG16, SY12, WW10a].

**Dimer** [ZD12]. **Diminishing** [ZS10b].

**Dirac** [ABSV11, BCJT16, CW19, CLY19, D'A12, KW14b, LS16]. **Direct** [AKK<sup>+</sup>11, FKS14]. **Direction** [HY13, HY12, JJLW16, ILNS19, LYZZ18b, YH16, nZzSZ12].

**Directions** [LM11a]. **Directly** [FW13a].

**Director** [GR15]. **Dirichlet** [BH11, CSZ19, CdTGGP18, ER18, GHM<sup>+</sup>18, QW19, SDKS13, SU12, WYZ14, XQ10].

**Discontinuities** [ARwS19]. **Discontinuity** [ZWGB15]. **Discontinuous** [AR10a, ADM<sup>+</sup>15, ASV15, AH15, BGL17, BN10, BDN13, BFH14, BHX10, BTG12, BTDG13, CYZ11, CHZ17, CGJ13, CZZ14, CSYZ15, CSYZ18, CH16a, CH18b, CC13, CF12, CLX13, CS10, CGLM14, CK14, CKW13, CGS13c, CZ13, DG16, DLM13, DG13, DDE15, DD12, DGS13, DZZ19, EO14a, EGMP13, EV15, FW14, FLX16, FF14, GH15, GLV11, GMP15, GU10a, GU10b, GK10, GR19, HJS13, HW15, He19, HMP11, HP15, HK16, JP10, KS14, Kaw19, KAD19, KCL13, KHCR19, KS13, LLS18b, LH12, Liu11, LSZ18, Mac10, Mas13, MZ16, MSZW13, MJRK11, Moo19, MA18, MSS17, MBMS11, MM13b, MAF14, NSS19, NP16, NS10, Oh13, Ren15, Ren16, RW11, SW19, SS13b, SS14, TX19, TD15, VZ18b, WHIC10, WSZ15, XS12, XH14, XZwSW19, YS13, ZM16, ZS10a, ZG18, ZHA19, ZH15].

**Discontinuous-Skeletal** [DDE15].

**Discrepancy** [BO15, GWW12]. **Discrete** [AGK<sup>+</sup>11, BCDS17, BKM13, Bar13, BNS14, BCR16, Ben17, BCD<sup>+</sup>11, BKN13, BRSV11, CS14, CGS13a, CK17, CKK19, CFQ18, CM10, DG16, DH15a, DE13, FH10, FW12a, FKLL18, GG10a, HZZ11, HM14, Hül10, JMO17, KM12a, KM12c, LV18, LS17, ILMZ19, LM13b, Mur14, NKK13, RWJG13, Ren15, Ren16, Tow15, WY19, WR12, Zhe17].

**Discrete-Time** [Mur14]. **Discretization** [AD18, ACLW16, ABLV13, BLM10, BB12, BRY15, BG18, BF17, BNY18, BY12, Bré13, CS18a, CET<sup>+</sup>16, CH12, DLQW18, DEM15, DKG<sup>+</sup>14, DKGS16, EJK10, ER18, EWK13, FKS14, GH15, GW18, Gra15, HN11, HMP14, HPS13, HK16, JN11, Kay10, Kwo11, LR13, LS16, LL19, Nor15, Nor16, PF13, PH16, RZ18, Sch16, SW12, TD14, VZ19b, YB11, GPS16]. **Discretizations** [ASV15, BGN19, Bar14, BDN18, BLM11, CP13, CdTGGP18, Der12, DD12, EV15, ESV17, HP15, KLL16, LLMS17, LG11, LD19, LSZ11, MLMS17, MFD17, MS11, MPPS10, Mir16, SwS19, CK17].

**Discretized** [BB13, BG17, GMNS19, KLW16, LWW<sup>+</sup>15, ZX14]. **Discretizing** [TT15]. **Disk** [RN17]. **Dislocation** [CFM11]. **Dispersion** [AGK<sup>+</sup>11, BBHS14, LS15, ZW11].

**Displacement** [BSZZ13, CR12, RW11, WSS14].

**Dissipation** [ELM15, WL14]. **Dissipative** [AC19, BLFS17, SMSF15]. **Dissipativity** [WZ19]. **Distance** [GM17]. **Distances** [Gra17, Sol18]. **Distributed** [BCG15, BGyS18]. **Distribution** [PBL15, Yam19]. **Distributionally** [Kou17].

**Distributions** [TT15]. **Div** [CK10, CFZ15, CELR11, BPS11, CK11, Ku11a, Ku11b, LLS18b]. **div-curl** [BPS11].

**Divergence** [BFK16, DLTZ13, GN18b, KS14, KW16, LLMS17, ZZMC19].

**Divergence-Conforming** [KS14].

**Divergence-Free** [DLTZ13, GN18b, KW16, ZZMC19, LLMS17].

**Divisibility** [GM17]. **Division** [DHRBR12].

**Domain** [BN16, CHWG15, CLL10, CGHW11, CW13, CX13, DD12, DGGQ16, DW14, GH12, GX14, HJJ<sup>+</sup>13, HJKR16, KWB15, KS12, LG19, Lee13, Lee15, LT13, LX14b, LCG<sup>+</sup>10, Tak13, TL15, WX18, WY11, YZ14, YLH18, GHK25].

**Domains**

[ANP17, BS16a, BGyS18, CdTGGP18, DGHP16, FHM16, GN17, GP16b, GP17, KHCR19, LMV13, LV16a, Liu13b, LO13a, Loi13, MH18, mXqW10, Zul15].

**Dominance** [Peñ07, Xia10]. **Dominated** [AKK14, CQR13a, CSZ19, DH13a, Der12, HL10, LH12]. **Dominating** [Owe19].

**Double** [BMRB19, DLTZ13].

**Double-diffusion** [BMRB19]. **Douglas** [BKS17, BS15, GHY17, HY12].

**Downwind** [Ket11]. **Downwind-Biased** [Ket11]. **DP**

[DGS13, GKR13, KLP10, KRR15, TL15].

**DPG** [CH18a, CDG14, DG11, DH13a, DGNS17, HP14, HK17]. **Drift**

[BCCHV14, BG18, NSS19, XCLY19].

**Drift-Diffusion** [BCCHV14, BG18].

**Driven** [ACLW16, DKS16, DHP13]. **Drug** [TW18]. **Drum** [ZB15]. **Dual**

[BLO18, BH19, PW12, SL15, WW11b].

**Dual-parametric** [SL15]. **Duality** [CM10, KM12a]. **Dumbbell** [LY12, SY12].

**Dynamic**

[BBHJ15, CNSV16, DE11, HVC15].

**Dynamical**

[Hil10, KLW16, PM14, WBN17]. **Dynamics**

[AVZ15, AN10, CFM11, CCM10, Col10,

DK13, DDD<sup>+</sup>14, EJ17, LCS15, Poe19, ZD12].

**Eddy** [FT17]. **Edge**

[CWZ14, EG13, Wal14a, YZ17, ZW18].

**Effective**

[AP18, FKS14, HMKV13, Owe19, WXZ18].

**Effects** [ANS15, BGN16, WY19].

**Efficiency** [DFS19, Pet10, Pet11]. **Efficient** [And13, CK17, CET<sup>+</sup>16, CGSW13, ESV17, GRT14, GL13, GLT<sup>+</sup>17, GTW<sup>+</sup>12, HMO19, Hu15, LZZ18, Liu13b, RBGS17, VH14, ZB15].

**Ehrlich** [SWWW12]. **Eigenfunction**

[ZZY13]. **Eigenfunctions**

[BDO18, CGL<sup>+</sup>10]. **Eigenpairs** [XZO19].

**Eigenproblem** [DLT13]. **Eigenvalue**

[BSS10, BG19, BD16b, CZAL13, CG12a,

CH12, DT17, DLT16, HMO19, KSU14, LO13a, NZ12, Ovt11, Sau10, SLY16, SU12, WX18, WNP14, YB11, YXL19, ZJB16, ZHZ<sup>+</sup>14]. **Eigenvalues**

[BH11, BV16, BDO18, BMV12, BL18, CDM<sup>+</sup>17, GMNS19, SV14, SLY16, Sun11].

**Eigenvectors** [CDM<sup>+</sup>17]. **Eikonal**

[FF14, LQB14]. **Einstein**

[BDLV17, HMP14]. **Elastance** [RG16].

**Elastic** [BCL17, BGN19, DK14, GHM10,

KP12, LY12, SY12]. **Elasticity**

[BGN16, BBM13, BDS17b, BMCS10, BCS18,

CR12, CH16a, GKR13, GG11, GMR15,

Hu15, Kim11, MMR13, Nor15, OHBNX15,

QD11, SSS11, SL15]. **Elastodynamics**

[AL14]. **Electric** [BHH10].

**Electromagnetic** [CFNP18, CZ17, CH12, Cim12, GHM10, LMS13, YLH18].

**Electromagnetics** [IGVGF19]. **Electronic** [Bac13]. **Electrostatics** [IGVGF19].

**Element** [AP16a, AB17, AAEM15, ALM18, AR10a, AW10a, AABR13, AJ19, ABMV14,

ABSV16, ABPV12, ASW10, BCGS10,

BC12a, BCE14, BKS17, BV10, BMS10,

BM11, BET11, BCL16, BBDR12, BdSS13,

BRY15, Bie11, BPP15, BCG15, BG19,

BG14b, BDN13, BD16b, BDO18, BDS15,

BRK14, BFK16, BTG12, BOS10, BLO18,

BH19, CGS18, CWZ10, CYZ11, CK11,

CHZ17, CGOT16, CGM16, CGH<sup>+</sup>10, CC18,

CC19, CKP11, CG12a, CGR12, CPS13,

CP15, CH16a, CS18b, CDNP18, CST13,

CCL<sup>+</sup>14, CFNP18, CX10, CW17, CTZ18,

CWZ14, CF17, D'A12, DER14, Dem10,

DO12, DEM15, DFW15, DKS13, DGS13,

DTZ13, DLTZ13, DLT13, DLT16, DAA13,

DE13, EJK10, ERW14, Era12, Era13, Erv13,

FW13a, FKMP13, Fei19, FH10, FW12a,

FLZ17, FR14, FKLL18, GS19, GHM10,

GL15, GY16, Gra15, GR16, Gra17].

**Element** [GLR18, GH10, GJOR18, Gud12,

GNPY14, GP16a, GP16b, GP17, GN18a,

GB10, GL19, GLZ19, GSV17, GSR17,

HLZ15, mHLZ16, HM17, HLM13, HR13,

HH10b, HHZ11, HS13, HY18, HHX11, HKL16, IWY10, Ing11, JMN14, JS13, JLZ13, JLPZ14, JLZ16, JN11, KTK17, Kar18, KK10, Kas13, KCDQ15, Kaw19, KP10, Kim11, KSU14, KSS12, KSW14, KLS10, KLM11, KLM14, Krö19, Ku11a, KSS13, KWC10, KWC17, LMV13, LG11, LL11, LOX18, LV16a, LV16b, LV18, LX16, LWD17, LS17, Li18, Li19, LS13b, LLZ15, LYZZ18a, LYYM10, LSZ11, LMM<sup>+</sup>13, LWZ19, LL13, MC18, MZ13, MNQ13, MMR13, MW12, MNP12, MT13, NW19, NWZ17, OR14, ORX14, OHBNX15, OP12, OS16, ORB16, PW19, QTX15, QD11, Reu13, RW17a, RBGV13, SZ15, Sch11, SS13b, SS14, SU12, SV15, Wal14a, WYZ18, WZ12]. **Element** [WYZ14, WBL<sup>+</sup>15, Wel11, WW11b, WZ18, YDG10, YB11, YLH18, YG15, YZ17, ZZMC19, ZGD17, Zou18, dFGAN10, CK17]. **Elements** [ABW15, AC12, AC16, AGP17, BKS17, Bar12, BNS13, BBM13, BCLP10, BBHS14, BMS14c, BMS14b, BS16a, BEF10, BS16b, BHL17, CZ10a, CZ10b, CZ12, CQS12, DDLZ19, FN13, GMM12, GG11, GHSS19, GN18b, Hal16, HH10a, HJHUT14, Hu15, LLMS17, LL11, Lee13, Lee15, Mac10, MPSV18, Sau10, Ste11, VZ19a, WCH10, dVBD<sup>+</sup>18, dVLV18]. **ELLAM** [WW10b]. **Ellipsoidal** [RY18]. **Elliptic** [ABLV13, ADM<sup>+</sup>15, ASV15, ABSV11, AX13, AT16, ASW10, AKK14, BCDS17, BLM11, BPS12, Bie11, BDN13, BN11, BGyS18, BLO18, BE18, CZ10a, CFZ15, Cha12, CST13, CX10, Che10, CQR13a, CQR13b, Cim12, CQS12, CZ13, D'A12, DHH13, DS11, DG13, DW13, DL11, DLT13, ELS15, EES18, EST18, FW13b, FO11, Gal17, GHS18, GMNS19, Git13, GL19, GLZ19, HSB17, mHLZ16, HL10, HM16, JP10, Kaw19, KP10, KW14b, KL13, KSW14, KSS13, Kwa12, LH12, LJC17, LLZ15, LCY13, MLMS17, Mas13, MSS17, RW17b, Sau10, SVZ12, SSZ11, SSW13a, SSW13b, SS13b, SYY19, TZ13a, VZ18a, VZ18b, VZ19a, WHIC10, WZ12, WY13, Wan15, YB11, ZZY13, ZGD17]. **Embedded** [FW12b, KMR13, SK13]. **Embedding** [GKN<sup>+</sup>18]. **Embeddings** [KMU16]. **Empirical** [MMT16]. **Endpoint** [AR14]. **Energy** [AAEM15, BIT13, CHWG15, CLL10, Dem10, ERW14, EJS19, GMS18, KSW18, LW16, MB16, SWWW12, SY15, VL11, WW11a, ZHA19]. **Energy-[BIT13]**. **Energy-Based** [VL11, ZHA19]. **Energy-Conserved** [CHWG15, CLL10]. **Energy-Corrected** [ERW14]. **Energy-Minimization** [AAEM15]. **Energy-Preserving** [LW16, MB16]. **Energy-Stable** [KSW18]. **Engineering** [SS13a]. **Enhanced** [BMcS10, CDM13]. **Enhancement** [LTX13]. **Enhancing** [CCL<sup>+</sup>14, LR18a]. **Ensemble** [BSW18, CPXZ19, Fio18, GJS17, LW18, SS17a, HLT16]. **Ensemble-Proper** [GJS17]. **Entropy** [BDS12, CFMP13, CK16, FMT12, JP17, KMU16, LY12, LCS15, MM14, SCP18]. **Epitaxial** [LQZ17]. **Epitaxy** [QTX15, SWWW12]. **Equally** [JDZY16]. **Equation** [AP16a, AB17, AM17, ABSV16, ANP17, AT16, AAN11, AGK<sup>+</sup>11, AGP17, BCE14, BMK10, BGL17, BC12b, BCZ14, BC14, BCJT16, BCST19, BLWW13, BdBE17, BBK15, Bec11, BKS11, BHH10, BJ13, BD17, BC17a, CW19, CHP13, CC14, CLY19, CDM13, CLX13, CH16b, CW17, CHW19, CWYZ19, CLS13, CH18d, CH19, DGHP16, DG11, DGNS17, DLQW18, DEM15, DH11, DH13b, DTV15, DKS11, DW15, DJLQ19, DAA13, DK14, DKR15, EV10, FS14, FLX16, FJ17, FLZ17, FF14, Fis15, FL16, FSX13, FO11, FO13, FKLL18, GS19, Gao14, Gaz14, GHS14, GMS18, GK10, Ham19, Han13, HS14, HN11, HM17, HP14, HMP11, HSW17, HWZ17, HS13, HSZ18, IPP13, IGVGF19, IKS18, JWX14, JW13, JLPZ14, KZ15, KOS19, KLS10, KLM11, KLM14, KP12, KST15, LMM16, LY11, LZZ18, LSW18,

LN18, LW19, LM11a, LY12]. **Equation** [MK18, MS11, NKK13, NZ18, NW19, PLR11, PH16, Plo19, RG16, RN17, RW11, RSY12, RY18, SV10, SDKS13, SY12, Ste11, SOG17, WW11a, Wel11, WY11, WZ18, YZ14, YHX17, ZLL<sup>+</sup>14, nZzSwW11, nZzSZ12, ZG18, ZHA19, Zhe14, ZW13, ZX19, Zou18].

**Equation-Free** [SV10]. **Equations** [AP16b, ALM18, AC10, Akr15, AMK19, AGT18, AHS16, ACLW16, ADM17, ADM21, AF12, AH15, ABPV12, BCGS10, BH17, BLFS17, BMW19, BMO11, BM11, BG11, BCR16, BS18, BMS14a, BS14, BdSS13, BRY15, BDLV17, BORM18, BG18, BCJ19, Bla18, BPS11, BCL13, BMV12, BL18, BHX10, BC17b, BK10, BMRB19, BH19, CZ10a, CWZ10, CFZ15, CHWG15, CW18, CGOT16, CGM16, CZAL10, CZAL13, CZZ14, CSYZ15, CHL17, CSYZ18, CP13, Car13, CS18a, CGKMC19, CGS13b, CDNP18, CELR11, CCCS16, CCM10, Cha12, CNBW17, CLL10, Che10, CCWX11, CHYL11, CQR13a, CX13, CQR13b, CD14, CHJ19a, CHJ19b, CPXZ19, CS10, CGLM14, CW16, CQ17, CWZ14, CRR16, CY10, DHSW13, DKS16, DK13, DSZ17, DER14, DDD<sup>+</sup>14, DJY14, DCdL18, DKG<sup>+</sup>14, DKGS16, DP11, DP13, DP17, Dör12, DY16, DZZ19, DDLZ19, DHP13, ER18, ELS15].

**Equations** [EJS19, EO14a, EO14b, EWK13, ELN13, EGHL10, FT17, FW14, Gal17, GLS14, Gau15, GSS12, GLZ18, GG15, GTW<sup>+</sup>12, GR16, GNPY14, GP16a, GP17, GL11, GL12, GL17, GJS17, GLZ19, GO12, GSR17, HH14, HH13, HOV16, Hes15, Hla14, HP15, HS16, HZZ11, HFL12, HKL16, JV15, JLQX14, JS13, JP17, JLZ13, JW13, JLZ16, JLZ18, JN11, JN15, JMO17, Kas13, KK18b, KP10, Kno10, KM12a, Krö19, KSS13, KFJ16, KM12c, LLS16, LLS18a, LHM<sup>+</sup>16, LMO12, LOR11, LSBTS19, LOX18, LR18a, LR14, Li10, LT13, LTX13, LGS14, LC15, LL15, LQT16, LWD17, LS17, LXZ18, LMY18, LR18b, LB13, LB16, LB19, lLzSsS10, ILLZ18, ILNS19, LM10, LMM<sup>+</sup>13, Liu13a, Liu13b, LSZ18, LWZ19, Log17, Luc11, LQB14, MC18, Mao15, MZ14, Mas15a, Mas15b, MST10, MMR13, MTKO17, MMJ<sup>+</sup>17, MBMS11, MM13b].

**Equations** [MAF14, NSS19, NHNY17, NV14, Nor16, OPW19, PL10, PW14, PS16, Poe19, PRX19, RSW17, RW17a, RW17b, Röß10, RL17, Sch16, SWG14, SS13b, SS14, SD19, SZZ18, Svä16, TV16, TX19, Tha13, TYK11, TD13, TYK14, TL15, VZ19b, Ver12, Wal10, Wal14b, WBN16, WW10b, WW10a, WZ12, WY13, WYZ14, WL14, WZ19, WCF19, WR11, WR12, WS18, XS12, XH14, XZwSW19, YKF18, YDG10, YS13, YB13, YZ11, YG15, ZG12, ZZY13, ZZK15, ZTRK15, ZLB16, ZLY16, ZZJ10, ZFX17, ZGD17, dTEJ18, dTEJ19].

**Equations-Continuous** [WR12].

**Equidistribution** [GH12, GHK25].

**Equilibrated** [BFH14, CZ12]. **Equivalent** [SV10]. **Ergodic** [AVZ14, CL19, HSW17, HWZ17, Wan14].

**Erratum** [GL12, KLM14, KWC17, LLS18a, SDM18b].

**Erratum/Addendum** [GL12]. **Error** [ALS13, AP16a, AR10a, AC10, AGT18, AZC14, ANS15, ABLV13, ADM17, AKP14, ASW10, BG10a, BKM13, BB16, BC12b, BC14, BCST19, BMW19, BMO11, Bar14, Bea15, Bec11, BKT13, BNS13, BLM10, BBS16, BPS12, BG17, BDO18, BD19, BF17, BFH14, BES12, CZ10a, CK10, CZ10b, CYZ11, CK11, CZ12, CHZ17, CS13, CMS16, CC18, CC19, CKP11, CDG14, CM14, CK17, Cha12, CST13, CS12a, CET<sup>+</sup>16, CE18, CL18, CK14, CKK19, CZ13, CBHW13, DF12, DG13, Dic11, Die14, DEV13, DW15, DLT13, EJK10, EJS19, Era13, EV10, ESV17, FT17, Fis15, FW12b, GLS14, Gao14, Gau15, GLV11, GLMV16, Gra15, GS11, GP16a, GN18a, GLL11, He19, HL10, HR13, HS16, HLS13, HH10b, HS13, HJWZ16, JL10, JLZ13, JLPZ14, JN11, KTK17, Kal12, KK18b].

**Error**

[KLP14, KPK11, Kim11, KW14b, KL13, Kop15, Krö19, Ku11a, Ku11b, LOR11, LH12, LV13, LS13a, LGS14, LZ14, LS15, LSW18, LN18, lLzSsS10, lLLZ18, LYZ15, LSZ18, LYZZ18b, LA11a, MC18, MNP12, MT13, MPPS10, MT18, Mur14, NKK13, NW19, OR14, Ovt11, PW14, PVWW13, PW19, QTX15, RZ19, Sau10, SZ15, SW16, SW12, SNSM13, SX18, Sin14, Spa14, SV15, SOG17, SL15, TT15, WW13, WW10b, WL11, WSS14, WSZ15, WL16, Xia12, XS12, YDG10, Ye13, ZS10a, nZzSwW11, ZG12, ZZK15, ZLY16, ZWX13, Zhe14, ZW13, ADM21]. **Errors** [ASS16, CBHW13, Dem10, LTT13]. **Escalator** [BCS13, CGKMC19]. **Essentially** [CGS15, FMT12, HLY13]. **Estimate** [BMW19, BBS16, CK10, CS13, CMS16, CS12a, HS13, lLzSsS10, lLLZ18, MM14, TT15, WW10b, ZLY16]. **Estimates** [AC10, AGT18, ADM17, ADM21, AKK14, BCGS10, BB16, BC12b, BC14, BCST19, Bar14, BdBE17, BFRS16, Bea15, BG17, BDO18, BD19, BF17, CHZ17, CC18, CC19, CDM13, Cha12, CHW19, CK14, CKK19, DLT13, EJK10, Era13, EV15, ESV17, FT17, Fis15, FW12b, GL13, GLS14, Gao14, GLMV16, GP16a, GLL11, GLZ19, HL10, HLS13, JL10, JLZ13, Kal12, KW14b, Kop15, KP12, Krö19, Ku11a, Ku11b, KS12, LV13, LS13a, LGS14, LN18, LYZ15, LSZ18, Loi13, Luc11, MC18, MPPS10, MT18, Mur14, NKK13, NW19, OZ13, PW19, RZ19, Sau10, Spa14, WW13, WW10a, WSZ15, WL16, Wan16, XS12, YDG10, ZS10a, nZzSwW11, ZZK15, Zhe14]. **Estimating** [FJK13]. **Estimation** [AZC14, BS11, CBHW13, DHRBR12, EV10, GH10, GN18a, GRK18, KL13, Ovt11, SZ15, SW16, SNSM13]. **Estimations** [CYZ11, XWG10, Zha17]. **Estimator** [BG10a, BFH14, CZ12, Kim11]. **Estimators** [ABLV13, CZ10a, CZ10b, CK11, Ku11a]. **Euclidean** [BCG<sup>+</sup>10]. **Euler**

[BF17, CR15, CR18, DKS16, DHP13, Gao14, KPK11, NSS19, NV14, PS16, Rie14, WL14]. **Eulerian** [ORX14, TX19, WW10a]. **Evaluation** [CGT15, Gar15, LO13a, Nic17]. **Evans** [HL15]. **Evolution** [AF12, BDS17a, BORM18, BMV12, BL18, CHL17, ELN13, GLMV16, HFE18, HH13, KK18b, Krö19, Moo19, PLR11, SW19, TW18]. **Evolutionary** [BHHS15, CLP12, JN11, JN15, LTT13, SZ13]. **Evolutions** [Bar14]. **Evolving** [DE13, LMV13, LOX18, LNR11, OR14, ORX14]. **EWOD** [FW13a]. **Exact** [Bea15, CF17, RT16, TT15]. **Exactness** [CS18b]. **Example** [BKS17]. **Exclosures** [WNP14]. **Existence** [BCGS10, HNSV13]. **Expansion** [GR18, NS10, Wan16, ZZY13]. **Expansions** [ASW10, CI12, EGK13, Tow15, Xia12, ZWX13, ARYZ18]. **Experiments** [dTEJ18]. **Explicit** [Akr15, BR13, BEF10, CMS16, CM14, DP13, DP17, GSY16, GMS18, GO12, HMKV13, HKLN16, HPS13, HSZ18, HKL16, KLP14, LMV13, LQZ17, LZH18, LM11b, MS11, MM14, Sau10, SZZ18, SwS19, WSZ15, ZS10a, Zha17, ZSZ15]. **Exponent** [DAA13, KK18b]. **Exponential** [AR14, BC14, BJK16b, BDLV17, CM18, CS12b, DP11, DJLQ19, GG13, GT15, GT16, HLY13, LO13b, Mao15, MK18, OS13, SSW13b, WW10c]. **Exponentially** [KWH16]. **Exponentials** [Ye13]. **Expressions** [Sin14]. **Extended** [GG13, LK18, SW12]. **Extensible** [LY12, SY12]. **Extension** [GL19, Huy10, Kwo11, MH18]. **Extensions** [BM16, GU10b, IPP13]. **Exterior** [BHHS15, Li19, BD17]. **External** [FR16]. **Extrapolation** [DGY19, mHLZ16]. **Extremal** [GL11, GL12]. **Factor** [IGG18, Liu11]. **Factorization** [LQB14]. **Falk** [GMM12, Lee13, Lee15]. **Families** [AC16, HMO19]. **Family** [CLP12, Hu15, Zha13a, dVBD<sup>+</sup>18]. **Fanning**

[LCJ<sup>+</sup>18]. **Far** [GHS14]. **Fast** [AGK<sup>+</sup>11, BLFS17, BKS11, CFM11, CFH13, CCWX11, CLJ<sup>+</sup>16, DKP10, JWX14, LL11, LQZ17, LQB14, Mir14, Mir19, PGvD12, Tow15, XZO19, ZX19, GS14]. **Fast-Marching** [Mir14, Mir19]. **Fatemi** [LM13a, WL11]. **FE** [CELR11, GRT14, LS14]. **Fekete** [BDSV10]. **FEM** [BPRR19, BCS18, CR12, DLM13, DFS19, DW15, FFP14, FT17, Gao14, GR19, LS13a, LW19, RW13, SL15, ZW13]. **FEMs** [CGS13a, CL15, GLS14, LS15, WSS14, WS18]. **FETI** [DGS13, GKR13, KLP10, KRR15, TL15]. **FETI-DP** [GKR13, KLP10, TL15]. **Feynman** [DLQW18]. **Fictitious** [KWB15, Tak13]. **Field** [ACD10, ACCD13, AP16b, ARYZ18, BLWW13, BO11, BHH10, CS14, CH12, DKG<sup>+</sup>14, EJK10, FR16, GHM10, GHS14, Han13, LQT16, SY15, SZZ18, WW11a]. **Field-of-Values** [BO11]. **Fields** [CFNP18, GKN<sup>+</sup>18, Oh13, PS19]. **Fifth** [Liu13b]. **Film** [NV14, SWWW12]. **Filon** [DGK13]. **Filter** [ELN13, SS17a]. **Filter-Based** [ELN13]. **Filtered** [FO13, LHM<sup>+</sup>16]. **Filtering** [Sel10, HLT16]. **Filters** [JKLZ17, NP16]. **Finance** [HFL12, WCF19, WR11]. **Financial** [CL18]. **Finding** [GS18, Pet10, Pet11]. **Finite** [AP16a, ACCD13, AP16b, AB17, AAEM15, ALM18, AR10a, AW10a, AABR13, ABW15, AJ19, AC12, And13, ACCE10, ABS12, ABS15, ABPV12, AC16, ASW10, AGP17, BCGS10, BC12a, BCE14, BKS17, BC12b, BCST19, BV10, Bar12, BMS10, BM11, BET11, BCL16, BBDR12, BBHS14, BdSS13, BRY15, BCCHV14, Bie11, BPP15, BCG15, BG19, BG14b, BDN13, BD16b, BDO18, BDS15, BRK14, BFK16, BOS10, BEF10, BS16b, BHL17, BLO18, BH19, CWZ10, CZ10b, CYZ11, CK11, CHZ17, CGOT16, CMS16, CGH<sup>+</sup>10, CZZ15, CKP11, CG12a, CGR12, CPS13, CP15, CH16a, CS18b, CDNP18, CK16, CST13, CCL<sup>+</sup>14, CFNP18, CLL10, CX10, Che10, CLJ<sup>+</sup>16, CW17, CTZ18, CL18, Cla13, CF17, CM10, CY10, D'A12, DER14, Dem10, DO12, DEM15, DILP18, DFW15, DKS13, DGS13, DTZ13, DLTZ13, DLT13]. **Finite** [DLT16, DAA13, DE13, EJK10, ERW14, Era12, Era13, EP16, Erv13, FW13a, FN13, Fei19, FH10, FW12a, FLZ17, FR14, FO11, FKLL18, GS19, GHM10, GMM12, GL15, GG10a, GY16, GG11, Gra15, GR16, Gra17, GLR18, GH10, GHSS19, GJOR18, Gud12, GNPY14, GP16a, GP16b, GP17, GN18a, GB10, GL19, GLZ19, GSV17, GSR17, GN18b, HH14, HLZ15, mHLZ16, HM17, HR13, HH10b, HHZ11, Hu15, HY18, HHX11, HO14, HKL16, IWY10, Ing11, JMN14, JS13, JLZ13, JLPZ14, JLZ16, JN11, KTK17, Kar18, KK10, Kas13, KCDQ15, Kaw19, KP10, Kim11, KSU14, KB12, KSS12, KSW14, KLS10, KLM11, KLM14, KM12a, Krö19, Ku11a, KST15, KSS13, KWC10, Kwa12, KWC17, KL11, LMV13, LMO12, LLMS17, LG11, LL11, LOX18, LNR11, LV16a, LV16b, LV18, LX16, LWD17, LS17, LZH18, LZZ18]. **Finite** [Li18, LXZ18, Li19, LS13b, LYZ15, LLZ15, LYZZ18a, LLN18, LR12, LYYM10, LSZ11, LMM<sup>+</sup>13, LWZ19, LL13, MC18, Mac10, MLMS17, MZ13, MNQ13, MMR13, MPSV18, MW12, MNP12, MT13, NW19, NWZ17, Nor15, Nor16, NFM18, OR14, ORX14, OHBNX15, OP12, OS16, ORB16, PW19, QTX15, QD11, Reu13, RW17a, Rid16, RBGV13, RP13, RL15, SS13a, Sau10, SZ15, Sch11, SDKS13, SS13b, SS14, Ste11, SV15, SOG17, Wal14a, WBN16, WYZ18, WL11, WW11a, WZ12, WYZ14, WBL<sup>+</sup>15, Wan15, WL16, WCH10, Wel11, WW11b, WZ18, YDG10, YB11, YLH18, YG15, ZGD17, Zou18, dFGAN10, CK17]. **Finite-Difference** [CLL10, WL11, WW11a]. **Finite-Element** [AAEM15]. **Finite-Volume** [SS13a]. **Finite-Volume-Like** [ZGD17]. **Finitely**

[LY12, SY12]. **First** [BG11, BMS14c, BMS14b, Ber18, BF17, BEF10, CFZ15, CS14, CDNP18, DHSW13, GP16a, GP16b, Ku11a, Ku11b, LMM<sup>+</sup>13, Mir19, MS12, RBGV13, Sel10, SSS11, Zhe14, CK17]. **First-Order** [BG11, BMS14c, Ber18, BF17, BEF10, CFZ15, CDNP18, GP16b, Ku11a, Ku11b, LMM<sup>+</sup>13, MS12, SSS11, Zhe14, BMS14b, GP16a, CK17]. **Fitted** [LW16]. **Fixed** [CG17, CG18, HFL12, WN11]. **Fixed-Point** [WN11]. **Fixed-Sized** [CG17, CG18]. **Flames** [DDD<sup>+</sup>14]. **Flocking** [RT16]. **Floquet** [LZ17]. **Flow** [ABW15, BGN16, BGN19, Bea15, BBS16, BNY18, CWZ10, CGH<sup>+</sup>10, DMP13, DFS17, Erv13, FW12a, FLX16, GWW14, Grü13, GSR17, HT16, KK10, KS13, KSW18, KPR13, LS13a, LS14, LS15, MS12, RL15, SS13a, SZ13, VH14, WY11]. **Flows** [BNS14, BDN18, BdL10, CGS18, CHP10, CCD18, DKS13, FJK13, GS11, Ing11, LTT13, LLS18b, LL19, MW19, NV14, SWWW12, SY15, SX18, Tak13, WXZ18, ZZLB13]. **Fluid** [ACEL18, BCM10, BM16, CHP10, Col10, CHL12, GMM12, GGNV10, KSU14, KL15, OTB18, RGMP16, YHX17, Zha13a, ZHS16]. **Fluid-Fluid** [ACEL18, CHL12, ZHS16]. **Fluid-Solid** [GMM12, KSU14, YHX17]. **Fluid-Structure** [GGNV10, KL15, OTB18, RGMP16]. **Fluids** [DKS13, Grü13]. **Flux** [AWJ16, BJK16a, BCL16, BR13, CZ10a, EV10, IWY10, LWZ19, Ste13]. **Flux-Explicit** [BR13]. **Fluxes** [GPS16, MT11, ZGD17]. **Fokker** [CS18a, JMO17, LMM16, LY12, SY12]. **Following** [HL15]. **Föppl** [Bar17]. **Föppl-von** [Bar17]. **Force** [LM14b]. **Force-Based** [LM14b]. **Forchheimer** [RP13, RL15]. **Forcing** [LMM16]. **Form** [AH15, BCE14, BFK16, CDMP16, DZZ19, DK14, LOR11, LLN18, SS13b, Gal17]. **Format** [RU13]. **Forms** [BCD<sup>+</sup>11, BRSV11, CW17, Mir19]. **Formula** [AC10, ILLZ18, UU16]. **Formulae** [BIT13, Spa14]. **Formulas** [Akr15, BG14b, HNSV13]. **Formulation** [ABMV14, AH15, BBS16, BPP15, CGS15, Gal17, GLZ15, HP14, HJKR16, Hu15, KLP10, LG11, MMR13, MAF19, SY12, VV14, WS18, ZZLB13]. **Formulations** [BKN13, HJJ<sup>+</sup>13, Kal16]. **FOSLL\*** [CFZ15]. **Foundation** [PW12]. **Fourier** [GS14, AHS14a, Car13, Che11b, DKP10, DDP17, DY16, FHM16, Huy10, JWX14, KOS19, KM12b, LQT16, MH18, RSW17, Yin09]. **Fourier-Spectral** [LQT16]. **Fourth** [BN11, BGGyS12, CD14, GSS12, lLzSsS10, Seg10, Wan15, ZX14, Zou18]. **Fourth-Order** [lLzSsS10, Wan15, ZX14]. **Fractional** [AB17, AM17, AU14, BH17, BJ19, CD14, CdTGGP18, DLQW18, GS11, HO14, HJWZ16, JLZ13, JLPZ14, JLZ16, Kar18, LMM16, LWD17, LLX19, LL19, lLNS19, MK18, MPSV18, MM13b, MAF14, NOS16, OS16, Plo19, RD17, SOG17, WY13, WYZ14, WZ19, XH14, YKF18, ZLL<sup>+</sup>14, nZzSZ12, ZZK15, ZDK18, ZW11, ZX19, CLJ<sup>+</sup>16]. **Fracture** [BOS10, DFS17, HJKR16, JL18]. **Fracture/Bulk** [DFS17]. **Fractured** [BNY18]. **Frame** [GS14, SDG16]. **Frames** [MH18]. **Framework** [BDdSM13, CH18a, DEV13, Ham19, LA11a, LA11b, SYY19, ZF16]. **Frank** [AAEM15]. **Fredholm** [ZB15]. **Free** [ALM18, ANS15, BK12, BPP15, Bur12, BHL17, DLTZ13, GN18b, KW16, Liu11, ORB16, PKK<sup>+</sup>15, SV10, ZZMC19, LLMS17]. **Freedom** [Wal14a]. **Frequency** [BS19, CLMV19, HLM13, LM11b]. **Friction** [DE11, Kas13]. **Friedrichs** [AKK14, BTDG13, SV14]. **Frobenius** [NFM18]. **Frog** [GLMV16]. **Frolov** [UU16]. **Front** [Sol18]. **Frozen** [CLY19]. **Full** [ACLW16, ABBM11, ER18, EWK13, FHM16, Kol14, NKK13, SS13a]. **Fully** [AR10a, AW10b, BCDS17, BKM13, BMW19,



BB13, CS14, CM14, CKK19, DG16, DFS17, DCdL18, DE13, FH10, FW12a, FKLL18, HT16, JMO17, LS17, SZ13, WY19].

**Fully-Implicit** [HT16]. **Function** [AKT14, BG14a, BG17, FHW12, GHSS19, HL15, MH18, NZ12, WW10c, Zha17].

**Functional** [BMV12, Gra15, Li10, LL15, LWW<sup>+</sup>15, MZ14, Mas15a, Mas15b, MT16, WZ19, WSD15]. **Functionally** [LW16].

**Functionals** [GU10a, Hag11]. **Functions** [AR14, BH12, Die14, EST18, Gar15, GG13, GT19b, GL18, GG10b, GK13, HW15, He19, HP14, HSW17, HM14, HJWZ16, Huy10, LM13b, MM13a, MN11, PST15, PWZ13, Spa14, UU16, Ull17, XB13, Xia16, Yam19, ZWX13]. **Fundamental** [TZ13b]. **Further** [BSS10].

#### **Galerkin**

[AR10a, ADM<sup>+</sup>15, ASV15, ADM17, ADM21, AH15, BGL17, Bec11, BKT13, BB12, BB13, BY17, BdSS13, BPS12, BPRR19, BJ13, BN10, BFH14, BHX10, BTG12, BTDG13, CYZ11, CGJ13, CNSV16, CZZ14, CSYZ15, CSYZ18, CH16a, CH18b, CC13, CF12, CHYL11, CLX13, CS10, CGLM14, CK14, CKW13, CGS13c, CZ13, DHSW13, DG16, DLM13, DG13, DKG<sup>+</sup>14, DKGS16, DTV15, DD12, DGM<sup>+</sup>17, DGS13, DZZ19, ES16, EO14a, EGMP13, EV15, FW14, FLX16, FSX13, GH15, GLS14, GLV11, GMP15, GK10, GR19, HJS13, HMP11, HP15, HK16, HLS13, HZZ19, JP10, JWX14, JLZ16, JN15, KS14, Kaw19, KAD19, KCL13, KHCR19, KS13, LLS18b, LH12, LV16b, LV17, LV18, LMS13, LS13a, LGS14, LS15, LWD17, LYZZ18a, Liu11, LSZ18, Mas13, MZ16, MS11, MNP12, MSZW13, MJRK11, Mir18, MT18]. **Galerkin** [Moo19, MA18, MSS17, MBMS11, MM13b, MAF14, NP16, Ren15, Ren16, RW11, SW19, SPH18, SY12, SS13b, SS14, SU12, TV16, TX19, TD15, VZ18b, WHIC10, WSZ15, WS18, XS12, XH14, XZwSW19, YS13, YG15, ZM16, ZS10a, ZZK15, ZG18,

ZDK18, ZHA19, dFGAN10].

**Galerkin-Mixed** [LS13a].

**Galerkin/Strang** [EO14a]. **Game** [CS14].

**Games** [ACD10, ACCD13, AP16b]. **GARK**

[San19]. **Gas** [CCM10]. **Gauge**

[CH12, WS18]. **Gauss** [BIT13, Che11a, CS12b, CWZ14, PR14, SWG14, Spa14, Wei19, Xia12, XB13, Xu11, YZ17, ZWX13].

**Gauss-Type** [Xia12]. **Gaussian**

[ADGP16, CLY19, EST18, FHW12, GH10, Hag11, Zhe14]. **Gaussians** [Bac13]. **Gaver**

[Kuz13]. **GC** [FS17]. **Gegenbauer**

[Wan16, ZWX13]. **Gel** [FH10]. **General**

[ACCE10, BJS13, CGT15, CdTGGP18, DDE15, Gra15, Grü13, Jin11, LMM16, Loi13, MK18, MM13a, OHBNX15, OZ13, Pet10, Pet11, Ste13, WCH10, Wil14, Zul15].

**Generalization** [Kno10]. **Generalized**

[CHP10, CFM11, CFH13, CH18c, ER18, GR18, HJWZ16, KCDQ15, MMT16, MNQ13, SG15, mXqW10, ZLB16].

**Generalized-Structure** [SG15].

**Generalizing** [Goc16]. **Generating**

[HSW17]. **Generation** [GH12, GHK25].

**Generator** [FJK13]. **Genetic** [XCLY19].

**Genuinely** [MT11, ZS10b]. **Geodesics**

[LCJ<sup>+</sup>18, MM16]. **Geometric**

[JKK<sup>+</sup>13, KK18a, Krö19, Ney13, PS16, SSW13a, ZJB16]. **Geometrically** [BNP10].

**Geometries** [FKS14, Tak13]. **Geophysics**

[CFNP18]. **Gilbert** [GSR17]. **Ginzburg**

[BMO11, GLS14, WS18]. **Give** [GSS12].

**Global** [ABBM11, BCGS10, CLP12, DK13,

Kol14, LV17, Li18, Poe19, Pot16]. **Globally**

[Mor16]. **GMRes** [HDVV10]. **Goal**

[BET11, CK11, FPvdZ16, KAD19].

**Goal-Oriented**

[CK11, FPvdZ16, KAD19, BET11].

**Godunov** [CS13, Col10, Gos14]. **Good**

[MZ14]. **Gordon** [BS19, BCZ14]. **Governed**

[CHYL11]. **Grad** [CELR11]. **Grad-Div**

[CELR11]. **Graddiv** [DLT16]. **Graded**

[SOG17, Mor16]. **Gradient** [AD18, FLZ17,

FGS14, GLT<sup>+</sup>17, HM16, HZZ11, LV17, LS14,

LJC17, LL19, LX17, MM14, Reu13, SWWW12, SX18, VH14, WCH10, ZJB16]. **Gradient-type** [FLZ17]. **Gradients** [BC10]. **Grading** [ABSV11]. **Grained** [TT10]. **Gram** [ADGP14]. **Graph** [BCKZ13]. **Graphene** [KK18a]. **Graphs** [BCKZ13, HFE18]. **Grating** [WBL<sup>+</sup>15]. **Gratings** [Kal12]. **Gravity** [HT16]. **Grid** [JLLO19, KFJ16, PF13, PH16, RL15, YB11, ZWGB15, ZHZ<sup>+</sup>14]. **Grids** [AP16c, BG18, CH12, FJ17, HHZ11, LR18b, Mir14, Mir19, RL17, SVZ12, Ste13, ZX14]. **Grönwall** [ILMZ19]. **Gross** [HM17]. **Ground** [HMP14]. **Groundwater** [LTT13]. **Group** [RBGV13]. **Growing** [CG17, CG18]. **Growth** [CHP10, LQZ17]. **GSVD** [Goc16]. **Guaranteed** [CDM<sup>+</sup>17, ESV17, Kim11, YXL19]. **Guides** [DS18]. **Guiding** [PKK<sup>+</sup>15].

**H** [LLS18b]. **Hamilton** [GS19, HFL12, JS13, SS14, WR11]. **Hamiltonian** [KK18a, LW16, MB16]. **Hammerstein** [YB13]. **Hammerstein-Type** [YB13]. **Hand** [ABSV11, KW14b]. **Handling** [MO14]. **Hanging** [AR10a, BKS17]. **Hankel** [Tow15]. **Hard** [Fou11, KWB15]. **Hardening** [BMR12]. **Hardy** [BO16, Hal16]. **Harmonic** [CZ10c, CW17, FW14, GSR17, HOV16, Kwo11]. **HDG** [CSZ19, CPXZ19, CQS12, ELS15, GHM<sup>+</sup>18, LSBTS19]. **Heat** [BD17, EV10, GSR17, HLS13, NKK13]. **Height** [Zha17]. **Hele** [FW12a, FLX16]. **Helicity** [LOR11]. **Helmholtz** [CLX13, CX13, CH18c, DW15, GHS14, Hal16, Han13, HMP11, KZ15, LW19, MS11, PH16, SZ15, WZ18, ZW13]. **Hemivariational** [BBHJ15, HSB17]. **Hemodynamics** [RGMP16]. **Hermite** [Arà13, CW18, DILP18, JKK<sup>+</sup>13, LY13, MM10, Moo16, Wei19, mXqW10]. **Hermite-Spectral** [CW18]. **Hessian**

[Che11a, KH14]. **Heston** [Zhe17]. **Heterogeneous** [AP16a, AX13, HJS13, HOV16, KS13, Mac15]. **Heuristic** [JL10, LY11]. **Hexahedra** [IWY10]. **HFES** [Zha17]. **Hidden** [AZC14, HJS19]. **Hierarchical** [ABLV13, XZO19]. **High** [AVZ14, AP16c, ABW15, AJ19, ADM<sup>+</sup>15, BBMZ19, BS19, BDLV17, BDS17b, BE18, CCCS16, CDMP16, Che10, CLX13, CW16, DHS17, DW15, DH15b, ESV17, FMT12, GLR18, HLM13, HSW17, KW16, LLS16, LLS18a, Li10, LXZ18, LW19, LM11b, LY13, LQB14, NR12, Nic17, Pet10, Pet11, PH16, RWJG13, SW10, SDG16, Tha13, WL16, WZ18, XS12, Yam19, ZS10b, ZWGB15, Zha17, ZW13, ZX19, ZGD17, ZH15]. **High-Accuracy** [AP16c]. **High-Dimensional** [LY13, SW10, SDG16, ZWGB15]. **High-Order** [BDS17b, BE18, CDMP16, DH15b, ESV17, GLR18, KW16, LLS16, LLS18a, LQB14, Nic17, RWJG13, Tha13, Zha17, FMT12]. **High-Plasma** [BS19]. **Higher** [BMS14b, BKN13, BD16b, CC14, DKG<sup>+</sup>14, DKGS16, DW15, DKR15, FS17, FO11, GL13, GT15, GT16, GR16, GL19, Jen11, Kwa12, RW13, Sch11]. **Higher-Dimensional** [GL13]. **Higher-Order** [BKN13, BD16b, GT15, GT16, Sch11, BMS14b]. **Highest** [SDKS13]. **Highest-Order** [SDKS13]. **Highly** [CLMV19, DGK13, Gra17, SZ15, SVZ12]. **Hilbert** [GRZ15, HS15, RD17, WNPN14, XWG10]. **Hill** [JZ12]. **Hilliard** [DFW15, KLM11, KLM14, AM17, ABSV16, BMS14a, BGGyS12, CDMP16, CWYZ19, FW12a, FLX16, FKLL18]. **HJB** [WR11, WR12]. **HLL** [WL14]. **HMM** [Bré13]. **Hodge** [CW17, LS16]. **Hölder** [JL18]. **Holes** [BK12]. **Homeomorphic** [BG10b]. **Homogeneous** [BKS11, ZG18]. **Homogenization**

[AX13, ELS15, GHV18, SDM18a, SDM18b]. **Homogenization-Based** [ELS15]. **Homotopy** [JDZY16]. **Hood** [CELR11, LL11]. **hp** [Bin18, QD11]. **hp-Adaptivity** [Bin18]. **hp-Finite** [QD11]. **Humid** [TW17]. **Hybrid** [AHPV13, BDS17b, BRK14, BFK16, BE18, CDMP16, HT16, JP10, LLS18b, LMM<sup>+</sup>13, LM14b, LQB14, WX18, WY11]. **Hybrid-Mixed** [AHPV13]. **Hybridizable** [CLX13, CCF14, CGS13c, CZ13, GH15, KHCR19]. **Hybridization** [CGL<sup>+</sup>10]. **Hybridized** [RW17a]. **Hybridized/Interface** [RW17a]. **Hydrostatic** [CN17, GG15]. **Hyperbolic** [BBHJ15, BR13, BPR17, BCL13, CZZ14, CSYZ15, CSYZ18, CFMP13, CS10, Cla13, DKP10, GMP15, GP16b, HLY13, Käm13, LAFS16, LSZ18, LY13, Mac10, MM14, MA18, NR12, SW10, TX19, XZwSW19, YS13, You17, ZM16, ZH15]. **Hypersingular** [HP14]. **Hyperspherical** [ZWGB15]. **Hypersurfaces** [DHS17]. **Hypoelliptic** [RSW17].

**Ideal** [CK16, Wu18, XZ18]. **Identifying** [CLJ<sup>+</sup>16]. **II** [ADGP16, BB13, BES12, CG18, GHM<sup>+</sup>18, GT16, LR16, LB16, LA11b, Mas15b, MT11, SSW13b, VZ19a, You17, ZW13, dTEJ18]. **III** [BCL13, VZ18b]. **III** [KWH16, MRL14, MT16, Nov17]. **Ill-Posed** [KWH16, MRL14, MT16, Nov17]. **Image** [LM13a, LG11, WL11, ZW18, ZCY12]. **Imaging** [AKK<sup>+</sup>11, ABGJ13, FKS14]. **IMEX** [BR13, BPR17, JLQX14, KTK17, WCF19, RSSZ17]. **IMEX-Time** [KTK17]. **Immersed** [Bea15, BCG15, BP10, GL19, LLZ15, LM13b, LM14a, RL13]. **Immunology** [Luc11]. **Impedance** [Han11]. **Implementations** [Mac15]. **Implicit** [Akr15, Bar14, BDN18, BMS14a, CCM10, CCKW15, DKS13, DP13, DP17, GR19, HT16, HPS13, HP15, HS16, HSZ18, LMV13, Lau17, LQT16, ILNS19, Rie14, SS13a, WSZ15, nZzSZ12, ZSZ15]. **Implicit-Explicit** [Akr15, DP13, HPS13, HSZ18, ZSZ15]. **Implicitly** [DHS17]. **Imposed** [QD11]. **Imposition** [Bur12]. **Improved** [DFS19, HR13, LXY13, SSS11]. **Improving** [BC17a, GR19]. **Impulse** [AF16]. **Impulsive** [HW14, KWH16]. **Inclusion** [BH11]. **Inclusions** [Han11, Rie14]. **Incompressibility** [Fis15]. **Incompressible** [ALM18, ABW15, BdSS13, BCM10, CWZ10, CHP10, CP13, CHP13, CCD18, CW16, CQ17, DKS13, GKR13, GWW14, Grü13, GS11, KS13, KP12, LLS18b, LSBTS19, LT13, LS13a, Log17, OHBNX15, PRX19, Rid16, SY15, TL15, YDG10]. **Increasing** [MJRK11]. **Indefinite** [BH19, CX10, FW14, SZ15]. **Independence** [Mor16]. **Independent** [Bar14, DEM15, HJHUT14, JLLO19, MPPS10, FHW12]. **Index** [DFS19]. **Inequalities** [AD18, CFQ18, DH15a, GU14, GG10a, HSW13, HSB17, KTK17, KSW14, KY18, WHIC10, You17]. **Inequality** [AKK14, BBHJ15, ILMZ19, MPPS10, TW17]. **Inexact** [Jin15, Kay10, LK16, SYY19]. **Inf** [GSR17, GN18b]. **Inf-Sup** [GSR17, GN18b]. **Infinite** [BG14a, Hal16, LL15, NA15]. **Infinite-Dimensional** [BG14a]. **Infinitesimal** [FJK13, San19]. **Influence** [TW18]. **Inhomogeneous** [FR17, Kal12, WYZ14]. **Initial** [AMK19, CM18, KOS19, WCF19, ZZK15]. **Inner** [Ket19]. **Inner-Product** [Ket19]. **Input** [CQR13b, DMP13, ZG12, Zha17]. **Inputs** [DKG<sup>+</sup>14]. **Instability** [NT16]. **Integer** [Rat16]. **Integral** [AU14, BHHS15, BHH10, BS11, CCWX11, CGS15, HP14, IGVGF19, JWX14, LTX13, LB13, LB16, LB19, LYM10, RG16, RN17, SWG14, Wei19, YB13, YHX17, ZLB16]. **Integral-Algebraic** [LB13, LB16]. **Integrals** [CS12b, DGK13, DHS17, HKL19].

**Integrands** [GSY16]. **Integrating** [CM18, IGG18]. **Integration** [AW10a, ACSW10, Bac13, BG14a, Bla18, Dic11, DILP18, Die14, FS11, FJK13, GHS18, HVC15, HJWZ16, LLS16, LL15, LOV15, LVW18, MKW14, MZ14, RWJG13, Ull17, Xu11, LLS18a]. **Integrator** [BCZ14, BC14, BCJT16, KOS19]. **Integrators** [ASS16, BS19, BDLV17, BRO10, BIT13, CW19, Gau15, GG13, GT15, GT16, MS14, MB16, SMSF15]. **Integro** [BJK10, CRR16, KTK17, MBMS11, WCF19, YG15, ZFX17]. **Integro-Differential** [CRR16, MBMS11, YG15, ZFX17, KTK17, WCF19]. **Integro-PDE** [BJK10]. **Integrodifference** [DK13, Poe19]. **Integrodifferential** [HN11]. **Interaction** [ACEL18, BM16, CHL12, GHM10, GMM12, GGNV10, KSU14, KL15, OTB18, YHX17, ZHS16]. **Interactions** [LCS15, ZG18]. **Interconnected** [RZ19]. **Interest** [CCL<sup>+</sup>14]. **Interface** [Bea15, Ber18, BP10, BE18, CZ10b, CYZ11, CHZ17, CGH<sup>+</sup>10, Cim12, DGGQ16, DLT16, EES18, FW13a, FW12a, FR14, Grü13, GL19, KWC10, KWC17, Lau17, LJC17, LLZ15, Log17, LM14b, Mas13, PF13, RW17a, SZ13, WW13, Wel11, ZF16]. **Interfaces** [BCL13, GPV13, OZ13]. **Interfacial** [Gra15]. **Interferometry** [ABGJ13]. **Interior** [ASW10, BY17, BFH14, BN11, BGGyS12, BSZZ13, BGSZ17, BGyS18, DLM13, DP12, FLX16, GMR15, GLZ19, KS14, LV17, MSS17, VZ18b, WW13]. **Internal** [AKK<sup>+</sup>11, KLP14]. **Interpolants** [Arà13, KB12]. **Interpolation** [ACSW10, AT17, DW14, FS17, FW12b, GK13, HLY13, JKK<sup>+</sup>13, JDZY16, LA11a, MMT16, PGvD12, Ran13, WMI10, Xia16, XZ18, Zha13b]. **Interpolatory** [MM10]. **Interval** [Hla14, LL15]. **Intervals** [LM11a]. **Intrinsic** [PW12]. **Invariant** [AVZ14, CH12, GP16b, GP17, LMY18]. **Invariants** [BIT13]. **Invariants-Preserving** [BIT13]. **Inverse** [BLRX15, BCL17, Ben17, BD17, BBE11, BES12, Cim12, CDS10, DS11, HDVV10, HW14, JLLW16, Jin11, Kal16, KWH16, LSW18, MT16, SS17a, SLY16, SDG16, YB11, ZJB16, ZW11]. **Inverses** [XWG10]. **Inversion** [BSW18]. **Irregular** [DW13]. **Isaacs** [BCJ19]. **Isogeometric** [BCPS12, BRSV11, DGM<sup>+</sup>17, HT17, Moo19]. **Isolated** [LZ12, LZ14]. **Isometries** [Bar13]. **Isoparametric** [CQS12]. **Isotropic** [EWK13]. **Iteration** [AF16, BR15a, HFL12, Jin15, MRL14, Ney13, PKK<sup>+</sup>15]. **Iterations** [PRX19, WN11]. **Iterative** [Bar12, CW19, DW12, GLZ15, HK16, NA15, PL10, PBL15, Sun11, Wan15, ZCY12]. **Iteratively** [LXY13]. **Jacobi** [GS19, HFL12, JS13, SS14, WR11, CS12b, GB10, HJWZ16, LR12, ZWX13]. **Joseph** [CGH<sup>+</sup>10, SZ13]. **Jump** [Eng15, KL11, WSD15]. **Jump-diffusion** [KL11]. **Jump-Sparse** [WSD15]. **Kac** [DLQW18]. **Kaczmarz** [MRL14]. **Kalman** [BSW18, HLT16, SS17a]. **Kármán** [Bar17]. **KdV** [AGK<sup>+</sup>11]. **Kernel** [BH17, CLS18, FHN<sup>+</sup>13, GW18, GRZ15, HN11, Mir18, RD17]. **Kernel-Based** [GW18]. **Kernelized** [RD17]. **Kernels** [EJ17, FHW12, FW12b, YG15]. **Kinematically** [BM16]. **Kinetic** [AKP14, AN10, DP11, DP13, DP17, JLQX14, LLS16, LLS18a, LHM<sup>+</sup>16, LM10, RT16]. **Kinetics** [CE18, Eng15, FS11]. **Kirchhoff** [Bar13, BSZZ13, BGSZ17, Gud12, HHX11, RZ18]. **Klein** [BCZ14, BS19]. **Kohn** [LWW<sup>+</sup>15]. **Kolmogorov** [CS18a, RSW17]. **Korteweg** [DKR15, FS14, NV14]. **Krause** [BO16]. **Krylov** [DKS11, GT19a, GG13, GG17, HS15, MN11, SV10, SD19]. **Kutta** [BR13, BPR17, BEF10, CH16b, CHJ19b, CCKW15, DP11, DP13, HMKV13, HPS13, HP15, IGG18, Kay10, KGM11, KMR13,

KLP14, Ket19, Li10, LL15, MST11, Röß10, SG15, SwS19, TYK14, XZwSW19, ZS10a, ZFX17, ZSZ15].

**L1** [ILLZ18]. **Lag** [HJS19]. **Lagrange** [BB12, BB13, BdSS13, BCG15, CK17, DCdL18, GMM12, GNPY14, GP16a, Loi13, MW12, Tak13, ZCY12]. **Lagrange-Projection-Type** [DCdL18]. **Lagrangian** [AGT18, BO11, CS14, CDM13, CGLY17, FJ17, PKK<sup>+</sup>15, RSY12, RY18, TX19, WW10a]. **Lagrangian-Based** [AGT18]. **Lanczos** [IKS18, Ye13]. **Landau** [BMO11, GLS14, Gao14, GSR17, WS18]. **Landweber** [Jin15, MRL14]. **Langevin** [AVZ15, HSW17]. **Laplace** [AB17, BDO18, BD19, CDM<sup>+</sup>17, GT19b, LR15, LR16, LLS13, RN17, Sch16, WCH10]. **Laplacian** [DLM13, BJ19, BCKZ13, BDS15, CW17, CdTGGP18, GMNS19, HFE18, HO14, LO13a, LCG<sup>+</sup>10, SU12, ZDK18]. **Laplacians** [GJOR18]. **Large** [BH11, Bar13, FW14, GO12, HJS19, JLLO19, LMS13, LAFS16]. **Large-Scale** [JLLO19]. **Larman** [HNSV13]. **Lattice** [AKP14, DGY19, Mir14, TT10]. **Lattices** [ALS13, Käm13, Rat16]. **Lauricella** [DH11, DTV15]. **Lavrentiev** [Pla17]. **Law** [DKS13, YZ17]. **Laws** [ACG15, AHZ18, CS13, CMS16, CWZ14, DG16, DHL17, FMT12, FS16, FLM18, GPS16, GMP15, GU10a, GU10b, Gos14, HLY13, LY11, LAFS16, MZ16, MSZW13, MT11, Ren15, Ren16, SNSM13, Sol18, ZM16, ZS10b, ZS10a, ZH15]. **Layer** [CZ10c, CW13, CZ17, DGHP16, DK14, ES19, EGK13, LW19]. **Layered** [CZ10c]. **Layers** [Kal12]. **Leading** [LM11a]. **Leak** [Kas13]. **Leap** [GLMV16, GRK18]. **Leap-Frog** [GLMV16]. **Leaping** [AHS14b, Rat16]. **Learning** [PM14]. **Least** [ACSW12, ACSW14, BCG<sup>+</sup>10, BMS14c, BMS14b, Ber18, BPS11, BCS18, CK10, CK11, CP15, CS18b, CGT15, CNBW17, CCL<sup>+</sup>14,

CLS18, HDVV10, Hes15, IKP11, Ku11a, Ku11b, LXY13, LMM<sup>+</sup>13, Mig19, MS12, ORU18, PST15, SPH18, SSS11, Wan14].

### **Least-Squares**

[BCG<sup>+</sup>10, Ber18, BPS11, BCS18, CK11, CS18b, CGT15, CCL<sup>+</sup>14, CLS18, Ku11a, Ku11b, Mig19, CK10, PST15]. **Leffler** [Gar15, MN11, RD17]. **Legendre** [CHYL11, LMS13, SWG14]. **Lehmann** [Ovt11]. **Leja** [BDSV10]. **Level** [CKW13, Gra17, GLR18, Han13, HMP14, LC15, Reu13, WX18]. **Levels** [AR10a]. **Lévy** [DKS16, DHP13]. **Lie** [AVZ15, OPW19]. **Lifshitz** [GSR17, Gao14]. **Like** [DKS13, MO14, SLY16, ZGD17, LD19]. **Limit** [AAN11, BCZ14, BCJT16, BMR12, BCCHV14, CW19, Car13, CCF14, GK10, HWZ17, JW13, LM10]. **Limited** [BH12, Die14, XB13, Xia16, XA16]. **Limited-Memory** [XA16]. **Linear** [AR10b, AT16, BR15a, BKT13, BBM13, BDdSM13, BDSV10, BMV12, BL18, BGGyS12, BCS18, BC17b, BK10, BEF10, CM18, CZZ14, CC18, CC19, CR12, CH16a, Cha14, CS10, Cim12, CLS13, CBHW13, CvN10, DEM15, DP17, DP12, Gal17, GKR13, GT15, GT16, GG11, GK13, HKLN16, HY13, HL10, Hla14, HP15, HS16, Hu15, HKL16, JLQX14, JML13, JLLW16, Kim11, KB12, KLS10, LM13a, LHM<sup>+</sup>16, LD19, LH12, lLzSsS10, lLLZ18, LM10, LSZ18, LYZZ18b, MST11, MNP12, Mor16, Nor15, Nov17, OHBNX15, QD11, SW16, Seg10, SSS11, TX19, TYK11, TD13, TYK14, Wan15, WCH10, XZwSW19, YS13, YH16, ZTRK15, ZD10, Zou18, EWK13, NW19, WZ12]. **Linear-Quadratic** [HL10, LH12, SW16]. **Linearized** [BO11, GLS14, Gao14, GU10a, GU10b, LSBTS19, LS14]. **Linearly** [KSW18, PC16]. **Lines** [CCCS16, DG16, DDP17]. **Liouville** [WY11]. **Lipschitz** [CGLY17, CH19, TZ13b]. **Liquid** [AAEM15, GR15, NWZ17]. **LL\*** [CFZ15]. **LLG** [FT17]. **Lloyd** [BR15b].

**Lobatto** [Xu11]. **Local** [ASS16, ABPV12, BV10, BCL16, BDS12, BS16b, CK11, CEM13, CX10, CS10, Dem10, DL11, DLLT18, DLT13, EGK13, GHS18, GWW14, GMS18, GB10, HY13, HL10, Kno10, KS12, LH12, LM13b, RU13, WSZ15, XS12, ZGD17, dTEJ18, dTEJ19, Mor16, ASW10]. **Local-Conserving** [ZGD17]. **Localization** [GMNS19]. **Localized** [FHN<sup>+</sup>13]. **Locally** [AP18, CS13, ESV17, FR14, HS16, TZ13b]. **Locating** [Han11]. **Location** [BR15b]. **Locking** [ALM18, BMcS10, ORB16, Yi17]. **Locking-Free** [ALM18, ORB16]. **Logarithmic** [BCST19]. **Long** [AVZ15, AP16a, AP18, BCGS10, BCR16, BRO10, CGSW13, CW13, CW16, FJK13, GTW<sup>+</sup>12, LTT13, WN18]. **Long-Run** [BRO10]. **Long-Term** [BCGS10, FJK13, WN18]. **Long-Time** [CGSW13, CW13]. **Low** [AZC14, BD16a, BO15, BS19, CH16a, GHM<sup>+</sup>18, K LW16, OPW19, RW11]. **Low-BS19**. **Low-Memory** [AZC14]. **Low-Order** [CH16a]. **Low-Rank** [BD16a, K LW16, OPW19]. **Lower** [GY16, HS13]. **Lowest** [BMS14c, CH18b, HHZ11, Li18]. **Lowest-Order** [BMS14c, CH18b, Li18]. **Lumping** [RW17b]. **Lyapunov** [DKS11, SMSF15]. **Lyapunov-Type** [SMSF15].

**MAC** [EGHL10, RL17]. **Macro** [DSZ17]. **Magnetic** [FR16]. **Magnetized** [FR17]. **Magnetohydrodynamics** [Rid16, Wu18]. **Magnetostatic** [RBGV13]. **Magnetostatics** [dVBD<sup>+</sup>18]. **Magnus** [IKS18]. **Malliavin** [Yam19]. **Manakov** [Gaz14]. **Manifold** [GY16, PM14]. **Manifolds** [BGN19, LCJ<sup>+</sup>18, MGGJ13, Moo16]. **Many** [EST18]. **Map** [GSR17]. **Mapped** [AP16c]. **Mapping** [ZF16, Zul15]. **Mappings** [NA15]. **Maps** [KW14a, MM16]. **Marching** [CFM11, CFH13, Mir14, Mir19, WSZ15]. **Marker** [LR18b]. **Marking** [BET11, CNSV16, CR17]. **Markov** [And13, AZC14, HJS19, JML13, Rat16, WP19]. **Markovian** [LMYY18, NHNY17]. **MARS** [ZF16]. **Maruyama** [NSS19, PS16]. **Mass** [AJ19, CGJ13, DE11, FN13, FS11, GWW14, Grü13, LR13, NR12, RW17b]. **Mass-Corrections** [GWW14]. **Mass-Preserving** [NR12]. **Matched** [CZ10c, CW13, DK14, ES19, Kal12, LW19]. **Matching** [BCKZ13, MT16]. **Material** [BK12, Cim12]. **Materials** [CZAL10, HLS13, KP12, LCYC15]. **Mathematical** [ABIR19, YLH18, ZD10]. **Matrices** [AF16, CS11, DT17, MV14, WL14]. **Matrix** [AJ19, BR15a, BRD15, Che11a, CD12, GW18, GL17, MV14, MN11, OPW19, WW10c, Ye13]. **Matrix-Valued** [GW18]. **Maximal** [HMKV13, KLL16, LV18, LS17]. **Maximum** [Cla13, DL11, DJLQ19, GNPY14, KL13, Kop15, Luc11, Mir16, Ran13, WZ12]. **Maximum-Norm** [Kop15, Luc11]. **Maxisets** [HW17]. **Maxwell** [BC12a, BG19, CHWG15, CZAL10, CLL10, CHJ19a, CHJ19b, CGLM14, CWZ14, DDLZ19, EJS19, FW14, HOV16, HP15, HS16, MC18, Ver12, YZ17, You17, ZHZ<sup>+</sup>14]. **McKean** [BS18]. **Mean** [ACD10, ACCD13, AP16b, CS14, CHJ19a, HLZ15, SZZ18, TZ13b, VH14]. **Mean-Field** [SZZ18]. **Mean-Square** [CHJ19a, TZ13b]. **Measure** [AVZ14, BBE11, BES12, D'A12, DLQW18, Kou17, LMYY18]. **Measure-Theoretic** [BBE11]. **Measures** [CGKMC19, MST10]. **Media** [AP18, BNY18, BMRB19, CZAL13, CZ10c, DAA13, IGVGF19, Kal12, KS13, LS13a, RL15, SS13a, WSS14]. **Medium** [CZ17, KPR13, LS15, Plo19, dTEJ18, dTEJ19]. **Membranes** [CGJ13]. **Memory** [AZC14, XA16]. **Mesh** [ABSV11, BNP10, BY12, Era13, GH12, GHK25, HJHUT14,

KH14, KAD19, LA11a, LA11b, VH14].

**Mesh-Independent** [HJHUT14]. **Meshes** [AR10a, ACCE10, ABMV14, ABSV16, BMW19, BCL16, BLM10, BLM11, CC18, CFH13, CK16, CFNP18, CDGQ10, DER14, DO12, DDE15, GLZ19, Hu15, HKL16, Kop15, KM12a, Li18, LYZ15, LL13, MJRK11, OHBNX15, PW19, RW13, SSW13a, SOG17, WW10b, WL16, ZLY16, dVLV18].

**Meshfree** [BSO12, SW12]. **Mesoscale** [TT10]. **Method**

[ALS13, AP16a, ACCD13, AP16c, ACEL18, AC10, AD18, AGT18, And13, ABSV16, ABPV12, AHPV13, AW10b, ASW10, BGL17, BCZ14, BC14, BCJT16, BCST19, Bea15, BMS10, BBK15, BG11, BB12, BB13, BY17, BdSS13, Bie11, BPP15, BCG15, BG19, BG14b, BN10, BCM10, BDS17b, BMcS10, BFH14, BBE11, BN11, BGGyS12, BSZZ13, BC17a, BRK14, BFK16, BTG12, BTDG13, Bur12, BHL17, BE18, CGS18, CK10, CW18, CGOT16, CZAL10, CZAL13, CC18, CSYZ18, CFM11, CFH13, CGKMC19, CGR12, CCCS16, CF12, CCD18, CNBW17, CDMP16, CZ10c, CHYL11, CGHW11, CLX13, CW13, CX13, CQR13b, CGLY17, CZ17, CTZ18, CSZ19, CPXZ19, CLP12, CH13, CKW13, CCF14, CQ17, CG17, CG18, Cim12, CDGQ10, CLS13, Col10, CBHW13, CM10, DHH13, DSZ17, DG16, DG11, DH13a, DGNS17, Dem10, DO12, DDE15].

**Method** [DH11, DH13b, DFW15, DGGQ16, DE11, DHS17, DGS13, DLLT18, DZZ19, DLTZ13, DLT13, DLT16, DHP13, DAA13, DE13, ELS15, EES18, EGMP13, Era12, Era13, FW13a, FLL<sup>+</sup>19, FHM16, FKMP13, Fei19, FW14, FR14, GR15, GHM10, GG13, GLT<sup>+</sup>17, GHM<sup>+</sup>18, GR16, GLR18, GH10, GG17, GJOR18, Gud12, GM17, GN18a, GJS17, GB10, GHY17, GL19, GR19, HSW13, HDVV10, HY13, HN11, HY12, mHLZ16, HOV16, HM17, Hes15, HP14, HK17, HLM13, Hla14, HS16, HZZ19, HHX11, HJWZ16, HKL19, IWY10, JMN14, JP10, JWX14,

JJLW16, JDZY16, JLZ13, JW13, JLPZ14, JLZ16, JN15, JZ12, KTK17, KK10, KW14a, Kas13, Kaw19, KW16, KPK11, KCL13, KZ15, KHCR19, KM12a, KFJ16, KWC10, KWC17, Kwo11, KL11, LK18, Lau17, LLS13, Lee15, LSBTS19, LOX18, LMS13, LT13, LGS14, LC15, LQT16, LQZ17, LZZ18].

**Method** [LS13b, LYZZ18a, ILNS19, LY12, LM13b, LM14a, LX14b, LYZZ18b, LWZ19, Loi13, LM14b, LX17, LY13, MC18, MMT16, MLMS17, MK18, Mas15a, Mas15b, Mas13, MNQ13, MTKO17, MT18, MA18, MBMS11, MM13b, MAF14, Nic17, NWZ17, NFM18, OR14, ORX14, OBLS14, OHBNX15, PL10, PV16, PC16, Plo19, Pot17, QTX15, QD11, RL13, RSW17, Ren15, Reu13, RT16, RW17a, RW11, RD17, RP13, RL15, SSZ11, SW12, Seg10, Sel10, SZ13, SWG14, SD19, Sol18, SSS11, SU12, Ste13, SOG17, Tak15, Tak13, Ull17, WW13, WBN16, WW10a, Wan14, WBL<sup>+</sup>15, WX18, WCF19, Wel11, WCK15, WR11, WY11, WZ18, mXqW10, XH14, XA16, XCLY19, YB11, YS13, YH16, YG15, YZ17, ZM16, ZLL<sup>+</sup>14, ZS10a, ZG12, ZCY12, ZZY13, ZWGB15, Zha17, ZDK18, ZHA19, ZJB16, ZW11, ZX19, Zul15, CGM16].

**Methods**

[AVZ15, ACD10, AR14, ALM18, ADM<sup>+</sup>15, ANP17, AL14, BD16a, BCE14, BR15a, BC12b, BV10, BM11, BET11, BCL16, BKT13, BCPS12, BS18, BS16a, BPS11, BDN13, BD16b, BS15, BGSZ17, BGyS18, BHX10, BK10, BMRB19, BLO18, BH19, BHHN14, CWZ10, CYZ11, CK11, CHWG15, CHZ17, CGJ13, CNSV16, CZZ14, CZZ15, CSYZ15, CC19, CHP13, Car13, CPS13, CDG14, CP15, CH16a, CDNP18, CGT15, CST13, CCL<sup>+</sup>14, CET<sup>+</sup>16, CLL10, CX10, Che10, CCWX11, CG12b, CGSW13, CW17, CH18c, CGLM14, CCKW15, CLS18, CE18, CL18, CWZ14, CQS12, CGS13c, CZ13, CHL12, CY10, DHSW13, DER14, DG13, DTV15, DP11, DP13, DP17, DGM<sup>+</sup>17, DP12, DKS11, ERW14, Eng15, EP16, Erv13, EJ17,

FS14, FLX16, FJ17, FLZ17, FR16, FR17, GX14, GH15, GL15, GLV11, GLMV16]. **Methods** [GF12, GPV13, GT19a, GKN<sup>+</sup>18, GRZ15, GMR15, GMS18, GLZ19, GSV17, GSR17, HMKV13, HKLN16, HS15, HMP11, HJJ<sup>+</sup>13, HP15, HW17, HK16, HLS13, HH10b, HY18, HO14, HKL16, IGVG19, IKS18, IGG18, JV15, JS13, KS14, KAD19, KGM11, KMR13, KLP14, Ket19, KP10, Kim11, KSU14, KRR15, KSS12, KSW14, KY18, KS13, KSW18, Ku11a, Ku11b, KSS13, Kwa12, LG19, LTT13, LLS18b, Lee13, LH12, LV18, Li10, LL15, LX16, LW16, LN18, Li19, LB13, LB16, LLZ15, Liu11, LMM<sup>+</sup>13, Liu13b, LSZ18, LCG<sup>+</sup>10, LQB14, LL13, Mac15, MST11, MW12, MSZW13, Mig19, MB16, MAF19, MN11, MSS17, NA15, NT16, NS10, Nov17, OP12, OZ13, OS13, ORB16, PS19, PW14, PF13, Pet10, Pet11, Pot16, RG16, Röß10, SV10, SG15, San19, SZ15, SVZ12, SK13]. **Methods** [Sch11, SLY16, SV15, Sun11, TZ13a, TV16, TX19, Tha13, TYK11, TYK14, TD15, VZ18a, VZ18b, VZ19a, Ver12, WBN17, WN18, WYZ18, WHIC10, WL11, Wan15, WSZ15, WL16, Wil14, WR12, WW10c, XQ10, XS12, XZ18, XZwSW19, Ye13, YHX17, Zha13a, ZZK15, ZTRK15, ZLB16, ZFX17, ZSZ15, ZHZ<sup>+</sup>14, ZH15, dTEJ18, dTEJ19, Jin11]. **MHD** [CK16, LSBTS19]. **Micro** [DSZ17]. **Micro-Macro** [DSZ17]. **Microscale** [TT10]. **Midpoint** [BMS14a]. **Migration** [LZH18]. **Mildly** [Li18]. **Milstein** [LR18a, NHNY17]. **Milstein-Type** [NHNY17]. **Mimetic** [ABLV13, BLM10, BLM11, MLMS17]. **Mindlin** [BCLP10, HH10b, Lee13, Lee15, LMR10]. **Minimal** [AC16, CDNP18, HNSV13, MM16, Mir16]. **Minimization** [AAEM15, Bar12, BC10, GLZ15, LXY13, Woj12]. **Minimum** [BDS12, WYZ18]. **Miscible** [LS13a, RW11, WSS14]. **MITC** [BNS13, BCLP10]. **Mittag** [Gar15, MN11, RD17]. **Mittag-Leffler** [Gar15, MN11, RD17]. **Mixed** [ALM18, ABW15, AHPV13, AX13, AC16, AL14, BCE14, BG11, BS16a, BPS12, BP10, BRK14, BFK16, BLO18, BH19, CGS18, CWZ10, CZ10b, CGOT16, CKP11, CGR12, CDMP16, CW17, CH18c, CGL<sup>+</sup>10, DHH13, DFW15, DDLZ19, DH15b, EV15, Erv13, FW13a, FLX16, GS19, GHM10, GG11, GSV17, HJJ<sup>+</sup>13, HJKR16, Hu15, HY18, HHX11, IWY10, KP10, Kim11, KSS12, KPR13, Kwa12, LS13a, Li18, Li19, MMR13, MNP12, Owe19, QTX15, QD11, Sch11, UU16, VV14, WSS14, WS18, ZZLB13]. **Mixtures** [AT16, EJK10]. **Mobility** [RG16]. **Model** [AAEM15, AZC14, AN10, Bar17, Ben17, BOS10, CPS13, CS12a, CLJ<sup>+</sup>16, EJK10, FH10, FW12a, GHL18, KV10, LM13a, LQZ17, LY12, Luc11, MKW14, NR12, OZ13, PM14, QTX15, RGMP16, RÁM<sup>+</sup>17, RP13, RSY12, RY18, Sch11, SY12, TW18, WW11b, WY19, You17, Zhe17]. **Model-Dependent** [Ben17]. **Modeling** [BCGS10, CRR16, Fis15, GR15]. **Modelling** [DH15a]. **Models** [AP18, AZC14, CR18, DTZ13, DHL17, DLLT18, GRT14, Grü13, HJKR16, HJS19, JL18, KKN19, KL11, LD19, RT16, SY15, Sin14, TD14, ZD10]. **Modes** [Yi17]. **Modification** [BNP10]. **Modified** [BLWW13, BDdSM13, BdSS13, BFK16, DE11, FR14, HLY13, LY11, MC18, MS14, SSS11, WW11a, YKF18]. **Module** [XWG10]. **Molecular** [QTX15]. **Moment** [Hag11, LHM<sup>+</sup>16]. **Moments** [Rat16, TT15]. **Momentum** [HM17, KW14a, SSS11]. **Monge** [CHW19, FJ17, FO11, FO13, Ham19, LN18, NZ18]. **Monotone** [Arà13, BCJ19, CH18a, FS16, PL10, RZ19, Wan15]. **Monotonicity** [DHL17]. **Monotonicity-Preserving** [DHL17]. **Monotony** [ACCE10]. **Monte** [GHS18, JML13, MA18, Yam19, AHS14b, AHS16, AKP14, BFRS16, CST13, DSZ17, Dic11, GLZ18, GSY16, HW15, He19,



KSW14, KY18, KSS13, Ull17, WCK15]. **Moore** [XWG10]. **Mortar** [AX13, HH10a, PVWW13]. **Motion** [BCM10]. **Moulton** [RD17]. **Moving** [Bea15, FW13a, GL15, ORU18]. **Multi** [DFS19, HWZ17, XCLY19]. **Multi-Alleles** [XCLY19]. **Multi-Index** [DFS19]. **Multi-symplectic** [HWZ17]. **Multicomponent** [KSW18]. **Multidimensional** [BG14b, CSV19, MT11, NT16]. **Multifidelity** [KKN19]. **MultiFrequency** [BLRX15]. **Multigrid** [ASV15, DGM<sup>+</sup>17, DP12, HT17, HVX13, KK18a, SSZ11, SD19, TZ13a, Tak15, XZ18]. **Multilevel** [AHS14b, AHS16, BG14a, BFRS16, BCKZ13, CST13, CX10, CCWX11, DKGS16, Git13, HLT16, JKLZ17, KSW14, KY18, SVZ12, Wil14]. **Multilinear** [GMR15]. **Multinumerics** [PVWW13]. **MultiOrder** [MA18]. **Multipatch** [Moo19]. **Multipenalty** [FNP14]. **Multiphase** [BV16]. **Multiphysics** [GN17]. **Multiple** [DH15b, GPS16, JMO17, MV14, SLY16, WW10a, XA16, ZZY13]. **Multiplicative** [ACLW16, CH18d, FLZ17, LK16, MMJ<sup>+</sup>17, ZTRK15]. **Multiplier** [BCG15, Loi13, Tak13, WBN16, ZCY12]. **Multiplier/Fictitious** [Tak13]. **Multipliers** [CK17, HY13, JLLW16, LYZZ18b, MW12, YH16]. **Multipoint** [IWY10, Pet10, Pet11, Ste13]. **Multipressure** [CCM10]. **Multirate** [San19]. **Multiresolution** [HKS11]. **Multiscale** [AP16a, AHPV13, AX13, BCZ14, BCJT16, BPR17, CZAL10, CZAL13, CE18, ELS15, EGMP13, FW13b, GRZ15, HOV16, KFJ16, LSW10, LCY13, LCYC15, Mac15, PVWW13]. **Multistep** [Cha14, DP17, GF12, GHL18, HKLN16, MAF19, RSSZ17, SWG14, TYK11, ZZJ10, CW16]. **Multivariate** [BG17, BDSV10, HM14, Ull17]. **Muskhelishvili** [DH13b]. **n** [PS16]. **Nanoparticles** [ARYZ18]. **Natural** [BHH10, Fio18]. **Navier** [ABPV12, BCGS10, Bea15, BO11, BdSS13, BRY15, BC17b, CWZ10, CGOT16, CP13, CELR11, CW16, CQ17, DJY14, Dör12, FHM16, Fis15, GTW<sup>+</sup>12, GJS17, LOR11, LR18b, PRX19, SD19, Svä16, YDG10, dVLV18]. **Nearest** [GS18]. **Nearly** [OHBNX15]. **Nearly-Incompressible** [OHBNX15]. **Nematic** [AAEM15, NWZ17]. **Nested** [CW19]. **Nets** [Dic11]. **Networks** [GRK18]. **Neumann** [CdTGGP18, GLL11, JML13, QW19, XQ10]. **Neutral** [BCCHV14, Mas15a, Mas15b, TYK11, TYK14, ZFX17]. **Newton** [Che11a, BC17a, CG12b, GR15, HDVV10, HMP15, Jin11, Jin15, LK16, PS19, Pot17, Pot16, SV10, SLY16, SD19, WCK15]. **Newton-Like** [SLY16]. **Newton-Type** [Jin11, Pot16]. **Newtonian** [CGS18, CHP10]. **NICEM** [JMN14]. **Nicolson** [AF12, BKM13, GLS14, LGS14, ILNS19, MC18, ZLL<sup>+</sup>14, nZzSwW11, Zou18]. **Nicolson-Type** [nZzSwW11]. **Nitsche** [Bur12, BHL17, CH13, LR13]. **Nitsche-Based** [CH13]. **Nitsche-Type** [Bur12]. **NLS** [HWZ17]. **No** [SCP18]. **No-Slip** [SCP18]. **Nodal** [BC12a, BLM11, HJWZ16]. **Nodal-based** [BC12a]. **Node** [BKSY17]. **Nodes** [AR10a]. **Noise** [AHS16, ACLW16, Ben17, CHJ19b, CH18d, DKS16, DHP13, FLZ17, HW14, Jen11, KWH16, KLS10, LR18a, MMJ<sup>+</sup>17, ZTRK15, Zou18]. **Noises** [CHL17]. **Noisy** [Che11b, PST15, Woj12]. **Non** [CGLY17]. **Non-Lipschitz** [CGLY17]. **Nonaligned** [SVZ12]. **Nonasymptotic** [DDD<sup>+</sup>14]. **Nonautonomous** [Bla18, LV18]. **Noncoercive** [GU14]. **Nonconforming** [AC12, BKSY17, BMS10, BM11, BTG12, BHL17, CZ10b, CC19, CR12, CL15, CTZ18, EV15, GG11, KK10, KWC10, KWC17, MNQ13, OP12, TD15, VZ18a, VZ18b, VZ19a, ZZMC19, CGM16].

**Nonconservative** [CFMP13]. **NonConstant** [BBHS14]. **Noncontractive** [OS13]. **Nonconvergent** [KH14]. **Nonconvex** [BY12, BGyS18, CGLY17, KS12, ANP17]. **Noncovex** [ZW18]. **Nondivergence** [Gal17, SS13b]. **Nondominated** [CEH15]. **Nonequispaced** [DKP10]. **Nonfitting** [CFNP18]. **Nonintrusive** [GLZ18]. **Nonlinear** [Akr15, AD18, ABS15, AN10, BC12b, BC14, BCG<sup>+</sup>10, BDLV17, BJK10, BDS17b, BCL13, CK10, CSYZ18, Car13, CS18a, CGT15, CF12, CS12a, CCWX11, CSV19, CH18d, DDD<sup>+</sup>14, DP13, DEV13, Ebn14, FFP14, GLZ18, GHSS19, GNPY14, GP16a, HVC15, HVX13, IKP11, Jim11, JLZ18, JMO17, KK18b, KP10, KOS19, Krö19, LR14, LS14, LGS14, LW16, LY12, Liu13a, LX17, MSZW13, Mur14, PL10, SY12, SWG14, SYY19, Tha13, WZ18, ZM16, ZLL<sup>+</sup>14, ZJB16, ZZLB13]. **Nonlinearities** [DK13]. **Nonlinearity** [ZZY13]. **Nonlocal** [ACG15, AU14, AN10, BMS14a, BCJ19, CLJ<sup>+</sup>16, DTZ13, DY16, DHL17, DJLQ19, Gud12, HFE18, JL18, PLR11, TD13, TD14, TD15, WW11b, ZD10, dTEJ18, dTEJ19, DLLT18, LL17]. **Nonmonotone** [LX17]. **Nonoscillatory** [CGS15, FMT12, HLY13]. **Nonoverlapping** [LT13, Loi13]. **Nonparametric** [DHRBR12]. **Nonperiodic** [Huy10]. **Nonrelativistic** [BCZ14, BCJT16, CW19]. **Nonselfadjoint** [JZ12]. **Nonseparable** [ILNS19]. **Nonsmooth** [AMK19, CG12b, LLX19, WCF19, YKF18, YG15, ZW18, Jin15]. **Nonsolenoidal** [Ing11]. **Nonstandard** [AW10a, CHP10, LX16]. **Nonstationary** [CF12, GJS17]. **Nonsymmetric** [Bur12, CX10, EES18, FFP14]. **Nonuniform** [Arà13, GS14, LR18b, ILLZ18, NP16, RL17]. **Norm** [BJ19, HS13, KL13, Kop15, Ku11b, LLN18, Luc11, NZ18, XWG10, XZwSW19]. **Norm-Estimations** [XWG10]. **Normal** [MV14, PS19, PW19]. **Norms** [Ket19]. **Note** [JO10, Mac15, SNSM13, Ste11]. **Number** [AR10a, BJS13, CLX13, DW15, FW14, LW19, Loi13, Peñ07, Xia10, ZW13]. **Numbers** [KMU16, WZ18]. **Numerical** [AVZ14, ACD10, AMK19, ABIR19, AD18, AC19, ANP17, AKT14, AN10, BCGS10, BR15a, BBHJ15, BDS17a, BMR12, Bar17, BB12, BB13, BS14, BKS11, BS11, BCJ19, Bla18, BSW18, BMV18, BV16, BDSV10, BH12, BK10, CR15, CS11, CWYZ19, CW16, CH13, CBHW13, DMP13, DGHP16, Der12, Dic11, Die14, DS18, ELN13, FHM16, FLM18, FL16, Gal17, GHV18, Gar15, GO12, HSB17, HPS13, HWZ17, HO14, HKL19, IPP13, JV15, Jen11, JL18, JLZ18, KV10, KSW18, KPR13, LMM16, LZ17, LR15, LR16, LY11, LMY18, LSW18, ILMZ19, LW18, MKW14, Mao15, MZ14, Mas15a, Mas15b, MST10, MMJ<sup>+</sup>17, NHNY17, Nic17, NT16, NFM18, PLR11, Plo19, Poe19, RWJG13, RBGV13, SMSF15, SVD14, Svä16, TW17, WL14, WZ19, WR11, Wu18, XCLY19, YZ11, ZD10, ZZLB13, dTEJ18, dTEJ19]. **Numerically** [Lee13]. **Numerics** [GL13, LR14]. **Nutrient** [TW18]. **Nyström** [DH11, DH13b, ZB15]. **Oblique** [Kaw19]. **Oblivious** [BLFS17]. **Observation** [MZ13]. **Observational** [CTZ18]. **Observations** [FSX13]. **Obstacle** [BD17, BSZZ13, BGSZ17, CK17, GSV17, MT13, OS16, WR12]. **Obstacles** [ABIR19, Ing11, RZ19]. **ODE** [GM17]. **ODE-Based** [GM17]. **ODEs** [CCKW15, SK13, Seg10]. **Once** [Kal16, TZ13a]. **One** [CS10, CH19, D'A12, GL13, HKL16, IPP13, JV15, LD19, LZ12, LZZ18, Mac10, MZ13, MGGJ13, MSZW13, SNSM13, SDKS13, Ste11, ZS10b]. **One-D'A12, SDKS13**. **One-Dimensional** [GL13, IPP13, JV15, LZZ18, Mac10, MZ13, SNSM13, ZS10b]. **One-Equation** [Ste11]. **One-Manifolds** [MGGJ13]. **One-sided** [CH19]. **One-Step** [HKL16]. **Online**

[PM14]. **Open** [HJHUT14]. **Operator** [BC12b, BC14, BDO18, BD19, DDD<sup>+</sup>14, DKG<sup>+</sup>14, DKGS16, GMNS19, GG13, GG10b, HYZ16, HJHUT14, Hla14, LS16, LQZ17, NFM18, OS13, QW19, SV10, SDG16, WCH10, XZO19, XZ18]. **Operators** [AU14, BS11, BMV12, BL18, CEM13, CH18a, GT19a, GB10, JZ12, Ket11, LLSM17, LLN18, LR12, NS10, RN17, SV14, Wil14, XQ10, XWG10]. **Optimal** [ANS15, AF12, BBMZ19, BG14a, BC14, BMS10, BN10, BF17, BR15b, BGYs18, BCS18, CK10, CG12a, CR12, CL15, CH18b, CHYL11, CG12b, CQR13a, CDGQ10, CSV19, DMP13, DHJ17, DILP18, DP12, DW14, DH15a, FFP14, FPvdZ16, GLS14, Gao14, GSY16, GY16, GLT<sup>+</sup>17, GLL11, HMP15, HL10, HPS13, HM16, HP14, HY18, HJWZ16, Kay10, KW14b, KL15, LG11, LH12, LV13, LS13a, LGS14, LN18, LYYM10, LCY13, LCYC15, LSZ18, LL13, MC18, MM10, MW12, MM16, MT13, Mig19, Peñ07, RW17b, SW16, SSZ11, SY12, SD19, SYY19, VZ18a, VZ18b, VZ19a, WW10b, Wan16, Xia10, XS12, YS13, YZ17, ZX14, ZZK15, ZLY16, Zhe14, Bar14, CGS13b, FKMP13, VZ19b, WW13]. **Optimal-Order** [WW10b]. **Optimality** [BM11, BD16b, CP15, Fei19, Li19, TV16, Pla17]. **Optimally** [AW10a, GRT14]. **Optimization** [AKGR14, BDdSM13, BBS16, BV16, CGR12, CGT15, GGNV10, JLLO19, Kou17, LWZ19, OBLS14, RU13, VH14, YH16]. **Optimization-based** [OBLS14]. **Optimized** [GX14, GPV13, HJS13, KZ15, Kwo11, LCG<sup>+</sup>10, Loi13, XQ10]. **Optimizing** [Hag11]. **Option** [KL11]. **Options** [KTK17]. **Order** [AVZ14, AJ19, ADM<sup>+</sup>15, AH15, Arà13, AHZ18, ASW10, AGP17, BBMZ19, BGL17, BLWW13, BG11, BLM11, BB13, BdSS13, BMS14c, Ber18, BDLV17, BORM18, BKN13, BD16b, BF17, BDS17b, BN11, BGGyS12, BFK16, BH12, BEF10, BE18, CFZ15, CM18, CS14, CH16a, CH18b, CDNP18, CGT15, CC14, CCCS16, CDMP16, Che10, CGSW13, CD14, CWYZ19, CW16, CQS12, CZ13, DHSW13, DKG<sup>+</sup>14, DKGS16, DILP18, DHS17, DW15, DZZ19, DLT13, DH15b, DK14, DKR15, ELS15, ESV17, FW13b, Fio18, FS16, Gaz14, GLMV16, GSS12, GSY16, GT15, GT16, GR16, GLR18, GNPY14, GP16b, GP17, HMKV13, HS16, HSW17, HHZ11, HZZ19, Jen11, JLZ13, KW16, Koll14, Ku11a, Ku11b, Kwa12, LLS16, LLS18a, LR18a, Li10, LZZ18, Li18, LXZ18, lLzSsS10, LYZ15, LMM<sup>+</sup>13, Liu13a, Liu13b, LQB14, MNP12, MS12, NR12]. **Order** [Nic17, OTB18, RWJG13, RW13, SW19, SSW13a, SSW13b, Sch11, Seg10, Sel10, SDKS13, Sin14, SSS11, Tha13, WW10b, WZ12, Wan15, WL16, XS12, Yam19, ZS10b, ZS10a, ZX14, ZLY16, Zha17, Zhe14, ZX19, ZGD17, Zou18, ZH15, BB12, BMS14b, CK17, FMT12, GP16a, KL11, LLN18, SWWW12]. **Order-of-Accuracy** [BH12]. **Ordinary** [Rie14, WBN16]. **Orientation** [NWZ17]. **Oriented** [CK11, FPvdZ16, KAD19, BET11]. **Original** [CDGQ10]. **Orlicz** [EWK13]. **Orthogonal** [AR10b, GJS17, HM14, MT16, Xia12]. **Orthogonality** [BH11]. **Oscillations** [LY11]. **Oscillatory** [AAN11, BS19, CLMV19, DGK13, HKL19, LW16]. **Oseen** [AAEM15]. **Osher** [LM13a, WL11]. **Other** [VZ18b]. **Output** [GU10a, Zha17]. **Overconsistency** [VZ19a]. **Overlap** [GX14]. **Overlapping** [BCPS12, CKW13, DW13, LG19, Lee13, Oh13, PF13, WX18]. **P1** [HKL16]. **P1-Finite** [HKL16]. **Pantograph** [BHX10]. **Parabolic** [AC10, Akr15, BJK10, BR13, BP10, CCCS16, CF12, CS11, CK14, CvN10, DHP13, DH15b, EES18, EWK13, ESV17, GLV11, GY16, GT15, GT16, HMP15, JLZ13, JLPZ14, Kar18, KL13, KLL16, KM12c, LLS13, LV13, LV16b, LV17, LV18, LC15, LS17, LY13, LW18, MNP12, MTKO17,

Moo19, MBMS11, NOS16, OS16, PL10, SW19, Sin14, TV16, Wal10, WCF19, ZG12]. **Parallel** [CGHW11, CG17, CG18, Kwo11, LTX13, LCJ<sup>+</sup>18, MB16]. **Parallelization** [AKP14]. **Parallelootope** [MGGJ13]. **Parameter** [AABR13, And13, BPP15, FNP14, Gar15, GRK18, JL10, PST15, SK13]. **Parameter-Choice** [JL10]. **Parameter-Dependent** [SK13]. **Parameter-Free** [BPP15]. **Parameterizations** [HVC15]. **Parameterize** [RL13]. **Parameterized** [CPXZ19]. **Parameters** [CLJ<sup>+</sup>16, MA18]. **Parametric** [BCDS17, BMK10, BGN16, BS16a, BD19, DKG<sup>+</sup>14, DKGS16, FR14, GHS18, KKN19, SL15]. **Parametrization** [BC17a]. **Parametrized** [HSW13]. **Parareal** [CET<sup>+</sup>16]. **Parasitism** [BHNN14]. **Part** [BB12, BB13, CG17, CG18, ELS15, GU10a, GU10b, GT15, GT16, JDZY16, LLS18b, LR16, LSZ11, LA11a, LA11b, Mas15a, Mas15b, ZW13, dTEJ18, dTEJ19]. **Partial** [AP16b, CFZ15, Cha12, CQR13b, CRR16, CH19, DER14, DHP13, FO13, GR16, KTK17, KSS13, LOX18, LR18a, LYZZ18b, Owe19, RSW17, RW17b, TZ13a, WBN16, YKF18, ZG12]. **Partially** [LLZ15]. **Particle** [BS18, CLP12, FR16, FR17, JKLZ17, JW13, LD19, PW14, PC16]. **Particle-In-Cell** [FR16, FR17]. **Partition** [LX14b]. **Partitioned** [GGNV10, KMR13, LTT13, MST11, SZ13]. **Parts** [LLN18]. **Past** [BMO11]. **Path** [BFRS16, CR18]. **Path-Dependent** [CR18]. **Paths** [GL11, GL12]. **Pathwise** [CE18, Gaz14, Jen11]. **PDE** [BBS16, BJK10, BEF10, CEH15, Git13, KV10, Kou17, NOS16]. **PDE-based** [CEH15]. **PDE-Constrained** [BBS16, Kou17]. **PDEs** [BCDS17, BPS12, Bré13, CST13, CSZ19, CLP12, CK14, CDS10, EST18, GL13, GHS18, GMNS19, GW18, GHM<sup>+</sup>18, GLR18, HPS17, LY13, LW18, Mir16, OR14, Sin14, ZX14]. **Peaceman** [HH13]. **Pebble** [Tak13]. **Peer** [SK13]. **Penalization** [BCM10]. **Penalized** [LLZ15]. **Penalty** [BY17, BFH14, BN11, BGGyS12, BSZZ13, BGSZ17, BGyS18, Bur12, BHL17, DLM13, FLX16, GMR15, Jin15, KS14, Liu11, MSS17, RZ19, VZ18b, WW13, WR11, WR12]. **Penalty-Factor-Free** [Liu11]. **Penalty-Free** [Bur12, BHL17]. **Penrose** [XWG10]. **Perfect** [Fis15]. **Perfectly** [CZ10c, CW13, DK14, ES19, Kal12, LW19]. **Performance** [BC17a]. **Peridynamic** [DTZ13, TD13, ZD10]. **Periodic** [AP18, CEM13, DS18, HMP15, LZ17, NS10]. **Perron** [NFM18]. **Perturbation** [BN16, BN11, Nic17, NA15]. **Perturbation-Resilient** [NA15]. **Perturbations** [XWG10]. **Perturbed** [AT17, BY12, HK17, Kop15, LS13b, LYZZ18a, ZLY16]. **Petroleum** [SS13a]. **Petrov** [BTDG13, CH16a, CH18b, DHSW13, DKG<sup>+</sup>14, DKGS16, J LZ16, JN15, KAD19, Mir18, MAF14, YG15, ZZK15]. **Phase** [AT16, BLWW13, EJK10, Grü13, HT16, KS13, KSW18, LR13, LQT16, MW19, SS13a, SY15, WW11a, WY11]. **Phase-Field** [SY15]. **Photoacoustic** [ABGJ13, FKS14, SPH18]. **Physical** [FHM16]. **Picard** [CW19, CGS15, HMP15, PRX19]. **Piecewise** [AR10b, LM13a, LB19]. **Pitaevskii** [HM17]. **Planar** [LM14b, RL13, Zha17]. **Planck** [CS18a, JMO17, LMM16, LY12, SY12]. **Plane** [BMcS10, DW13, HMP11]. **Planewave** [NS10]. **Plasma** [BS19]. **Plasmas** [FR17]. **Plasmonic** [ARYZ18]. **Plasticity** [BMR12, WW11b]. **Plate** [BNS13, BCLP10, CTZ18, HHX11, RZ18]. **Platen** [BJK16b]. **Plates** [BSZZ13, BGSZ17, DHJ17, HH10b, Lee13, Lee15, LMR10]. **PML** [CZ17]. **POD** [CS12a, Sin14]. **Poincaré** [AKK14, GG10a, SV14]. **Point**

[BBHS14, DP12, FSX13, GLZ15, HFL12, LQB14, MM13a, SYY19, WN11, ZD12, BS15]. **Point-Source** [LQB14]. **Points** [AT17, BDSV10, DGK13, GL11, GL12, HKL19, Loi13, PGvD12, Zha13b]. **Pointwise** [BGyS18, DG13, FN13, Ku11a, LV13, LV16a, LV16b, LV17, LN18]. **Poisson** [ANP17, CPS13, CDM13, DGHP16, DG11, EO14a, FR16, FL16, JW13, MFD17, MST10, PC16, SDKS13]. **Policy** [AF16, HFL12]. **Pollution** [CEM13]. **Polyanalytic** [SVD14]. **Polygonal** [ABMV14, ABSV16, BLM11, BGyS18, CC18, FL16, KS12, LO13a, RW13, Zul15, dVLV18]. **Polygons** [HP14, HLM13, MSS17]. **Polyhedra** [SSW13a, SSW13b]. **Polyhedral** [BLM10, BHH10, KM12a, LV16a]. **Polymer** [FH10]. **Polynomial** [AP16c, BGL17, CPCD19, DGY19, EV15, ESV17, FS17, HLY13, JDZY16, LZ12, LZ14, LB19, MAF19, PBL15, Sch16, SVD14, Xia12, Xia16, ZZY13, Zha13b, ELS15]. **Polynomial-Degree** [ESV17]. **Polynomial-Degree-Robust** [EV15]. **Polynomials** [ADGP14, BJS13, CI12, DW14, GM17, HM14, JO10, Käm13]. **Polytopal** [BMW19]. **Polytopes** [FGS14]. **Pool** [NA15]. **Population** [AN10, DHRBR12, MKW14]. **Poroelasticity** [ORB16, Yi17]. **Porous** [BNY18, BMRB19, DAA13, Ing11, KPR13, LS13a, LS15, MW19, Plo19, RL15, SS13a, WSS14, dTEJ18, dTEJ19]. **Posed** [GN17, KWH16, LA11a, MRL14, MT16, Nov17]. **Posedness** [DFS17, KCDQ15]. **Position** [FW13a]. **Positive** [CPCD19, FW12b, GS18, Hag11, LHM<sup>+</sup>16, Wil14]. **Positive-Real** [GS18]. **Positivity** [FS11, HSZ18, Wu18]. **Positivity-Preserving** [HSZ18, Wu18]. **Possibly** [FFP14]. **Posteriori** [ALS13, AC10, ABLV13, BG10a, BKM13, BB16, BMW19, BMO11, BNS13, BBS16, BD19, BFH14, BES12, CZ10a, CYZ11, CK11, CDM<sup>+</sup>17, CKP11, CDG14, CM14, CET<sup>+</sup>16, CZ13, DG16, DG13, DEV13, Era13, EV10, EV15, ESV17, Fis15, GLV11, GLMV16, GMP15, GN18a, HH10b, KK18b, KP10, Kim11, KL13, Kop15, Ku11a, KS12, MNP12, PVWW13, SZ15, SW16, WW13, YDG10, BGSZ17, CHZ17, CK17]. **Postprocessed** [BNS13, LSZ11]. **Postprocessing** [CGL<sup>+</sup>10, MJRK11, MT18]. **Potential** [BdBE17, EV10, IKS18, MT11, PV16]. **Potential-Based** [MT11]. **Potentials** [EGK13, NS10]. **Potts** [WSD15]. **Power** [BR15b, DKS13, YB11]. **Power-Law-Like** [DKS13]. **Pre** [Owe19]. **Pre-Sobolev** [Owe19]. **Preasymptotic** [DW15, ZW13]. **Preasymptotics** [KMU16]. **Preconditioned** [BS15, HM16, Hla14, LK16, Ney13]. **Preconditioner** [DGS13, GNV18, Han13, LX16]. **Preconditioners** [BCLP10, BO11, BCKZ13, HMP15, SD19]. **Preconditioning** [AJ19, AKK14, BDdSM13, DP12, GMNS19, HJHUT14, HJWZ16, Log17, SV10, Zul15]. **Prediction** [DJY14]. **Premixed** [DDD<sup>+</sup>14]. **Prescribed** [RBGS17]. **Presence** [KLW16]. **Preservation** [Ket11]. **Preserve** [KLL16]. **Preserving** [BDS12, BIT13, CCKW15, DP13, DL11, DHL17, DJLQ19, EJS19, FR17, GNPY14, HMKV13, HKLN16, HSZ18, IGG18, JLQX14, KGM11, KFJ16, LLS16, LLS18a, LW16, LXZ18, LM10, MM16, Mir16, MT11, MB16, MAF19, NR12, WXZ18, Wu18]. **Pressure** [BB16, BRY15, GWW14, JN15, KLP10, LLMS17]. **Pressure-Correction** [BB16]. **Pressure-Robust** [LLMS17]. **Pressureless** [Col10]. **Pressures** [LT13]. **Pricing** [CL18, CRR16, KTK17, KL11]. **Primal** [BLO18, BH19, KLP10, WW11b]. **Primal-Dual** [BLO18, WW11b]. **Principle** [BDS12, Cla13, DL11, DJLQ19, GH12, GHK25, GNPY14, Mir16]. **Principles**

[WZ12]. **Priori**

[ALS13, AP16a, ANS15, ABSV11, BMO11, BPS12, BDO18, CYZ11, CKP11, Era12, FT17, HR13, KP10, KW14b, LV13, MT13, NKK13, NW19, WW13, ZS10a, CHZ17].

**Priors** [GH10]. **Probability**

[Gaz14, PBL15, Yam19]. **Probing**

[BRD15, CD12]. **Problem** [AD18, ANS15, ABMV14, ABSV11, BG10a, BHHS15, BC12a, BG11, BLM10, BBHS14, BO11, BG19, BV16, BF17, BD17, BMcS10, BN11, BSZZ13, BGSZ17, BGyS18, BHL17, BLO18, CS14, CKP11, CR12, CGR12, CPS13, CL15, CK17, CC13, CZ17, CH12, DS11, DHJ17, DE11, DLTZ13, DLT16, Fei19, GHM10, GMM12, GPV13, Gud12, GSV17, Ham19, HR13, HNSV13, HK16, IPP13, JDZY16, KCDQ15, KW16, KLP10, KHCR19, KW14b, KL15, LG11, LL11, LZH18, LYM10, LMR10, Mac10, MT13, OZ13, OS16, OTB18, SW12, SYY19, SU12, SV15, Tak15, VV14, WBL<sup>+</sup>15, XCLY19, YHX17, YXL19, ZHS16, ZB15, ZZMC19, ZW11, dVLV18, CDMP16].

**Problems**

[ACCE10, ABLV13, ADM<sup>+</sup>15, ASV15, AF12, AW10b, AX13, ASW10, AWJ16, AKK14, BD16a, BLRX15, BBM13, BCLP10, BLM11, BSS10, BB12, BB13, BY17, Ben17, Ber18, BC10, BDN13, BR13, BP10, BR15b, BY12, BS15, BBE11, BGGyS12, BRK14, BFK16, BC17b, BE18, BES12, CK10, CZ10b, CYZ11, CZ12, CHZ17, CM18, CF12, CLMV19, CS11, CZ10c, CX10, CHYL11, CG12b, CW13, CQR13a, CH13, CK14, Cim12, Cla13, CQS12, CZ13, CDS10, CM10, CvN10, D'A12, DHH13, DH13a, DG13, Der12, DS18, DW12, DW13, DEV13, DP12, DH15b, EES18, ESV17, FW13b, FFP14, FR14, GHV18, GL15, GLV11, GLMV16, GGNV10, GSS12, GN17, GY16, GLT<sup>+</sup>17, GT15, GT16, GT19b, GMR15, GLL11, GL19, HFE18, Hal16, HJS13, HMO19, HMP15, mHLZ16, HL10].

**Problems**

[HPS13, HS15, HM16, HK17, HJJ<sup>+</sup>13, HW14,

HHX11, IKP11, JLLO19, JP10, JLLW16, Jin11, Kal16, Kar18, Kaw19, Kay10, KPK11, KSU14, KWH16, KSS12, KL13, Kop15, Kou17, KWC10, Kwa12, LLS13, LR13, LH12, LV13, LV16b, LV17, LV18, LX16, LJC17, LLX19, ILMZ19, LS13b, LLZ15, LYZZ18a, Liu11, LM14a, MLMS17, MRL14, Mas15a, Mas15b, Mas13, MNQ13, MNP12, MO14, MT16, Moo19, MA18, MSS17, NZ12, Nic17, NOS16, Nov17, ORX14, OP12, PKK<sup>+</sup>15, Pla17, RG16, RZ18, RBGV13, RU13, Sau10, SZ15, SVZ12, SS17a, SW19, SW16, SSZ11, SSW13a, SSW13b, Sch11, SW10, SLY16, SYY19, TZ13a, TD15, VZ18a, VZ18b, VZ19a, WYZ14, Wan15, WSZ15, WX18, WNP14, WR12, mXqW10, YB11, YH16, ZZK15, ZJB16, ZHZ<sup>+</sup>14, Zul15, dFGAN10, KWC17].

**Procedures** [GGNV10, NHNY17]. **Process**

[BSS10, BG14b, FSX13, GH10]. **Processes**

[ABS12, ABS15, Rat16]. **Processor**

[AKP14]. **Producing** [GN18b]. **Product**

[BKT13, GHS18, Ket19]. **Products** [Bac13].

**Profiles** [Ren15, Ren16]. **Programming**

[BCHB10, CGLY17, GHY17, LX17].

**Programs** [HY13]. **Projected**

[BS18, BS14, DLT13]. **Projection**

[ABPV12, BV10, Bec11, BKT13, CCD18, Col10, DCdL18, GLT<sup>+</sup>17, GHSS19, GHL18, Kno10, TV16, WW10c]. **Projection-Based**

[GHSS19]. **Projective** [LLS16, LLS18a].

**Propagation** [AP18, AW10a, BCR16,

BTG12, KLP14, MZ13]. **Proper** [GJS17].

**Properties** [FS11, LR15, LR16, LM13b,

Nov17, Wal10, Zul15]. **Property** [ZW18].

**Provable** [Liu13b]. **Proximal** [LX17].

**Pseudospectra** [GL11, GL12].

**Pseudospectral**

[BCZ14, BC14, BCJT16, Hes15, Tha13].

**Pseudostress** [CKP11, CGS13b].

**Pseudostress-velocity** [CKP11]. **Pure**

[BB12, BB13, CR12]. **Pursuit**

[Fou11, MT16].

**QC** [ALS13]. **QMC** [DKG<sup>+</sup>14, DKGS16].

**Quadratic**

[BCHB10, BGGyS12, BSZZ13, BIT13, HY13, HL10, LH12, MZ13, Mir19, SW16, SL15].

**Quadrature** [ADGP16, AT17, BJK10, CM18, Hag11, HO14, PR14, Spa14, Wei19, Xia12, XB13, ZWX13]. **Quadratures**

[CS12b]. **Quadrilateral**

[GLZ19, LYZ15, LL13]. **Quadrilaterals**

[AC12, AC16]. **Qualitative** [BV16].

**Quantification** [DS11, DFS19, HPS17].

**Quantitative** [BY12]. **Quantity**

[CCL<sup>+</sup>14, HZZ11]. **Quantity-of-Interest**

[CCL<sup>+</sup>14]. **Quantization**

[CL18, PW12, Sel10]. **Quantum**

[FLL<sup>+</sup>19, LK18]. **Quasi** [BH11, BMR12,

Bar14, BMS10, BM11, BCCHV14, BN10,

BC17b, CGS18, CG12a, CGS13b, Cim12,

DHH13, Dic11, DLLT18, EWK13, FKMP13,

GSY16, GT15, GT16, HDVV10, HW15,

He19, HY18, KSS13, LL17, MW12, NW19,

Pla17, TV16, VL11, VZ18a, VZ18b, VZ19a,

VZ19b, WW13, WZ12, Wan15, GHS18].

**Quasi-Continuum** [VL11]. **Quasi-Linear**

[Cim12, GT15, GT16, Wan15, EWK13,

NW19, WZ12]. **Quasi-Monte**

[Dic11, GSY16, HW15, KSS13].

**Quasi-Neutral** [BCCHV14].

**Quasi-Newton** [HDVV10].

**Quasi-Newtonian** [CGS18].

**Quasi-nonlocal** [DLLT18, LL17].

**Quasi-Optimal** [BMS10, BN10, CG12a,

HY18, MW12, VZ18a, VZ18b, VZ19a, Bar14,

CGS13b, FKMP13, VZ19b, WW13].

**Quasi-Optimality** [BM11, TV16, Pla17].

**Quasi-Orthogonality** [BH11].

**Quasi-reversibility** [DHH13].

**Quasi-Static** [BMR12].

**Quasi-unconditional** [BC17b].

**Quaternionic** [JO10].

**Rachford** [BS15, GHY17, HH13, HY12].

**Radial** [DDP17]. **Radiation** [KZ15].

**Radiative** [ES16, ES19, GK10]. **Random**

[BCL17, BPS12, Cha12, CST13, CQR13b,

DGHP16, DKG<sup>+</sup>14, EST18, Git13, GKN<sup>+</sup>18, HPS17, KSS13, LR12, LW18, ZG12].

**Randomized**

[BG14a, GWW12, HW15, LX17]. **Rank**

[BD16a, IKP11, Käm13, KLW16, LVW18,

OPW19]. **Rank-** [Käm13].

**Rank-Constrained** [LVW18].

**Rank-Deficient** [IKP11]. **Rapid** [CI12].

**Rate** [AC19, AWJ16, Bar14, BCJ19, BN10,

CHW19, DHRBR12, FKMP13, GL18,

HYZ16, HY12, HW15, He19, JLLO19,

LZH18, LYZZ18b, MPPS10, WMI10, Zhe17].

**Rate-Independent** [Bar14, MPPS10].

**Rates** [BCS18, CP13, CH18b, CvN10, CR18,

CH19, EP16, FHW12, FFP14, Git13, HW14,

KWH16, NZ18, SS17b, Sol18, XB13, Xia16].

**Rating** [LZH18]. **Ratio** [ABW15].

**Rational**

[Bec11, DKS11, GT19b, GK13, JKK<sup>+</sup>13,

KB12, PGvD12, PR14, WMI10, WW10c].

**Raviart** [BMS14c, BMS14b, BS16a,

CGS13a, CGS13c, Oh13, VZ19b, Zul15].

**RBF** [FW13b]. **RC** [AKGR14]. **Reaction**

[ABS15, BDS17a, BBHS14, CL19, DDD<sup>+</sup>14,

DDE15, GPV13, GRK18, HK17, JN11,

Kno10, Kop15, LMV13, ILLZ18, LS13b,

LYZZ18a, Luc11, Wel11, ZLL<sup>+</sup>14, ZTRK15].

**Reaction-Diffusion**

[ABS15, HK17, Kop15, LS13b, Luc11].

**Reaction-Dispersion** [BBHS14].

**Reaction-Subdiffusion** [ILLZ18].

**Reactive** [KPR13]. **Real** [GS18, Hla14].

**Really** [ALM18]. **Rebalanced** [SGMS13].

**Recast** [KL15]. **Reconstructing** [Käm13].

**Reconstruction**

[AWJ16, BdL10, CN17, EV10, FKS14,

Lau17, LLMS17, TT10, WSD15].

**Reconstructions** [AHS14a, AHZ18,

BBMZ19, BCL16, CN17, CSV19, KL13].

**Recovered** [KH14]. **Recovery**

[BdBE17, CZ10a, CZ10b, NZ12, Reu13,

WCH10, ZW18]. **Recovery-Based** [CZ10b].

**Rectangular** [HHZ11, Hu15]. **Recurrence**

[CW18]. **Recurrences** [MV14]. **Recursive**

[BLRX15]. **Red** [LX14b]. **Redistancing** [Reu13]. **Reduced** [AW10a, CQR13b, HSW13, HJKR16, RÁM<sup>+</sup>17, Sin14]. **Reduction** [CM18, CS12a, Mir14, Mir19, PM14]. **Refined** [CM14]. **Refinement** [Ebn14, Era13, KAD19, Mor16]. **Refinements** [GN18b]. **Regime** [BCZ14, BCJT16, CW19, CLY19, DDD<sup>+</sup>14, YZ14]. **Regimes** [BS19]. **REGINN** [MRL14]. **Regionally** [GR19]. **Registration** [LG11]. **Regression** [BG17, GLZ18]. **Regular** [ZF16]. **Regularity** [AB17, CDN18, GHM<sup>+</sup>18, KCDQ15, KLL16, LV18, LS15, LS17, RW11, TZ13a, XB13, Xia16]. **Regularization** [BNS14, Ben17, DLTZ13, FNP14, HW17, JL10, Kal16, PV16, Pla17, ZW18, ZW11]. **Regularized** [ACSW12, BCST19, BCG<sup>+</sup>10, Krö19, MT16, ACSW14]. **Reissner** [BCLP10, HH10b, Lee13, Lee15, LMR10]. **Related** [BC17b, GG10b, RN17, TW17]. **Relativistic** [LMO12]. **Relaxation** [AKGR14, BR13, BPR17, HJS13, Ket19, KV10]. **Relaxed** [LLS18b]. **Reliability** [CGS13a]. **Reliable** [Seg10]. **Remarks** [Pet11]. **Renewal** [BL18]. **Renormalized** [GR15]. **Reproducing** [GRZ15, RD17]. **Requirements** [GN17]. **Resampler** [GLZ18]. **Rescaling** [RT16]. **Residual** [ABPV12, BG10a, BCG<sup>+</sup>10, CZ12, CM14, CS18b]. **Residual-Based** [BG10a, CM14]. **Residuals** [WCK15]. **Resilient** [NA15]. **Resistive** [LSBTS19]. **Resolution** [CR17]. **Resolvent** [GG10b, GG17]. **Resonance** [FS14, Hal16]. **Respect** [MZ14, Sau10]. **Restoration** [Kay10, ZW18]. **Restricted** [FW12b]. **Restrictions** [JN15]. **Result** [Era12, RZ18]. **Resultant** [NT16]. **Results** [BB13, BV16, CPS13, CS11, GF12, HW17, LV16a, LV16b, LV17, Li19, Mas15a, Pla17, Sin14]. **Retarded** [BMV12, MZ14]. **reversibility** [DHH13]. **Reweighted** [LXY13]. **Rham** [GNV18, RBGV13]. **Rheology** [DKS13]. **Riccati** [BS14, HS14]. **Richards** [BKS11, BC17a]. **Richardson** [DGY19, mHLZ16]. **Riemannian** [BGN19, LCJ<sup>+</sup>18, Mir19]. **Riesz** [ZLL<sup>+</sup>14, ZDK18]. **Right** [ABSV11, KW14b]. **Right-Hand** [ABSV11, KW14b]. **Rigid** [BCM10]. **Rigorous** [DK13, GL13, LR14]. **Ritz** [GHL18]. **RKHS** [PS19]. **Roaming** [GL11, GL12]. **Robin** [CGHW11, CQR13a, CK14, CdTGGP18, GGNV10, JMN14, KCDQ15, KSS12, LX14b, XQ10]. **Robin-Robin** [GGNV10]. **Robin-type** [LX14b]. **Robust** [AKK14, BMO11, BCLP10, BKS11, BNY18, CZ12, CHZ17, CDM<sup>+</sup>17, CR12, DH13a, DEV13, EV15, ESV17, HK17, HT17, HK16, Kou17, LLMS17, PVWW13, SSZ11, Tak15, TD14, WSD15, Wil14, ZB15, dTEJ18, dTEJ19]. **Rogers** [HNSV13]. **Role** [UU16]. **Root** [HL15, Pet10, Pet11]. **Root-Finding** [Pet10, Pet11]. **Rootfinding** [NT16]. **Roots** [AKT14, PGvD12]. **Rotating** [BDLV17]. **Rotation** [HM17]. **Rough** [BFRS16, CHL17, GPS16, KOS19, SS17b]. **Roughening** [KV10]. **Rudin** [LM13a, WL11]. **Rules** [CM18, DGY19, DGK13, GSY16, JL10]. **Run** [BRO10]. **Runge** [BR13, BPR17, BEF10, CH16b, CHJ19b, CCKW15, DP11, DP13, HMKV13, HPS13, HP15, IGG18, Kay10, KGM11, KMR13, KLP14, Ket19, Li10, LL15, MST11, Röß10, SG15, SwS19, TYK14, XZwSW19, ZS10a, ZFX17, ZSZ15]. **Sacker** [Hül10]. **Saddle** [BBHS14, BS15, GLZ15, HKL19, LO17, SYY19, ZD12]. **Saddle-Point** [BBHS14, BS15]. **Sample** [DT17]. **Samples** [AHS14a]. **Sampling** [DDP17, GKN<sup>+</sup>18, JDZY16, Käm13]. **Santos** [BKS17]. **Satisfying** [LY12, LCS15]. **Saturation** [Pla17]. **SAV** [SX18]. **Scalar** [CZ10a, CSYZ18, Cla13, DW13, FLM18, GPS16, Gos14, GNPY14,



GP16a, GP17, LXZ18, MZ16, MSZW13, Ren15, Ren16, ZS10b, ZS10a, SX18]. **Scale** [BCGS10, JLLO19, LN18, LSZ11, NP16]. **Scaling** [JLQX14]. **Scattered** [FW12b]. **Scatterers** [KWB15]. **Scattering** [ABIR19, BCL17, BS11, CZ10c, CW13, CZ17, DS18, Hal16, HLM13, LZ17, LMS13, LM11b]. **Scheme** [AP16b, AW10a, ACCE10, BH17, BLWW13, BJK16b, BB13, BCCHV14, BSW18, BdL10, Bré13, BM16, CS14, CC13, CER14, CK16, CR15, CD14, CN17, CHJ19a, CWYZ19, CRR16, Col10, CvN10, CH18d, DCdL18, DS18, DKR15, EJS19, EGHL10, FF14, Gaz14, Gos14, GTW<sup>+</sup>12, GO12, HH13, HWZ17, JMO17, KST15, LLS16, LLS18a, LZ17, LNR11, LR18a, LZH18, LXZ18, LR18b, LLX19, lLzSsS10, LM10, LCJ<sup>+</sup>18, MMJ<sup>+</sup>17, NSS19, PKK<sup>+</sup>15, RZ19, Rid16, RL17, RSY12, RY18, SS13a, SW19, Svä16, WMI10, WW11a, WL14, WY19, YKF18, ZS10b, nZzSZ12, ZZJ10, Zhe17, DJY14, Kol14, MM14]. **Schemes** [AD18, AF12, ABBM11, ABS12, ABS15, AAN11, AN10, BKM13, BB16, BJK16a, BDS12, BJK10, BCJ19, BSO12, BR13, BEF10, CH18b, CFMP13, CC14, CCCS16, CDM13, Cha14, CS11, CS10, CW16, CGS15, CK14, CKK19, DMP13, DG16, DL11, DJLQ19, DH15b, Ebn14, ES16, ELM15, FKS14, FMT12, FS16, FS11, FO13, GMP15, GG15, Grü13, GHL18, HLY13, HPS13, HSW17, HSZ18, JLQX14, JP17, KPR13, lLMZ19, LYZ15, LAFS16, Liu13a, LCS15, MM10, MZ16, MT11, Moo16, NR12, PS16, Rat16, Rie14, RU13, RSSZ17, SS17b, SDKS13, SWWW12, SY15, SX18, SDM18a, SDM18b, SZZ18, TD14, TT10, Wal10, WBN16, WW10b, WXZ18, Wu18, YB11, nZzSwW11, dTEJ18]. **Schrödinger** [AAN11, BC12b, BC14, BCST19, BDLV17, CEM13, Car13, CH16b, CH12, CH18d, DGNS17, IPP13, IKS18, JW13, KK18b, KOS19, LZZ18, lLzSsS10, Liu13a, MC18, NS10, Tha13, YZ14, Zhe14]. **Schwarz** [BCPS12, CKW13, CG17, CG18, DW13, GX14, GH15, GPV13, HJS13, HH14, JMN14, KZ15, Kwo11, LC15, LK16, Loi13, Oh13, XQ10]. **Schwoebel** [SWWW12]. **Scott** [CELR11]. **SDE** [Yam19]. **SDEs** [AVZ14, DKS16, DF12, LL19, TZ13b]. **SDFEM** [ZLY16]. **SDG** [CQ17]. **SE** [PS16]. **Search** [GLZ15, LO17, ZD12]. **Second** [AH15, ASW10, AGP17, BGL17, BLWW13, BB12, BB13, BdSS13, BORM18, BFK16, CFZ15, CGT15, Che10, CGSW13, CWYZ19, CQS12, CZ13, DZZ19, DLT13, DK14, ELS15, FW13b, Fio18, FS16, GLMV16, GSS12, GNPY14, GP17, Ham19, HS16, KL11, LZZ18, MNP12, OTB18, SSW13a, SSW13b, Seg10, SWWW12, WZ12]. **Second-Order** [AH15, AGP17, BFK16, CFZ15, CGT15, CGSW13, CQS12, DZZ19, DLT13, FS16, GNPY14, GP17, HS16, LZZ18, OTB18, SSW13a, KL11, SWWW12]. **Sections** [LR12]. **Seepage** [AD18]. **Seidel** [HNSV13]. **Selection** [AABR13, IKP11, LQZ17, LCS15]. **Self** [HS15, IPP13]. **Self-Adjoint** [HS15, IPP13]. **Sell** [Hül10]. **Semi** [BDN18, CS14, CDM13, CCKW15, FJ17, GPS16, LQT16, MM14, PKK<sup>+</sup>15, Rie14, RSY12, RY18]. **Semi-discretization** [GPS16]. **Semi-Explicit** [MM14]. **Semi-Implicit** [BDN18, CCKW15, LQT16, Rie14]. **Semi-Lagrangian** [CS14, CDM13, FJ17, PKK<sup>+</sup>15, RSY12, RY18]. **Semialgebraic** [ZF16]. **Semiclassical** [AAN11, Car13, CLY19, JW13, YZ14]. **Semidiscrete** [CHJ19a, Gaz14, JLZ13, Kar18, LSZ18, MM16, XS12, FS14]. **Semidiscretization** [CH16b]. **Semidiscretizations** [CHJ19b, KTK17]. **Semigroup** [Dör12, MTKO17]. **Semigroups** [GG10b, GG17, OS13]. **Semilinear** [AMK19, ACLW16, Gau15, HH13, KM12c, MTKO17, PL10, ZZY13]. **Semipermeable** [CGJ13]. **Sensing** [Fou11]. **Sensitivities** [And13, GRK18]. **Sensitivity**

[BMK10, BBE11, BES12, CNBW17, SK13, WP19]. **Separate** [CR17]. **Sequences** [BDdSM13, CF17]. **Series** [GG10b, LR14, LO13b]. **Serre** [ADM17, ADM21]. **Set** [DH15a, GLR18, HVC15, Reu13]. **Set-Parameterizations** [HVC15]. **Set-Valued** [HVC15]. **Sets** [FS17, Gra17, ZF16]. **Setting** [EV15, KL15, Poe19]. **Several** [ACG15, CCM10, Han11]. **Shadowing** [CNBW17, Wan14]. **Shallow** [AGP17, BdL10, DCdL18]. **Shallow-Water** [DCdL18]. **Sham** [LWW<sup>+</sup>15]. **Shape** [BV16, Cim12, DHJ17, LO13a, MM10, PS19]. **Shaped** [YLH18]. **Sharp** [BH11, Ku11b, ILLZ18, LM14b, OZ13, XWG10, ZWX13]. **Shaw** [FW12a, FLX16]. **Shear** [BMcS10]. **Shearlet** [HKS11]. **Sherman** [DH11, DTV15]. **Shift** [NP16]. **Shifted** [YB11]. **Shifted-Inverse** [YB11]. **Shishkin** [ZLY16]. **Shock** [CER14, Ren15, Ren16, ZM16]. **Shocks** [SNSM13]. **Shooting** [XA16]. **Shrinking** [ZD12]. **SIAC** [MJRK11]. **Side** [ABSV11, KW14b]. **Sided** [MK18, SV14, CH19]. **Sign** [CCKW15]. **Signals** [Che11b]. **Signed** [Zha17]. **Signorini** [BHL17, DE11, DH15a, HR13]. **Similar** [SV14]. **Similarities** [HDVV10]. **Simple** [JO10, Liu13b]. **Simplices** [CS12b]. **Simplicial** [CH12, FS17]. **Simplified** [IKS18]. **Simulation** [DSZ17, HT16, Mao15, YLH18]. **Simulations** [GRK18, TW18]. **Sine** [BC14]. **Singular** [BC12a, BDN18, BN11, CS12b, GR18, GL18, KLW16, LZ12, LZ14, LB19, LM11a, Mac10, MK18, PWZ13]. **Singularities** [AR14, DGK13, ERW14, GT19b]. **Singularly** [BY12, HK17, Kop15, LS13b, LYZZ18a, ZLY16]. **Size** [DHRBR12, HKLN16, JLLO19, LQT16, PW14]. **Size-Structured** [DHRBR12]. **Sized** [CG17, CG18]. **Sizes** [Ket11]. **Skeel** [Xia10, Peñ07]. **Skeletal** [DDE15]. **Skew** [Der12, GO12]. **Skew-Symmetric** [Der12, GO12]. **Slip** [SCP18]. **Slope** [LQZ17]. **Slow** [AGK<sup>+</sup>11]. **Smagorinsky** [RÁM<sup>+</sup>17]. **Small** [AHS16, BMR12, Han11, KLW16]. **Small-Strain** [BMR12]. **Smoluchowski** [BMK10]. **Smooth** [DK13, FHM16, GSY16, LM11a, PST15, Ull17, YG15]. **Smoothed** [LXY13]. **Smoother** [CTZ18]. **Smoothing** [BG10b, CG12b, HJS19, WL11]. **Smoothly** [IGVGF19]. **Smoothness** [DILP18, Die14, GG17, MJRK11]. **Smoothness-Increasing** [MJRK11]. **Sobolev** [AU14, BD16a, FW12b, GG10a, KMU16, LSW10, Owe19]. **Soil** [BKS11]. **Solid** [GMM12, Ing11, KSU14, YHX17]. **Solution** [Bar12, Bar17, BS14, BKS11, CHW19, DGHP16, Der12, FL16, HMO19, HM16, HK16, LMM16, LJC17, Mas15a, Mas15b, Nic17, RBGV13, SVD14, WR11, WR12, ZB15]. **Solutions** [AP16b, AB17, BC12a, CMS16, CLP12, FLM18, FO11, GU10a, GU10b, HL10, IPP13, KM12c, LV16b, LV17, LY11, LZ12, LZ14, LS17, LB19, LW18, MK18, MJRK11, MTKO17, NHNY17, Röß10, Seg10, YB13, YZ11, ZZY13, ZGD17, ZH15]. **Solve** [CHP13]. **Solver** [CG12a, ZG18]. **Solvers** [BHHS15, BC17b, FO11, JML13, LL11, ZX14]. **Solving** [AHZ18, BR15a, BS18, DHH13, DJY14, DKS11, GW18, GL10, GLZ18, GT19b, Hla14, JLLO19, JWX14, JMO17, KPK11, KST15, LW16, OR14, WHIC10, WY11, ZZJ10]. **Some** [AC19, CS18a, FS11, Jin11, KTK17, Li19, Nov17, Owe19, RN17, RT16]. **Sorting** [CEH15]. **Source** [BLRX15, BCL17, CX13, HW17, Luc11, LQB14, Ver12]. **Space** [ACG15, AX13, BGL17, CGKMC19, CF12, CCM10, CS12a, CD14, CLJ<sup>+</sup>16, CS10, DW13, DHP13, DH15b, DK14, ER18, ESV17, GNV18, GRZ15, Hal16, HS15,

HJJ<sup>+</sup>13, HJKR16, JL18, JLPZ14, JMO17, KHCR19, KRR15, LC15, LWD17, ILNS19, MZ16, MSZW13, MPPS10, Moo19, NOS16, OR14, ORX14, RD17, WW10a, WYZ14, ZLL<sup>+</sup>14, ZG18, Zou18]. **Space-Fractional** [JLPZ14, ILNS19, WYZ14, CLJ<sup>+</sup>16]. **Space-Time** [ER18, ESV17, HJKR16, LWD17, MZ16, NOS16, Zou18]. **Spaced** [JDZY16]. **Spaces** [AU14, BD16a, BG14a, BMV18, BG17, CFQ18, D'A12, DILP18, ELS15, EWK13, FL16, FHN<sup>+</sup>13, GHSS19, HT17, Jin15, LSW10, LB19, MRL14, Owe19, WNP14]. **Spacetime** [DGNS17]. **Spacetimes** [LMO12]. **Spanning** [DS10]. **Sparse** [Bie11, CS11, EST18, Git13, JDZY16, KM12b, PH16, SW10, WSD15, Yin09, ZWGB15]. **Sparse-Grid** [ZWGB15]. **Spatial** [CE18, CH19, JKK<sup>+</sup>13]. **Spatially** [KMR13]. **SPDEs** [BJK16b, Bie11, Jen11]. **Special** [CDGQ10]. **spectra** [Hül10]. **Spectral** [AW10a, AGT18, BMS14a, BTG12, CW18, CEM13, CNSV16, CHYL11, CdTGGP18, DY16, HW17, IPP13, LMS13, LTX13, LX14a, LQT16, LM11a, LY13, MFD17, MK18, MMR13, SW10, SY12, SWG14, mXqW10, XQ10, ZLL<sup>+</sup>14, Zha13b, ZZK15, ZH15]. **Spectral-Finite** [AW10a]. **Spectral-Galerkin** [SY12]. **Spectral-Subdomain** [LTX13]. **SPH** [LD19]. **SPH-Like** [LD19]. **Sphere** [ACSW10, ACSW12, ACSW14, FHN<sup>+</sup>13, LSW10, Mir18, PST15]. **Spheres** [KW14a]. **Spherical** [ACSW10, ACSW12, ACSW14, FKS14, LCG<sup>+</sup>10, Mac10]. **Spline** [CTZ18, DTV15, DGM<sup>+</sup>17, FL16, HT17]. **Splines** [BG10b, BMV18, Mor16]. **Split** [Eng15]. **Split-Step** [Eng15]. **Splitting** [AVZ15, ASS16, BR15a, BLWW13, BS15, CHWG15, CHP13, Car13, CLL10, CE18, CvN10, CH18d, DDD<sup>+</sup>14, Dör12, DW14, EJS19, EO14a, EO14b, GHS14, GHY17, HYZ16, HS14, HLS13, LQZ17, Liu13a, OS13, OPW19, PV16, SWWW12, SGMS13, Tha13].

**Splittings** [HT17]. **Spontaneous** [BGN16]. **Spurious** [FS14]. **Square** [CHJ19a, TZ13b]. **Squares** [ACSW12, ACSW14, BCG<sup>+</sup>10, BMS14c, BMS14b, Ber18, BPS11, BCS18, CK11, CP15, CS18b, CGT15, CNBW17, CCL<sup>+</sup>14, CLS18, HDVV10, Hes15, IKP11, Ku11a, Ku11b, LXY13, LMM<sup>+</sup>13, Mig19, MS12, ORU18, SPH18, SSS11, Wan14, CK10, PST15]. **Stability** [AHS14a, Akr15, ABS12, BCGS10, BCE14, BDN18, BORM18, BKN13, BC17b, BK10, BM16, CR15, CW13, CW16, CKK19, Der12, DEM15, DH11, DH13b, DK14, EJ17, GF12, GTW<sup>+</sup>12, GO12, GR19, HMKV13, HKLN16, HN11, HKL16, IGG18, KGM11, Ket11, Ket19, Lau17, LTT13, LL11, LM14b, Mao15, MST11, MAF19, NV14, OS13, PF13, QD11, Ren16, RSSZ17, RL17, SSW13a, SwS19, SCP18, TYK11, TYK14, WN18, WSZ15, XZwSW19, ZS10a, ZHS16, ZFX17, GT15, Kal12]. **Stabilization** [ABW15, BEF10, BS16b, EG13, ELN13, GL17, Kno10, LQT16, dFGAN10]. **Stabilized** [AABR13, BCE14, BV10, BBHS14, BPP15, BC10, CELR11, GG15, GSV17, HLZ15, JN15, LOX18, RW17a, SV15, Wel11]. **Stable** [BGN19, CFMP13, CC14, CACS16, CK16, FN13, FW14, FR16, FMT12, GRT14, GSR17, GN18b, HT17, HK16, HVC15, JP17, KSW18, KLL16, KM12b, LS16, MMJ<sup>+</sup>17, Nor16, PGvD12, SW19, SY15, Ste11, WW11a, XWG10, ZZJ10]. **Stage** [CET<sup>+</sup>16]. **Staggered** [CKW13, CCF14, GF12, KCL13, KFJ16, MLMS17, OHBNX15]. **Standard** [BCL16, Fei19]. **Star** [GWW12, YLH18]. **Star-Shaped** [YLH18]. **State** [AZC14, AWJ16, BF17, BGyS18, CS12a, CG12b, CCKW15, HMP14, HM16, LYYM10, MKW14, WP19, You17, WY19]. **State-Dependent** [MKW14]. **Static** [BMR12]. **Stationarity** [PW12]. **Stationary** [CWZ10, DGK13, GKN<sup>+</sup>18, LM14a, MST10,

Ren15, SNSM13, SD19, YZ11, YZ17].  
**Statistical** [FLM18]. **Steady** [AWJ16, BLM10, CCKW15, DKS13, Ren16, WP19]. **Steady-State** [AWJ16, WP19]. **Steepest** [KV10, Ney13]. **Steepest-Descent** [KV10]. **Stehfest** [Kuz13]. **Steklov** [CZAL13, YXL19]. **Stemming** [MV14]. **Stencils** [Mir16]. **Step** [AC10, Eng15, HKLN16, HKL16, JN15, Ket11, Lau17, LAFS16, Pot16, SK13, WCF19, SZS15, KGM11]. **Stepping** [CC13, CK14, CHL12, GMS18, GS11, HJS13, LLX19, SMSF15, SW19, SZ13, Wal10, Wal14b]. **Steps** [CWYZ19]. **Stepsize** [HYZ16]. **Stiff** [CCKW15, DP11, DP17, HSZ18, KPK11, LL15, LO13b, OPW19]. **Stiffness** [MZ14]. **Stochastic** [ASS16, AHS16, ACLW16, BCDS17, BMK10, BS18, BPS12, BPRR19, BJ13, BG14b, BRO10, Bré13, BK10, CHL17, CP13, CHP13, CQR13a, CH16b, CTZ18, CHJ19a, CHJ19b, CE18, CLS13, CvN10, CR18, CH18d, CH19, DSZ17, Dör12, DHP13, Ebn14, Eng15, FLZ17, FKLL18, Gaz14, GPS16, GLT<sup>+</sup>17, GN18a, GLL11, GRK18, HZZ11, HSW17, HWZ17, KSW14, KY18, KLS10, LR18a, LWD17, LMYY18, Liu13a, Luc11, Mao15, MMJ<sup>+</sup>17, MA18, NSS19, NHNY17, PW14, PS16, Röβ10, SDM18a, SDM18b, SZZ18, TT10, WXZ18, YDG10, YZ11, ZG12, ZTRK15, ZZJ10, ZJB16, Zhe17, Zou18].  
**Stokes** [FHM16, ALM18, ABMV14, ABPV12, BG10a, BHHS15, BCGS10, BMW19, Bea15, BM11, BLM10, BBDR12, BO11, BdSS13, BRY15, BC17b, CGS18, CWZ10, CGOT16, CGM16, CGH<sup>+</sup>10, CP13, CHP13, CKP11, CGS13b, CDNP18, CELR11, CHYL11, CGHW11, CGSW13, CW16, CQ17, CY10, DJY14, DFW15, DGGQ16, Dör12, ER18, EGHL10, FN13, Fei19, Fis15, GG15, GTW<sup>+</sup>12, GJS17, GHL18, Hes15, JN15, KK10, Kas13, KW16, KLP10, KCL13, KM12a, LLMS17, LOR11, LL11, LT13, LR18b, Liu11, LMM<sup>+</sup>13, Liu13b, LM14a, Log17, MS12, PRX19, RW17a, RL17, SZ13, SD19, SV15, Svä16, Tak15, Tak13, TL15, VZ19b, YDG10, ZZMC19, dVLV18]. **Strain** [BMR12, BMcS10]. **Strang** [EO14a, EO14b]. **Strategies** [ARwS19, FNP14, PST15]. **Stratified** [GLZ18]. **Stream** [ABMV14]. **Streamline** [AKK14]. **Stress** [CCD18, Gra15, Kim11]. **Strict** [Peñ07, Xia10]. **Strong** [ASS16, BC10, CMS16, Cha12, CWZ14, CR18, CH19, Eng15, FR16, FKLL18, HMKV13, HKLN16, Hag11, IGG18, KGM11, Ket11, MAF19, Röβ10, SwS19]. **Strongly** [ARYZ18, BSW18, CH18a, FR17, GHY17]. **Structure** [Bac13, BKT13, BM16, GGNV10, KL15, OTB18, RGMP16, SG15, WXZ18]. **Structure-Preserving** [WXZ18]. **Structured** [CGKMC19, DHRBR12, Li18, LX17, MKW14, MJRK11, Mor16]. **Structures** [HKS11, MV14]. **Study** [ABIR19, Ben17, BCCHV14, BV16, DL11, GO12, SS13a, Yi17]. **Studying** [ASS16]. **Subcell** [CN17]. **Subdiffusion** [AMK19, JLZ18, ILLZ18, ILMZ19, nZzSwW11]. **Subdivision** [MM10, Moo16]. **Subdomain** [LTX13]. **Subdomains** [CG17, CG18, DW13, GKR13]. **Subgrid** [BCGS10]. **Submanifolds** [FW12b]. **Subset** [IKP11]. **Subsonic** [BdL10]. **Subsonic-Well-Balanced** [BdL10]. **Subspace** [DKS11, GT19a, GG13, GG17, HS15, MN11, ORU18, XZO19]. **Substructuring** [DW12]. **Successive** [CC14, CCCS16]. **Suitable** [BC12a, Mor16]. **Summation** [LLN18]. **Summation-by-Parts** [LLN18]. **Sums** [ADGP14, ADGP16]. **Sup** [GSR17, GN18b]. **Superconductivity** [GLS14, WY19, You17]. **Superconvergence** [CZZ14, CSYZ15, CSYZ18, CS10, Ku11a, Li18, LR18b, MSZW13, MM13b, RL17, TX19, WCH10, YS13, Zha13b]. **Superconvergent** [CPXZ19, CQS12].

**Superlinear** [HS15]. **Superpolynomial** [WMI10]. **Superquadratic** [Pot17]. **SUPG** [HL10, JN11]. **Supply** [DMP13]. **Supports** [GHS18]. **Suppression** [CW18]. **Sure** [Mao15]. **Surface** [ANS15, DER14, DO12, DE13, KV10, LTT13, MW12]. **Surfaces** [ADM<sup>+</sup>15, BS16a, BHH10, BD19, GR16, GLR18, GJOR18, HLZ15, LZ17, LOX18, LNR11, MM13a, Nic17, OR14, ORX14, RWJG13, WCH10]. **Sweat** [HLS13]. **Sweeping** [LQB14]. **Switching** [LMYY18, NHNY17]. **Sylvester** [Bec11]. **Symbol** [DGM<sup>+</sup>17]. **Symbol-Based** [DGM<sup>+</sup>17]. **Symmetric** [BY17, BMV18, BEF10, Der12, GG11, GO12, HMO19, Hu15, MSS17, VZ18a, VZ18b, VZ19a, Wil14, ZFX17, HM14]. **Symmetry** [AL14, Kim11, QD11]. **Symplectic** [CH16b, HSW17, BHHN14, HWZ17]. **System** [AP16b, BDS17a, BS19, BG11, BMS14c, BMS14b, Ber18, BCCHV14, Bré13, CFZ15, CGKMC19, CGHW11, CGSW13, CL19, CKK19, DFW15, FHM16, FR16, GS18, GO12, KCL13, LMM<sup>+</sup>13, MFD17, MS12, PC16, SSS11, YZ17]. **Systematic** [BK10, CF17]. **Systems** [ACG15, ARYZ18, AC19, BR15a, BKT13, BBDR12, BDdSM13, BPR17, BK10, BTDG13, BEF10, CMS16, CFMP13, Cim12, DG16, DP12, FMT12, GSS12, GMP15, GP16b, HKS11, HMO19, HVC15, Hül10, LMV13, LZ12, LZ14, LW16, LCY13, MT11, MB16, MM14, Mur14, PM14, RZ19, SVD14, TT10, WBN17, ZM16].

**T** [Mor16]. **T-Splines** [Mor16]. **Tailored** [FLL<sup>+</sup>19]. **Tamed** [DKS16]. **Tau** [AHS14b, GRK18, Rat16]. **Tau-Leap** [GRK18]. **Tau-Leaping** [AHS14b]. **Taylor** [CELR11, LL11]. **Technique** [ASS16, BP10, CG12b, GS11, GNPY14, GP16a, SDG16]. **Techniques** [AKGR14, BCL13, CGL<sup>+</sup>10, DS10, HMP14]. **Temperature** [KV10, WY19]. **Tempered** [DLQW18, ZDK18]. **Temporal** [Liu13b, PF13, WS18]. **Tension** [ANS15]. **Tensor** [BKT13, Git13, LS15, LOV15, RU13]. **Tensors** [LVW18]. **Term** [BCGS10, CCKW15, FJK13, WN18]. **Terms** [D'A12, Jin15, Luc11, Ver12]. **Tessellations** [Urs17]. **Test** [HP14]. **Tetrahedral** [Wal14a]. **Textile** [HLS13]. **th** [HZZ19, Sch16]. **th-Laplace** [Sch16]. **th-Order** [HZZ19]. **their** [WYZ14, WZ19]. **Theorem** [HNSV13, SMSF15, TZ13b]. **Theoretic** [BBE11, BES12, GS14]. **Theory** [CF12, LL15, LB13, LB16, LWW<sup>+</sup>15, Mac10, MTKO17, Ney13, NV14, RSSZ17, VZ18a, dTEJ19]. **Thermally** [ZZLB13]. **Thermistor** [LGS14]. **theta** [SZZ18]. **theta-Schemes** [SZZ18]. **Thick** [BCL13]. **Thickness** [DGHP16]. **Thin** [CTZ18, DGHP16, Lee13, NV14, SWWW12]. **Third** [Kol14, ZS10a]. **Thomas** [BMS14c, BMS14b, BS16a, CGS13c, Oh13]. **Three** [BCM10, BRSV11, CHWG15, CDNP18, CLL10, D'A12, Gar15, GMM12, GM19, HT16, KM12a, Mor16, TL15, dVBD<sup>+</sup>18, CK17]. **Three-Dimensional** [BCM10, CHWG15, KM12a, Mor16, TL15, dVBD<sup>+</sup>18, D'A12]. **Three-Phase** [HT16]. **Threshold** [EJ17, GWW12]. **Thresholding** [Fou11]. **Tight** [KK18a]. **Tight-Binding** [KK18a]. **Time** [AVZ15, AP16a, AP18, And13, BGL17, BCZ14, BCJT16, BdSS13, Bla18, BKN13, Bré13, CHWG15, CMS16, CHP13, Car13, CC13, CCM10, CLMV19, CZ10c, CLL10, CGSW13, CW13, CW16, CK14, CHL12, DLQW18, DJLQ19, ER18, ES16, ESV17, FW14, GLS14, GTW<sup>+</sup>12, GMS18, GS11, HJS13, HMP15, HN11, HOV16, HM17, HJKR16, Hül10, IKS18, JN15, KTK17, Kar18, KW16, KKN19, KHCR19, KLL16, KM12c, LTT13, LMM16, LLS13, LTX13, LWD17, LLX19, LL19, LAFS16, Liu13b, LOV15, LVW18, MC18, MST10, MZ16, MT18, Moo19, Mur14,

MAF14, NOS16, OTB18, Plo19, SMSF15, SW19, SZ13, SOG17, SwS19, Tak15, Tha13, Wal10, Wal14b, WW10a, WSZ15, WP19, WS18, YKF18, YLH18, ZW11, Zhe17, ZX19, Zou18, CF12, DHP13, HJJ<sup>+</sup>13, LC15, MPPS10, OR14, ORX14, BB12].

**Time-Average** [Bla18]. **Time-Averaging** [MST10]. **Time-Dependent** [CLMV19, ES16, GLS14, HM17, IKS18, KW16, KKN19, KHC19, LLS13, MC18, Tak15, WW10a, WS18]. **Time-Discrete** [BKN13, Zhe17]. **Time-Discretization** [Bré13]. **Time-Domain** [CHWG15, CLL10, CW13]. **Time-Explicit** [CMS16]. **Time-Fractional** [LMM16, MAF14, Plo19, SOG17, YKF18, ZX19]. **Time-Harmonic** [CZ10c, FW14, HOV16]. **Time-Implicit** [CCM10]. **Time-Marching** [WSZ15]. **Time-Periodic** [HMP15]. **Time-Splitting** [CHP13, Car13, Tha13]. **Time-Stepping** [CC13, CK14, GMS18, GS11, LLX19, SMSF15]. **Timestepping** [Fio18, LMV13]. **Tomography** [Han11, SPH18]. **Topological** [BMO11]. **Topology** [CGR12]. **Total** [Bar12, BNS14, LG19, ZS10b, ZCY12]. **Total-Variation-Based** [ZCY12]. **Trace** [GLR18, GJOR18, LOX18, SV14]. **Tracking** [CC13, GL11, GL12, Sol18, ZF16]. **Traction** [BK12]. **Traction-Free** [BK12]. **Train** [BCS13, CGKMC19, RU13]. **Trains** [LOV15]. **Trajectory** [FJK13]. **Transfer** [CGJ13, CX13, ES16, ES19]. **Transform** [AR14, DKP10, DDP17, KM12b, LZ17, LR15, LR16, LLS13, RSW17, Tow15, Yin09, GS14]. **Transformations** [BO16]. **Transformed** [PC16]. **Transforms** [Che11b, HM14].

**Transient** [ALM18, ABIR19, WW10b, dFGAN10].

**Transmission** [AKGR14, KZ15, MNQ13, Sun11, XQ10].

**Transparent** [WBL<sup>+</sup>15]. **Transport** [AW10b, BBK15, BRK14, BFK16, CW18, CDGQ10, DHSW13, GK10, HLS13, JLQX14, KFJ16, LR13, LSW18, LCJ<sup>+</sup>18, Mac10, MM16]. **Transpose** [CCCS16]. **Traveling** [BORM18]. **Tree** [Bin18, DS10]. **Trefftz** [BGL17]. **Triangle** [BO15, Xu11]. **Triangles** [AJ19, AC12, Bar13]. **Triangular** [BCL16, CFH13, MJRK11, WL16, ZLY16]. **Triangulations** [AC12, RL13].

**Trigonometric** [AT17, CLS13, Gau15, Käm13, MS14].

**Trotter** [AVZ15, OPW19]. **Truly** [BG18]. **Truncated** [LR15, LR16]. **Truncation** [LW19]. **Tu** [Lee13, Lee15]. **Tucker** [LVW18]. **Tumors** [TW18]. **Turán** [Spa14]. **Turbulence** [RÁM<sup>+</sup>17]. **TVD** [LAFS16].

**Two** [AC10, ACSW10, AT16, AC16, BLFS17, BG18, CHWG15, CSYZ15, CET<sup>+</sup>16, CZ10c, CLJ<sup>+</sup>16, CZ17, CW16, CKW13, DW12, DK14, FO11, Gar15, GM19, GN17, GF12, Gos14, GTW<sup>+</sup>12, Grü13, GB10, Han13, HMP14, Kaw19, KGM11, KS13, KSW18, KFJ16, LTT13, LR13, LC15, LN18, LSZ11, MK18, MW19, OZ13, RG16, Rid16, RL15, SS13a, SK13, SV14, SDKS13, SY12, SY15, WX18, WCF19, YB11, Yi17, YHX17, ZLL<sup>+</sup>14, nZzSZ12, ZSZ15, ZHZ<sup>+</sup>14].

**Two-Dimensional** [BG18, CSYZ15, CW16, DW12, Gos14, OZ13, Rid16, SDKS13, YHX17, ZLL<sup>+</sup>14, nZzSZ12, BLFS17, CLJ<sup>+</sup>16, GTW<sup>+</sup>12, KFJ16].

**Two-Grid** [RL15, YB11, ZHZ<sup>+</sup>14].

**Two-Layer** [CZ17]. **Two-Layered** [CZ10c].

**Two-Level** [CKW13, Han13, HMP14, LC15, WX18].

**Two-Phase** [AT16, Grü13, KS13, KSW18, LR13, MW19, SS13a, SY15]. **Two-Scale** [LN18, LSZ11]. **Two-Sided** [MK18, SV14].

**Two-Sphere** [ACSW10]. **Two-Stage** [CET<sup>+</sup>16]. **Two-Step** [AC10, SK13, WCF19, ZSZ15, KGM11].

**Type** [ADGP16, AGK<sup>+</sup>11, BJK16b, BGGyS12, BHX10, Bur12, DCdL18, EO14b, Gud12, Jin11, Kas13, MBMS11, NHNY17, Pot16, SMSF15, SWWW12, TL15, Xia12, YB13, nZzSwW11, dTEJ18, dTEJ19, FLZ17,

LO17, LX14b, BG14a, You17]. **Type-II** [You17].

**Ulam** [JML13]. **Ultra** [HP14]. **Ultra-weak** [HP14]. **Ultraconvergence** [mHLZ16]. **Ultrasound** [AKK<sup>+</sup>11]. **Ultraspherical** [CI12]. **Unbounded** [CX13, Rat16, mXqW10, YZ14]. **Uncertainty** [CRR16, DS11, DFS19, HPS17]. **Unconditional** [BDN18, LS13a, RSSZ17, BC17b]. **Unconditionally** [BBMZ19, GRT14, LGS14]. **Unconstrained** [LXY13]. **Uncoupling** [LTT13]. **Undercompressive** [CER14]. **Unfitted** [BE18, DER14, Mas13]. **Uniaxial** [CZ10c, CW13]. **Unified** [BPR17, BTDG13, CY10, DD12, EV15, GL15, HY18, Kar18]. **Uniform** [BC12b, BC14, Bea15, HN11, MT18, PC16, WW10a]. **Uniform-in-Time** [MT18]. **Uniformly** [BCZ14, BCJT16, BS19, CW19, GMR15, HK16, Kaw19, SW19]. **Unilateral** [CH13]. **Uniqueness** [Urs17]. **Unit** [FHN<sup>+</sup>13, LX14a, RN17, Zha17]. **Unity** [AKT14, PGvD12]. **Universality** [DT17]. **Unknown** [DH15a]. **Unsplit** [Zha13a]. **Unsteady** [DEV13, YDG10]. **Unstructured** [CFH13, FJ17, WW10b, ZX14]. **upon** [BIT13]. **Upstream** [PV16]. **Upwind** [BRK14, GK10, SS17b]. **Upwind-Mixed** [BRK14]. **Upwinding** [HT16]. **Using** [ACSW12, ACSW14, Bea15, CGT15, CC14, CCCS16, CFNP18, CBHW13, DER14, Erv13, GMR15, GL17, GRK18, HJWZ16, JML13, KL13, LLS16, LLS18a, LR14, Luc11, MH18, Mir14, Mir19, MT11, MTKO17, Seg10, Sel10, Tow15, VH14, WXZ18, BKSY17, HVC15, NFM18]. **Uzawa** [SYY19].

**Valid** [CZZ15]. **Validations** [LA11b]. **Value** [BGGyS12, CM18, CX10, FW13b, GR18, Ham19, KCDQ15, Kaw19, LM11a, Mas15a, Mas15b, NZ12, WYZ14, Wan15, ZZK15]. **Valued** [GW18, HVC15]. **Values** [AKT14, BO11, GL18, Han13, KLV16]. **Vanishing** [BMR12, CLMV19]. **Variable** [AR14, CGOT16, CCD18, CLJ<sup>+</sup>16, CWYZ19, CE18, CDGQ10, DAA13, GS11, HKLN16, HYZ16, LJC17, NWZ17, PH16, SW19, SX18, WY13, WCF19]. **Variable-Coefficient** [WY13]. **Variable-Order** [SW19]. **Variables** [EST18]. **Variante** [Pot17]. **Variate** [GL10]. **Variation** [Bar12, BNS14, BO16, LG19, ZS10b, ZCY12]. **Variational** [AD18, BRO10, BOS10, CGR12, DH15a, Gal17, GU14, HSW13, HW17, JL10, JMO17, KSW14, KY18, MO14, MPPS10, OP12, TW17, TD15, WHIC10, XA16, You17, ZZLB13]. **Varying** [GKR13, IGVG19, Liu13b, SVZ12]. **Vector** [GJOR18, HLZ15, Oh13, PS19, PW12]. **Vector-Laplacians** [GJOR18]. **Vectorial** [DLT13]. **Vectors** [Zha17]. **Velocity** [CC13, CDGQ10, LOR11, RT16, CKP11]. **Velocity-Vorticity-Helicity** [LOR11]. **VEM** [GM19]. **Ventcell** [HH14]. **Verified** [LZ14, LO13a, MTKO17, WNP14]. **Version** [BCD<sup>+</sup>11, Gos14, GB10, HMP11, MRL14, MBMS11, YG15, ZW13]. **Versus** [ZTRK15]. **Vertex** [EP16]. **Vertex-Centered** [EP16]. **Via** [KMU16, AKK14, BRD15, CL18, GL13, GH12, GHK25, GT19b, HSW17, HWZ17, LM11a, MST10, NP16, Yin09, ZF16, ZB15]. **Virtual** [ABMV14, ABSV16, BBM13, CGS18, CGM16, CC18, CC19, ZZMC19, dVBD<sup>+</sup>18, dVLV18]. **Viscosity** [CGOT16, CCD18, FO11]. **Viscous** [BCM10, Ing11]. **Vlasov** [BS18, CDM13, CGLM14, EO14a, EO14b, FR16, JW13, MFD17, PC16]. **Vlasov-Type** [EO14b]. **Vogelius** [CELR11]. **Volatility** [CR18, Zhe17]. **Volterra** [HN11, Li10, LTX13, LL15, LB19, SWG14,

- YB13, YG15, ZLB16]. **Volume** [ACCE10, AW10b, BCCHV14, CMS16, CZZ15, CDNP18, CK16, Che10, Cla13, CM10, CY10, DO12, DEM15, Era12, Era13, EP16, GG10a, GLZ19, HH14, KM12a, KST15, Kwa12, LMO12, LNR11, LYZ15, LL13, MM16, MW19, Nor15, Nor16, NFM18, SS13a, VH14, WL16, Zha13a, ZGD17]. **Volume-of-Fluid** [Zha13a]. **Volume-Preserving** [MM16]. **Voronoi** [GG10a, Lau17, Mir19, Urs17]. **Vorticity** [LOR11]. **Vries** [DKR15, FS14]. **vs** [Che11a].
- Wachspress** [FGS14]. **Wagner** [BJK16b]. **Walker** [LO17]. **Walker-type** [LO17]. **Wall** [SCP18]. **Wasserstein** [Sol18]. **Water** [AGP17, BdL10, DCdL18, LTT13]. **Wave** [AP16a, AP18, AW10a, ABIR19, ACLW16, AH15, BCE14, BLFS17, BGL17, BC12b, BC14, BdBE17, BCR16, BTG12, CC14, CLX13, CLS13, DS18, DW15, DZZ19, DK14, FW14, Gau15, GMS18, HMP11, KW14a, KLS10, KP12, LWD17, LW19, MM13b, NW19, Wal14b, WZ18, XS12, nZzSZ12, ZHA19, ZW13]. **Wave-Guides** [DS18]. **Waveform** [AKGR14, HJS13, Nic17]. **Waveguides** [KZ15]. **Wavelet** [CS11]. **Wavelets** [Bac13, XZO19]. **Wavenumber** [LM11b, MS11]. **Wavenumber-Explicit** [LM11b]. **Waves** [BCL17, BORM18, CER14, Col10, DK14, LZ17, MZ13]. **Weak** [AP16b, ASS16, AL14, BK12, Bur12, Cha12, CLP12, CH19, DS11, DF12, Kim11, LYZZ18a, Yam19, Zhe17, HP14]. **Weakly** [AF16, GHY17, LB19, PS19, QD11, XA16]. **Weighted** [BET11, CQR13b, CGS15, D'A12, Mig19, Owe19, PWZ13, SY12]. **Weighting** [EG13]. **Weights** [CSV19, GHS18]. **Well** [ACSW10, AGP17, BdL10, BCL13, DFS17, DCdL18, ELM15, KCDQ15, LA11a]. **Well-Balanced** [AGP17, BCL13, DCdL18]. **Well-Controlled** [ELM15]. **Well-Posed** [LA11a]. **Well-Posedness** [KCDQ15].
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- XFEM** [DFS17, LR13]. **XFEM-DG** [LR13].
- Ye** [BKS17]. **Yield** [CCD18].
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