

A Complete Bibliography of Publications in *Multiscale Modeling & Simulation*

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
FAX: +1 801 581 4148

E-mail: beebe@math.utah.edu, beebe@acm.org,
beebe@computer.org (Internet)
WWW URL: <http://www.math.utah.edu/~beebe/>

12 January 2018
Version 2.25

Title word cross-reference

(BV, L^2) [TNV04]. 1 [BLO17, FG08, VS11].
1 + 1 [PM14, MT09]. 13 [Str05, Tor06]. 2
[AE11, DD13, FFJD09, JR03, VO13, YLY15,
Yin15a]. 2 + 1 [BV06, MK06]. 3
[CLLW15, DWC15, LH14, PKC05]. 30
[CTHC06]. α [TKM15]. $BV - G$ [Had07].
 $BV - L^1$ [Had07]. D [CL17]. ℓ^1 [DN07]. G
[SAC06]. Γ [EKCO13, SS15, FG08]. H^1
[OSV03]. KL [LZ07]. L^1 [YGO07]. \leftrightarrow
[NOR⁺06]. M^3 [LMS11]. M_1 [GABD17]. p
[GN12]. P_N [HL09, SFL11]. R [NOR⁺06]. S
[DMZ17]. S^2 [BGP⁺11]. t [CF10].

-Based [LZ07]. -Convergence
[EKCO13, SS15]. -D [DWC15, JR03, VS11].

-Dimensional [BV06, PKC05]. -Fraction
[DMZ17]. -Laplace [GN12]. -Lattices
[VO13]. -Leaping [CL17]. -Limit [FG08].
-Model [CF10]. -Moment [Tor06]. -Stable
[TKM15]. -type [KZ16].

1 [CO16].

2 [CO17].

Absence [ZBK⁺06]. Absolute [GPP⁺17].
Absorbers [MS08]. Accelerated
[AVE08, AL14, CWD⁺08]. Accelerating
[LXY17]. Account [SSJ⁺12]. Accounting
[BFRD13]. Accuracy
[Aar04, Str05, VO13, VVVR07]. Accurate
[ACHR06, CTL16, CR06, CLMZ17].
Acoustic [BIT10, CS14, HMS14, LLZ14,

LR10a, VMK05]. **Across** [AD16, Fan09, Rob09]. **Active** [HL10a]. **Activities** [LYTP13]. **Activity** [BRR13, GSF09]. **Adaptive** [AE06, AB15a, BCK05, CDG⁺14, EGM13, FYW11, GABD17, HOS14, JLT04, KJ16, KN06, LBM05, LMS11, NPP08, Nor09, Plo09, XGBD16, dWMH13]. **Adaptively** [LXY17]. **Adaptivity** [AL08]. **Additive** [LY16]. **Adhesion** [HPČ⁺09]. **Adiabatic** [DDNP17, GMO17, NP16]. **Adjoint** [BRDVE14, CL03b, HS14]. **Admissibility** [MHDY17]. **Adsorbing** [AMK03]. **Advancing** [ALT08]. **Advection** [BST16]. **Advection-Diffusion** [BST16]. **Advective** [HPV15]. **Advective-Reactive** [HPV15]. **after** [Sti12]. **Agents** [FHV11]. **Aggregates** [ZBFO10]. **Aggregation** [SSVE10]. **Aging** [BLL14]. **AL** [GGS12]. **Algebraic** [ABG05, KCH03]. **Algorithm** [AF17, AIL05, CDY09, CLLW15, CC06, CCBL11, HPČ⁺09, KC15, LYY15, MS04, RSB10, VV16, WBG08, YM11, ZFW05, ZK08]. **Algorithms** [AP13, AIKK05, BCM05, FYW11, GAK15, YWS11, YYW13]. **Alignment** [Peu16]. **Alloy** [BR12, HJV07]. **Alloys** [MR03]. **along** [DDNP17, JC13, KN06]. **Alpha** [NOR⁺06]. **Ambrosio** [BEZ15]. **Amplifiers** [LM04]. **Amplitude** [AIL05]. **Analogue** [El09]. **Analysis** [Abd05, AKN14, AKH12, AKSZ06, AK12, ACF12, AL14, AR14, BCCF14, BBK07, BL11b, BIG07, BLPV15, BLO17, BFPS09, BFMR03, CL03a, CKS08, CLT17, CL17, CCG15, CWS10, CDV16, DGM07, DKMW14, Eck04a, EKCO13, Fan09, FKH07, FMQ05, FMTV05, GP11, GZ06, HKDS08, HS10, Hor11, HYR08, KIH15, KK05, LBB11, LZ06, Li07, Liu10, MMN17, MY09, NK11, Nik05, PS05, PWPK10, PHSN11, QV03, SS15, VVR08, VMM11, XT04, YY14, YLY15, ZCL14]. **Analytic** [SE07]. **Analytical** [DSH16, Glo06, Glo08]. **Analyzing** [CHS17, DBGS08]. **Angiogenesis** [SWOJ05]. **Angular** [GABD17]. **Anisotropic** [DDN10, HMT08, LJ07, MC08, SJF⁺11, WF08]. **Anisotropy** [Arb11, RCMD09]. **Anomalous** [GPY13]. **Ansatz** [LQB16]. **Antennas** [BMT10]. **Aperture** [FS03]. **Application** [AAPP10, BL11a, BPW⁺16, BN05, BLK16, CS06, CHO07, CPT11, DFL10, Fil04, FG09, FMKS06, GH15, GS13, GL10, HS08, JMW14, LAG09, NOR⁺06, PR10, RH11, RTE17, RS06, SGOK05, Sto08, VMM11, WGM10, ZBK⁺06]. **Applications** [AD17, AH12, CM14, CM07, CEL15, DGY⁺11, DWC15, EGT12, GO09, GABD17, Hor11, HWW⁺13, JCM12, JP12, Rey14]. **Applied** [CNPT10, FLR11, GS17, SEK⁺05]. **Approach** [ARRV12, AL11, ALT08, BGP⁺11, BP05, BK11, BKN⁺17, Boy08, LLL14, CLLW15, CTP13, Che08, CCOS06, CCM16, Coh10, CM17, DG09, DRLS04, HVS10, HC14, LM15b, LE05a, LE05b, LS16b, LZ07, NN13, PEV10, SFO09, WTT05, XT04, dWMH13]. **Approaches** [EKL15]. **Approximate** [GMO17, MMN16]. **Approximating** [BSS14]. **Approximation** [AT05, Abr12, Abr13, AdHW12, AL08, BL11a, BL11b, BGW14, Bos07, Bos10, BCC⁺10, CDCLLZ11, CS14, DLO10, DSS05, EFM12, Fil12, FJK09, GMWZ14, GAK15, GS15, Gos14, GZ10, HDL08, LOS13, LM05, LY12, LYZ11, NMJ11, OZ05, SNS10, SVZ11, SL17, Sou05, YYW13, YDL05]. **Approximations** [CDG⁺14, CE10, DLY05, GS12, GP11, KT14, LM14, MMN11, OPS16, OZ11, SFL11, SH10, Yin15c, dHUVW13]. **Arbitrary** [CS14, MSAW10, Str05]. **Architectures** [BLI07]. **Arclength** [GGSVE14]. **Aris** [RTW⁺06]. **Arising** [TLCW13]. **Arrangements** [CCOS06]. **Array** [AGJ13]. **Arrays** [BFRD13, MS08]. **Arteries** [CLMT05]. **Assays** [CHS17]. **Assembling** [ZBFO10]. **Assessment** [BLI07]. **Assessments** [SWF⁺14].

Assimilation [LM15a, ZG04]. **Associated** [Cal07, dHUVW13]. **Asymptotic** [AP06, BS17, BMT10, BCM13, BGW14, BK07b, CY13, CMV15, CD03, CE16, CWS10, DDNP17, DGM07, DDN10, HB05, JL17, JT06, LL17, LXY16, MMN11, MMN17, NK11, NMJ11, PWPK10, YY14, YWS11, ZJ17]. **Asymptotic-Preserving** [JL17]. **Asymptotics** [CCPT17, DSS05, EFM12, FPSS03, FG09, GLG05, GPR17, JC13]. **Asymptotics-Based** [FG09]. **Asynchronous** [BLK16, YYW13]. **ATLAS** [CM17]. **Atmospheric** [CL03b, FS05]. **Atomic** [FG09, LE05b, RSM⁺11]. **Atomistic** [AG05, AL08, BPB⁺08, CGCL15, GR17, LOS13, OSZ14, PBL08, SSJ⁺12, SSJ⁺15, Sch06, Sha11, ZBFO10, ZK08]. **Atomistic-Continuum** [AL08]. **Atomistic-to-Continuum** [BPB⁺08, LOS13, OSZ14, PBL08, SSJ⁺12, SSJ⁺15, ZBFO10]. **Atomistic/Continuum** [CGCL15, Sha11]. **Atoms** [Fan09, FG09]. **Atoms/Continuum** [Fan09]. **Augmented** [FLR11]. **Automated** [EW14, HDFSO6, HKDS08]. **Averaging** [AD17, Bal04, BFM⁺05, BCP06, PRS07, PA06, SWHH04, TOM10, TKM15]. **Axisymmetric** [LH14].

Babich [LQB16]. **Babich-Like** [LQB16]. **Baby** [LKGK03]. **Baby-Bathwater** [LKGK03]. **Backscatter** [GLM15]. **Backscattering** [GS14, RK17]. **Backward** [CW05, HH13]. **Bacterial** [RBHK13, SGOK05]. **Balance** [GMO17]. **Balanced** [HVS10]. **Band** [AKSZ06, ÁGMR08, BCGP10, IW10, LJ17]. **Band-Edge** [IW10]. **Band-Gap** [AKSZ06]. **Bandelet** [LM05]. **Baroclinic** [Med05]. **Barotropic** [Med05]. **Barotropic-Baroclinic** [Med05]. **Barriers** [JN06]. **Base** [DKMW14]. **Based** [AKL06, AJS16, AGJ13, Arb11, ACF12, BKL⁺10, BCM13, COS10, CKS08, CC06, CSB08, CES05, CLY⁺11, CL04, CMMS13, CCPT17, CVE09, DRE16, DLO10, DOS12, DYOD08, FMQ05, FG09, GZ06, HM13b, HW05, HS08, JZZ11, LM15b, LE05a, LLO12, LR10b, LZ07, LOT05, MDO10, MZ15, MDHY16, MHDY17, OBG⁺05, QV03, Rey14, RSM⁺11, RSB11, Sha11, SWF⁺14, STY14, ST17, TMC⁺17, Tor06, WN10, XGBD16]. **Bases** [CGCL15, OZ11, Pey08]. **Basis** [Boy08, GGS12, HZZ15]. **Bath** [DFL10]. **Bathwater** [LKGK03]. **Bayesian** [KB11, Owh15, RSM⁺11, RND⁺12b]. **BCF** [LZ06]. **BDDC** [KC15]. **Beam** [JJ15, OPS16, VS11]. **Beams** [FS05, QY10, RK17, TQR07]. **Behavior** [BFRD13, BN05, BG08, CSB08, DWC15, GGN07, Gor15, MR03, MN11, SH10, dWMH13]. **Beltrami** [LNL17]. **Benchmarks** [ZFW05]. **Best** [CCOS06, NOR⁺06]. **Beta** [NOR⁺06]. **Between** [HKY03, BCCF14, MCM12]. **Beyond** [DJS17, Boy08, Mar12, Mar13]. **BGK** [CDV16, VV16]. **Biased** [WN14]. **Bidomain** [GSF06]. **Bimaterial** [VMM11]. **Binary** [AP13, BIG07, Eck04b, HJV07, RSM⁺11]. **Binding** [CO16]. **Binning** [MHW13]. **Biochemical** [AH12, KRK17]. **Biochemistry** [VFEK11]. **Biocompatible** [CBS04, CSB04]. **Biofilm** [AK07]. **Biological** [GGM⁺05, RCMD09]. **Biology** [AHGJ05, EO05, SD06]. **Biomechanical** [PP17]. **Biomolecular** [HS08, HS10, LYZ⁺15, ZBK⁺06]. **Biopolymer** [ZBFO10]. **Biotissue** [BP05]. **Birth** [DSS05]. **Birth-Death** [DSS05]. **Blended** [LLO12]. **Blending** [BPB⁺08]. **Blind** [LXQ09]. **Bloch** [DLS14, JC13, SEK⁺05, VMM11]. **Bloch-Wave** [DLS14]. **Blood** [CLMT05, DGN⁺08, FMQ05, MBC⁺13, QV03]. **Blow** [GN12]. **Blow-up** [GN12]. **Blowup** [LH14]. **Blurred** [ACHR06]. **BMO** [LV05]. **Bodies**

[CS14]. **Body** [Mar12, Mar13, Sha11, WGM10]. **Boltzmann** [AT05, DPV06, Fil12, Fil04, JS10, JL17, OSAND13, VVVR07, VV12, VV16, YY14]. **Boltzmann/Finite** [VVVR07]. **Born** [VO13]. **Bose** [Bao04, Mar12, Mar13]. **Bound** [JK12, Mar12, Mar13, OW11]. **Boundaries** [BKL⁺10, BG14, BL15, KvNP11]. **Boundary** [AST06, AE11, BST16, BM06, CL03b, DWC15, GS10, GS17, GL10, MTW16, MMN11, MS08, RKM13, TLCW13, VZ08, Yin15b]. **Bounded** [BT14, DG09, Fil12]. **Bounds** [BS17, BG08, GAK15, NDEG11]. **Breakdown** [DPV03]. **Breaking** [NMJ11]. **Bregman** [COS10]. **Bridge** [WiOT⁺13]. **Bridging** [MB14, ZG05]. **Brinkman** [BELS15]. **Brownian** [HS12, KK14, KNR14, KS08b, LBW17, TU10]. **Bubbles** [San03]. **Buckley** [WTJT13]. **Buckling** [ARRV12]. **Buffers** [CTL16]. **Bulk** [Tor06]. **Bunching** [LXY16]. **Burgers** [Ber07, NM09]. **Buried** [AIL05]. **Burton** [AE11]. **Bus** [GLM13]. **Butterfly** [CDY09, LYM⁺15, LYY15].

Cabrera [AE11]. **Caching** [Rey14]. **Cahn** [BIG07, CFM17, DD14, LZZ13]. **Calcium** [DRE16, GSF06, TW06, TASY⁺05]. **Calculation** [GGSVE14, LZZ13]. **Calculations** [DGY⁺11, LXY17]. **Calculus** [GL10]. **Calibration** [DGN⁺08]. **Cancer** [TLCW13]. **Canonical** [dHUVW13]. **Capacity** [CCM16]. **Capillary** [GH11]. **Capsids** [ARRV12]. **Capture** [LBW17]. **Capturing** [San03]. **Carbon** [BFRD13, MMPS17]. **Carbon-Nanotube** [MMPS17]. **Carbonation** [EFM12]. **Cardiac** [TW06]. **Cardiovascular** [HPČ⁺09, VZ08]. **Cargo** [HL10a]. **Carlo** [ABS13, AH12, BSS14, EKL15, PM14, Rey14, dWMH13]. **Carrier** [SW11]. **Cascade** [GLM15]. **Case** [KR15, KNR14].

Categorical [Hor11]. **Cauchy** [VO13]. **Caused** [BBT10]. **Caustics** [dHUVW13]. **Cavities** [BBT10]. **Cavity** [BMT10, QW05]. **CDF** [WTJT13]. **Cell** [AD17, DWC15, GSF06, HPČ⁺09, MB10, RJM05, VFEK11, CMMS13]. **Cells** [FZW05, HL10a, ZFW05]. **Cellular** [ARS17, Coh10, HL10a, IZ12, SP12, WiOT⁺13]. **Center** [Bos07, HKK05]. **Central** [Bal08]. **Centrality** [TMC⁺17]. **Certain** [IMP08]. **Chain** [DOS12, NT10, dWMH13]. **Chains** [AH12, AMR03, AR05, BL11b, CLT17, DGHK07, TWZ15]. **Change** [MLS12, Pap12]. **Changing** [BV04, BBPR16]. **Channel** [AD03]. **Channels** [ADM⁺08, MZCJ16]. **Chaos** [BAZC10]. **Chaotic** [TW17]. **Charge** [SHB⁺14]. **Chemical** [CTL16, CL17, Eng09, HMP17, Jah11, LF06, MBS08, MLSH12, PB09, RPCG05]. **Chemically** [Li07]. **Chemotaxis** [CY13, SGOK05, STY14, ST17]. **Chernoff** [MTV14]. **Chiral** [BGP16]. **Choice** [NYY11]. **Choices** [KS08b]. **CI** [FG09]. **Circadian** [GN06]. **Circle** [DGN⁺08]. **Circular** [BL11b, FFJD09]. **Class** [Sha16, LYZ11]. **Classical** [Cal07]. **Classification** [ACT⁺10, BF12, BLK16]. **Clausius** [Alm14]. **Cleft** [RH11]. **Climb** [JRX17]. **Clonotypes** [MB10]. **Close** [HB05]. **Closed** [Hüt03]. **Closure** [Abr12, Abr13, DLY05, HDL08, NP16, YDL05]. **Cloud** [LS16a]. **Clouds** [MMN16]. **Cluster** [Hüt03]. **Clustering** [ACT⁺10, dWMH13]. **Coarse** [AKL06, AE11, BLPV15, DK14, EAW04, EGT12, GE10b, GPP⁺17, KC15, LKKG03, MSAW10, ÖS07, SGOK05]. **Coarse-Grain** [GPP⁺17]. **Coarse-Grained** [DK14]. **Coarse-Graining** [AE11, BLPV15]. **Coarse-Scale** [EGT12]. **Coarsening** [Coh10, DD14, RSB11]. **Coated** [CL13]. **Coating** [HPČ⁺09]. **Cochlear** [KX05]. **Coefficient** [KK14]. **Coefficients** [BO16, BFMR03, CCG15, DN07, HPV15,

KC15, LNL17, LL17, ZCH15]. **Coherence** [ARS17]. **Coherent** [BPT06, OYS⁺11, SW11]. **coli** [EO05, STY14, ST17]. **Collection** [HMS14]. **Collective** [BBK13]. **Collision** [HM13b, VV16]. **Collision-Based** [HM13b]. **Collisions** [CWD⁺08]. **Combined** [DW14, HWW⁺13, LBM05]. **Combustion** [SE06]. **Committer** [PHSN11]. **Communication** [CCM16]. **Community** [BPW⁺16]. **Compact** [HMT08]. **Comparing** [SH10]. **Comparison** [ZBK⁺06]. **Competing** [MB10]. **Complex** [CS06, CFM17, DBGA10, HDFS06, LYZ⁺15, LMC⁺08, NDEG11, PA06, PHSN11]. **Complexes** [VBMS04]. **Complexity** [AE08]. **Compliant** [CLMT05, MBC⁺13]. **Composite** [BLI07, CLLW15, HB05, HCY12, Nøe13, WCW15]. **Composites** [BM09, Gor15, QHL13, RCMD09, RKM13, XT04]. **Compressed** [EFS14, LXY17]. **Compressible** [AP06, AAPP10, BFM⁺05, CM14]. **Compression** [LM05, WN10]. **Compressive** [MSO14]. **Computation** [CDY09, EF14, GP17, HYR08, KX05, KZ16, KR15, PHSN11, RS06, Sti12, WCW15, WKWD07, XK05, YF09, Yin15b, ZCL14]. **Computational** [AE08, AWA06, BL05, CRK05, CSB04, Hor11, VFEK11, ZKK04]. **Computationally** [BLO17]. **Computations** [DKW09, JS12, JS13, SXZ09]. **Computer** [KSH03]. **Computing** [ALT08, CHO07, KG13, NOR⁺06, Nøe13, WF14]. **Concentrated** [CCGB05, Gor15]. **Concrete** [EFM12]. **Concurrent** [CHO07, GZ06]. **Condensates** [Bao04]. **Condensation** [Mar12, Mar13]. **Conditional** [Cho03, DWC15]. **Conditions** [AE11, BST16, GS10, GS17, VZ08]. **Conducting** [BG08, MR12]. **Conductive** [AE09, BGW14]. **Conductivity** [FFJD09, JFD03, Nøe13, RKM13, SJF⁺11]. **Configurations** [MMPS17]. **Conformation** [FJK09]. **Conformational** [HS10, LYZ⁺15, MO06]. **Conical** [JQZ11]. **Connecting** [PBL08]. **Connection** [PM14]. **Connections** [GP17]. **Consensus** [KTY09]. **Conservation** [AW13, GPY13]. **Conservations** [KRK17]. **Conservative** [XX14]. **Consistency** [RPCG05]. **Consistent** [BS17, CLMT05, CF04, CO17, Sha11, SHB⁺14, XEMK09]. **Constitutive** [CE16]. **Constrained** [LXQ09, VVR08, VV16]. **Constraining** [LW14]. **Constraint** [HNV12]. **Constraints** [ACHR06, FKKL11, MN11, RSB10, SVZ11]. **Constructing** [LYZ⁺15]. **Construction** [DRL05, Dur09]. **Containing** [EKH06, HB05, MMN16, VMM11]. **Context** [El09]. **Continua** [FKKL11]. **Continuation** [CC10]. **Continuous** [AH12, BGP⁺11, CSSB04, RK17]. **Continuum** [ARRV12, AG05, AL08, BPB⁺08, CEPT12, DSS05, DBGA10, GZ10, HFOC08, HCY12, LOS13, MK06, MB14, MY09, NM13, OSZ14, PBL08, QW05, SSJ⁺12, SSJ⁺15, Sch06, YM11, ZBFO10, HFOC05, LM14]. **Continuum-Microscopic** [YM11]. **Contrast** [AKSZ06, BGW14, BELS15, CCG15, CE10, GE10a, GE10b, Gor15, HM17, KC15, OZ11]. **Control** [AKN14, BE03, KD05, LM15b]. **Control-Invariance** [KD05]. **Controlled** [HKK05]. **Convection** [BCK05, ED03]. **Convection-Diffusion** [BCK05, ED03]. **Convectively** [NM09]. **Convergence** [AD17, BSK07, CR11, DM10, EKCO13, FMTV05, Giv07, LZ06, NM09, Pta13, Pta15, SS15, Sch14, WCW15]. **Convergent** [LS16a]. **Convex** [BCGP10, CVE09]. **Cooperating** [LTK17]. **Cooperative** [WiOT⁺13]. **Coordinates** [CKL⁺08]. **Copolymers** [LZZ13]. **Coronary** [GS17]. **Correction** [LL09]. **Corrections** [SFL11]. **Corrector** [BJ11, BO16, BLO17].

Correlating [Gar05]. **Correlation** [AGJ13, BPW⁺16, GS09b, KK14, KS08b, Mom13]. **Correlation-Based** [AGJ13]. **Correlations** [SWHH04]. **Corrupted** [TW17]. **Cosine** [LR08]. **Couette** [FZW05, ZFW05]. **Coulomb** [CWD⁺08]. **Coupled** [AET09, CLT17, CMMS13, DD13, GS12, GLG05, HHL12, HCY12, JS10, LE05b, MWW15, OW11, WCW15]. **Coupling** [AJS16, Abr12, Abr13, BPB⁺08, BR12, BG14, CGCL15, CEPT12, FKKL11, FMQ05, FMKS06, GS09a, LOS13, MBC⁺13, MO06, OSZ14, PBL08, QV03, SSJ⁺12, Sha11, VFEK11]. **Couplings** [PA06]. **Covariates** [KIH15]. **Crack** [NMJ11, VMM11]. **Cracked** [BP14]. **Cracks** [VMM11]. **Created** [KdL15]. **Creating** [LJ17]. **Criminal** [BRR13]. **Critical** [Sti12]. **Cross** [DKMO03, Gar05, Peu16, WiOT⁺13]. **Cross-Bridge** [WiOT⁺13]. **Cross-Correlating** [Gar05]. **Cross-Linked** [Peu16]. **Cross-Tie** [DKMO03]. **Crossings** [JQZ11]. **Crowd** [BBK13, CPT11]. **Crystal** [BN05, CEK08, CHO07, EW14, MK06, NM13, YLY15, vN09]. **Crystalline** [AG05, CO16, CO17, MT09, SL17, WLS08]. **Crystals** [BGZ10, DD13, MZ15, Sto08]. **Cucker** [BCCD16]. **Current** [LM04, SWFM13, SWF⁺14]. **Currents** [BM06, Gos14]. **Curvature** [CMM11, RV15]. **Curved** [ADM⁺08, RV15]. **Curvelet** [CDDY06]. **CVD** [PEPL16]. **Cycle** [GN06, McC05]. **Cylinder** [BLK16, MRTV14]. **Cylinders** [SXZ09]. **Cylindrical** [RH11]. **Cytoplasm** [GSF06].

D [AE11, BLO17, CLLW15, DWC15, DD13, FFJD09, FG08, JR03, LH14, VS11, YLY15, Yin15a]. **Dark** [HI12]. **Data** [BF12, BLK16, Cal07, CSSB04, CVE09, CVE11, DN07, GR17, GMP10, Hor11, LM15a, LSH15, Plo09, RDS⁺05, TW17, XY09, ZCH15, ZG04]. **Data-Based** [CVE09]. **Data-Driven** [ZCH15]. **Data-Fidelity** [DN07]. **Death** [DSS05]. **Deblurring** [KOJ05]. **Deciding** [LKGK03]. **Decision** [KBP⁺11]. **Decomposition** [GE10a, GE10b, HLZ17b, KZ16, KY16, LV05, MB14, OSV03, PBL08, PEV10, SEK⁺05, Sjö05, WSK13a, WSK13b, XX14, YGO07, WSK13a]. **Decompositions** [TNV04]. **Deconvolution** [BSK07, FAAC09, MDO10]. **Default** [FSS09]. **Defect** [AL11, LM15b]. **Defect-Type** [AL11, LM15b]. **Defects** [CO16, CO17, EW14, JC13, SL17]. **Definiteness** [LLO12]. **Deformable** [IMP08]. **Deformation** [BFRD13, CHO07, DLO10, LNL17]. **Degenerate** [DD14]. **Degradation** [MRTV14, PB09]. **Degrees** [SWHH04]. **Delay** [CL17, KK05, YWS11]. **Delivery** [CBS04, CSB04]. **Dendritic** [Eck04a]. **Denoising** [BKL⁺10, BCM05, CCN07, CC06, DN07, El09, FAAC09, JZZ11, KOJ05]. **Densities** [CF15, WKWD07, WN14]. **Density** [CF15, DRLS04, GPK12, EA08, HFOC05, HFOC08, LOS13, MLO17, MZ15, RSB10]. **Dependence** [SE07]. **Dependent** [BS16, CLLW15, EGT12, GR16, HM13b]. **Deposition** [AE11, LE05a, MS04]. **Deposition-Diffusion** [AE11]. **Derivation** [AG05, DGM07, Fil04, MT16, Sch06, STY14, Str05]. **Derivative** [CMCS10a, CMCS10b]. **Describing** [MN11]. **Description** [CSSB04, PA06]. **Design** [ABG05, CDCLLZ11, CBS04, CSB04]. **Detailed** [TW06]. **Detection** [BPW⁺16, EW14, KBP⁺11, MLS12]. **Deterministic** [BdCPT09, Fil12, JK12, JP12, MLSH12]. **Development** [CMMS13]. **Developments** [LR08, SP12]. **Diad** [TW06]. **Diagrams** [CCM16, VHPT17]. **Diameter** [HB05]. **Diblock** [LZZ13]. **Dielectric** [BGZ10]. **Diffeomorphisms** [BRV12]. **Difference** [BS17, JZZ11, LZ06, OZ05, VVVR07].

Different [GGM⁺05]. **Differential** [ABG05, CR11, Giv07, KK05].
Differential-Algebraic [ABG05].
Diffraction [KdL15]. **Diffractions** [KdL15].
Diffuse [BF12]. **Diffusion** [AT05, APV12, AS05, AE11, ADM⁺08, BK07a, BST16, BRR13, BCK05, BM17, BP14, BEHL16, BFMR03, Cal07, CKL⁺08, CVE11, DD14, Dum15, ED03, GP17, GAK15, Giv07, GK08, GLG05, GT17, HHL12, HH13, IHM09, KM11, KPK13, NX03, PS12, PSVE09, RTW⁺06, RH11, SH10, VVVR07, VK10, WF08, XT04, XK05]. **Diffusions** [BRDVE14, DSW12, KPK13, Spi15].
Diffusive [CY13, JL17, SFL11]. **Diffusivity** [CL03b, RSM⁺11]. **Dilute** [Alm14, BS07].
Dimension [FHV11, GE10b, HKDS08, Hor11, XGBD16].
Dimensional [BV06, BLL14, BF12, BG14, Bos10, CDCLLZ11, CLT17, CCG15, CCPT17, CKL⁺08, CM17, FDJ11, Gos14, EA08, HS05, HYR08, HLZ17a, HL17, KX05, KC15, KB11, LOS13, LM14, LF06, LQB16, MBC⁺13, MY09, NOR⁺06, NM10, OYS⁺11, OZ11, PKC05, PWPk10, Pl09, QLY⁺16, RJM05, Tor06, VV16, XH14, YCF⁺08, ZJ17].
Dimensionally [LBB11].
Dimensionally-Heterogeneous [LBB11].
Dimensions [HHL12, JRX17, MK06, MT09, PM14, Sha11]. **Diode** [AF17]. **Dire** [HS12].
Direct [AIKK05, DP09, HMS14].
Directional [Dur09, Yin15a, Yin15b].
Dirichlet [BGW14]. **Discontinuity** [CCN07]. **Discontinuous** [CES05, EGM13, WLS08]. **Discrete** [Abd05, AE11, AdHW12, BK07a, BGP⁺11, BCGP10, BG08, CDDY06, Dur09, Fil04, GT17, HH13, NM13, dHUVW13].
Discretization [BIL⁺08, BE03, Eck07, LY17, VS11, ZG05].
Discretizations [DGY⁺11, GKP⁺14]. **Disk** [TK15]. **Disks** [HB05, MR12]. **Dislocation** [HFOC05, HFOC08, JRX17]. **Dislocations** [FG08]. **Disocclusion** [BCV03].
Disordered [Mom13]. **Disperse** [CMV15, CFL⁺17]. **Dispersion** [CL13, KvNP11]. **Dispersions** [SWF⁺14, YCF⁺08]. **Dispersive** [DLS14, HI12, Sjö05]. **Displacement** [GPY13, GH11]. **Dissolution** [GS17, vN09].
Distance [WN10]. **Distortion** [EW14].
Distributed [CKS08, tTP05]. **Distribution** [FYW11, Hüt03, JFD03, MR12, SJF⁺11].
Distributions [SWF⁺14]. **Disturbed** [BMP05]. **div** [LV05]. **Divergence** [DP09, HP15]. **Divergence-Free** [DP09, HP15]. **Divergences** [PC15].
Diversity [PRS07]. **DNA** [FMKS06, GPP⁺17, MO06, RTE17, VBMS04].
Domain [DWC15, Fil12, GE10a, GE10b, KX05, MB14, MX16, OSP10, PBL08, PEV10, XX14].
Domains [AST06, BT14, BL15, LLL14, DKW09, MMN11, PWPk10]. **Dominant** [BBPR16, CWS16]. **Dominated** [HPV15].
Donoho [NYY11]. **Doppler** [GLG05].
Double [AF17, CL13]. **Doubly** [LYTP13].
Drawing [KCH03]. **Drift** [AFM06, KPK13, PSVE09]. **Driven** [KNR14, QW05, ZCH15]. **Driving** [Hüt03].
Drug [CBS04, CSB04, GS17, MP05, VZ08].
Drying [CTP13]. **Dual** [CTP13].
Dual-Scale [CTP13]. **Dumbbell** [DLY05, LZ06]. **During** [HFOC05, LE05a, HFOC08]. **Dynamic** [ARS17, GPK12, LXQ09, WSK13a, WSK13b, YM11]. **Dynamical** [BDZ17, HNV12, Hor11, KZ16, KB11, Liu10, Mic11, NOR⁺06, NN13, PHSN11, TKM15, WKWD07]. **Dynamics** [Abr12, Abr13, AP13, AL14, Bao04, BBK13, BM17, CL03a, CJLM15, CGCY15, CSPD06, CPT11, CTHC06, DRL05, DK14, DRE16, FKKL11, Fan09, FJK09, FMKS06, GAK15, GLM13, GZ06, GABD17, HKK05, HH13, HS08, HCY12, JL05a, JS12, JS13, LZZ13, LS16b, MI03, MLS12, MMB12, NM13,

OSAND13, PR10, PA06, QW05, RSM⁺11, Rob09, RTE17, Sch14, SPGL09, TW06, TOM10, TPC09, WGM10, WLS08, WiOT⁺13, YDL05, ZKK04].

Dynamics-Continuum [HCY12].

E. [ST17]. **Easy** [Plo09]. **Eddy** [CMV15, CF10, TS06]. **Edge** [BEZ15, DN07, IW10]. **Edge-Penalization** [BEZ15]. **Edge-Preserving** [DN07]. **Edges** [Nik05]. **Effect** [BCC⁺10, BM09, BBPR16, LR08, WF14]. **Effective** [ABJ06, BF16, BG08, Cal07, CLMT05, DLS14, FFJD09, GP17, GGN07, IW10, JFD03, KvNP11, LYZ11, MCM12, NDEG11, Nøe13, SJF⁺11, vN09]. **Effects** [AGS14, BLO17, BM17, BdCPT09, BdCPT10, CD06, CCM16, DLM06, DW11, GLG05, HWY06, LXY16, MO06, WTT05]. **Efficiency** [CCM16, EP10]. **Efficient** [BK11, BLO17, BEH13, CD06, HL17, JRX17, LMT12, MHW13, PHSN11]. **Eigendeformation** [SFO09]. **Eigenfracture** [SFO09]. **Eigenpairs** [CVE11]. **Eigenvalue** [DGY⁺11, DSS12, MMN17]. **Eigenvalues** [HS14]. **Eigenvector** [TMC⁺17]. **Eigenvector-Based** [TMC⁺17]. **Einstein** [Bao04, Mar12, Mar13]. **Elastic** [AVE08, ÁGMR08, BGMO08, CM14, GS13, QHL13, RCMD09, RS06]. **Elasticity** [LXY16]. **Electric** [Gor15]. **Electrical** [ABG05, GSF09, LM04]. **Electromagnetic** [AB15b, BBT10, BAZC10, GS09a]. **Electromigration** [QM10]. **Electron** [AAHM14, NP16]. **Electronic** [DGY⁺11, MLO17]. **Electrons** [DDNP17]. **Electrostatic** [ZBK⁺06]. **Element** [Aar04, AEJ08, AE08, AG11, AGS14, AB15a, AB05, APWY07, BL11a, BEH13, CEGL16, CCSY08, CDG⁺14, CEL14, CEL15, DW14, DM10, Eck07, FMTV05, HP13, HOS14, HZZ14, HZZ15, Hoa09, ILW11, JCM12, JP12, JMW14, MX16, MNLD15, Ohl05,

San03, SXZ09, SWOJ05]. **Elements** [AKL06, Arb11, CCSY08, HS05, PS12, XH14].

Elliptic

[ABS13, BO16, BM06, CDCLLZ11, CCSY08, CCG15, DDN10, DW14, DM10, EP03, EGM13, GMP10, Glo06, GGS12, HMT08, HZZ14, HZZ15, HS05, HLZ17a, KC15, KY16, LMT12, LS16a, Mál11, NPP08, Ohl05, OZ05, PEV10, PS12, San03, SVZ11, ZCH15].

Embedded [KSH03]. **EMD** [KZ16].

Emergence [OW11]. **Empirical** [KZ16].

Encoding [CSSB04]. **Energies**

[BK11, BGP16, Glo06, HMP17, WN14].

Energy [Bal04, CO17, HW05, LRZ10, LXY16, RSB10, Sha11, TPC09, ZBFO10].

Energy-Based [Sha11]. **Enhanced**

[HDL08, KJ16, LYZ⁺15]. **Enhancement**

[BBT10, FS03]. **Enriched** [CGCL15, KC15].

Enrichment [CHO07]. **Ensemble** [ZG04].

Entropy [GPP⁺17, NM09]. **Environment**

[CEK08, LB16]. **Environments**

[BV04, Spi15, SHB⁺14, ST17]. **Epitaxial**

[BV06, CL03a, LXY16, MC08, SCE11].

Equation

[AT05, AG11, AGS14, BT14, Ber07, Bos10, CTL16, CFM17, DD14, DD13, EY11, Fil12, GN12, GR16, HJMS08, Jah11, JQZ11, JL17, LKGGK03, LR10a, LY16, LF06, LZ07, MBS08, MB10, MLSH12, NM09, PRS07, PK07, QY10, Sti04, Sti12, VVR08, VV16, VMK05, WTJT13, XK05, Yin15d, ZK08].

Equation-Free

[PK07, VVR08, XK05, ZK08]. **Equations** [AE11, BDW10, BST16, BCK05, BS10, BFMR03, BEH13, CLMT05, CLLW15, CF10, CC10, CE16, CR11, CLMZ17, DP08, DLS14, DKMW14, FHV11, GMWZ14, GSF06, GSF09, GGSVE14, GT17, HL09, HM13b, HH13, HKY03, HMT08, HYR08, IW10, JR03, JZ14, KK05, KvNP11, LMC⁺08, LS16a, LL17, LQB16, LR08, LYZ11, LH14, Med05, NP16, NM10, OTV09, OZ05, ÖS07, PKC05, QLY⁺16, SW11, SEK⁺05, Sjö05, Sti07, Str05, Tor06, XH14, vN09]. **Equiaxed**

[Eck04a]. **Equilibrium** [BV06, GLG05]. **Equivalence** [XY09]. **Erratum** [CMCS10a, HFOC08, JS13, Mar13, WSK13a]. **Error** [Abd05, AK12, AR17, AL08, BS17, BET10, CL17, DSS12, Eck07, GAK15, JK12, Ohl05, PHSN11, ZG05]. **Errors** [BE03]. **Escape** [AGK⁺11, BL15, CWS10, PWPK10, RH11]. **Essential** [NT10]. **Estimates** [AR17, BO16, DLO10, Eck07, LRZ10, Ohl05]. **Estimating** [DSS12]. **Estimation** [AL08, BET10, CM14, Cal07, CS06, CL03b, CVE11, GPP⁺17, HS08, KPK13, LBM05, MDHY17, OSP10, PSVE09, SHB⁺14, WN14, ZG05]. **Euler** [CR11, LH14, NM10, Sti07]. **Eulerian** [CMV15, JR03, JQZ11, LY12, QLY⁺16]. **Evaluation** [KK14]. **Evaporation** [NM13]. **Event** [Spi15]. **Evolution** [AF17, DJS17]. **Evolutionary** [DRL05]. **Evolving** [PB09]. **Exact** [ABRE16, BG08, DSS05, FG09, PR10, TW17]. **Example** [CSB04, ZK08]. **Excesses** [KIH15]. **Excitable** [Sha04, tTP05]. **Excited** [BAZC10]. **Exemplar** [ACF12]. **Exemplar-Based** [ACF12]. **Exemplified** [CEK08]. **Exhibiting** [HDFS06, SWHH04]. **Existence** [BS06, BM17, Peu16]. **Exit** [CCM16, DSH16]. **Exp** [NYY11]. **Expanded** [JCM12]. **Expansion** [AP06, BAZC10, CE16, DPV03, JT06]. **Expansions** [BMT10, JT06]. **Expectations** [Cho03]. **Experiments** [HKY03, MNLD15, vN09]. **Explicit** [CNPT10, JL05b, Li07, Nøe13, SG09]. **Exploring** [HLZ17a]. **Exponential** [SWFM13]. **Exponentially** [CR06]. **Extended** [CFL⁺17, HMS14]. **Extensions** [CCN07]. **External** [MO06]. **Extinction** [DSS05]. **Extraction** [THS14, VV12].

Faceted [NM13]. **Factor** [Dur09]. **Factorization** [LYM⁺15, MHDY17]. **Factorizations** [MDHY16, MDHY17]. **Failure** [DSS05]. **Far** [BV06]. **Fast** [AF17, ALT08, BM04, CDDY06, CDY09, CCBL11, EW14, EGO15, HNW08, IZ12, MDHY17, Pap12, PS05, QY10, QLY⁺16, Rey14, RSB10, SWHH04, YF09, Yin15b, ZKK04]. **Fault** [MMB12]. **FDTD** [CLLW15]. **FE** [CLLW15]. **FE-FDTD** [CLLW15]. **Feature** [ACT⁺10]. **Feed** [KX05]. **Feed-Forward** [KX05]. **FEM** [AS05, Abd05]. **FENE** [DLY05, HDL08, YDL05]. **Ferromagnetic** [CGCY15]. **FFRT** [EGO15]. **FFTs** [Yin15b]. **Fiber** [BKN⁺17, CSB08]. **Fibers** [Peu16]. **Fibre** [RKM13]. **Fibrous** [YM11]. **Fidelity** [DN07]. **Field** [BKN⁺17, Bos07, BLI07, CF04, CGCY15, CCOS06, DDNP17, Eck04a, Eck04b, Eck07, FG08, FJK09, Gor15, LMC⁺08, Mar12, Mar13, MWW15, PS03, RND⁺12b, STY14]. **Fields** [BBT10, BCV03, BFPS09, GS13, LR10a, LR10b, PC15, RS06, TU10, XEMK09]. **Filled** [MWW15]. **Film** [DKMW14]. **Films** [CL03a, HJV07]. **Filter** [ZG04]. **Filtered** [NM09]. **Filtering** [BdCPT09, BdCPT10, FYW11, HM13a, LMQ17, PS14, TS06]. **Filters** [GR17, Pap12]. **Filtration** [BGMP03]. **Finding** [ASST12, CWS16, LLZ16]. **Finely** [BKL⁺10, BPT06]. **Finite** [Aar04, AKL06, AEJ08, AE08, AG11, AGS14, AB15a, AB05, APWY07, Arb11, BL11a, BS17, BST16, BF16, BEH13, CEGL16, CTL16, CCSY08, CDG⁺14, CEL14, CEL15, DGY⁺11, DW14, DM10, Eck07, EGO15, FMTV05, HP13, HOS14, HMT08, HZZ14, HZZ15, HS05, Hoa09, ILW11, JLT04, JCM12, JP12, JMW14, LZ06, LJ07, LL09, LH14, MX16, Mom13, MNLD15, Ohl05, OZ05, OZ11, PEPL16, PS12, San03, SL17, SXZ09, SWOJ05, TPC09, WLT06, XH14, XX14]. **Finite-Dimensional** [OZ11]. **Finite-Time** [LH14]. **Finite-Volume** [JLT04, LJ07, LL09, PEPL16]. **First** [AKH12, CWS10, CDV16, DWC15, LBW17, LTK17, PWPK10, Sto08, TK15]. **Fitting**

[Cal07]. **Fixed** [Alm14, AIL05, TPC09]. **Flamelet** [BET10]. **Flames** [BK07b]. **Flat** [RH11]. **Flexibility** [Aar04]. **Flexural** [MT16]. **Flocking** [AP13, BCCD16]. **Floquet** [SEK⁺05, VMM11]. **Flow** [AE06, AKL06, AB15a, AP06, AE11, AKN14, AAPP10, AD03, BFPS09, BGMP03, BLK16, BBPR16, BFOS07, CLMT05, CL03b, CFL⁺17, CY03, CD06, CL09, CEPT12, CE10, DGN⁺08, DHL14, EAW04, FMQ05, Fil04, FDJ11, GKP⁺14, GLM13, GK10, HP15, HJV07, IZ12, JR03, JLT04, KG13, LH11, LZ07, LJ07, MBC⁺13, MB14, Nor09, PM14, QW05, QV03, RV15, Str05, TOM10, VHPT17, WLT06]. **Flows** [ACT⁺10, ADM⁺08, BELS15, CMV15, CPT11, EGT12, GE10a, GE10b, HWY06, IMP08, ILW11, JCM12, JMW14, KvNP11, LMS11, MNLD15, NX03, SXZ09, YY14]. **Fluctuating** [UBDB⁺12, WBG08]. **Fluctuations** [BBK07, GM16, MTW16]. **Fluid** [AE06, AMR03, AR05, AK07, CDV16, DLM06, DFL10, GJL⁺03, HPČ⁺09, JS10, MCM12, MWW15, NP16, YY14]. **Fluid-Cell** [HPČ⁺09]. **Fluid-Filled** [MWW15]. **Fluid-Particle-Spring** [JS10]. **Fluids** [BLL14, BFM⁺05, DBGA10, YDL05]. **Fokker** [ZJ17, DSS05, HS14, LF06, PKC05, VHPT17]. **Folding** [CSPD06]. **Foldy** [CS14]. **Follicular** [CMMS13, ECS07, Mic11]. **Force** [CO17, CCOS06, DLO10, DOS12, Hüt03, LLO12, LW14, RND⁺12b]. **Force-Based** [DLO10, DOS12, LLO12]. **Force-Field** [RND⁺12b]. **Force-Mixing** [CO17]. **Forced** [OYS⁺11, TKM15]. **Forcing** [GN05, LRZ10]. **Forecast** [AFM06]. **Formation** [EO05, KTY09, LE05a, MTW16]. **Formations** [CD06, CL09, FDJ11]. **forms** [CR06]. **Formula** [Alm14, Nøe13, RTW⁺06]. **Formulas** [HB05, SE07]. **Formulation** [BCGP10, BS17, BCM13, LY12, LL09]. **Formulations** [PEPL16, YWS11]. **Forward** [CW05, CLMZ17, HH13, KX05, RND⁺12a]. **Forward-Backward** [CW05, HH13]. **Foundations** [Man06]. **Fourier** [AdHW12, CDY09, LYY15, RS06, YF09, dHUVW13]. **Fourth** [CCBL11]. **Fourth-Order** [CCBL11]. **FPU** [GMWZ14]. **Fractal** [AST06, AD16, PKC05, VK10]. **Fraction** [Alm14, DMZ17]. **Fractional** [KNR14, TU10]. **Fracture** [KJ16, LM14, SFO09]. **Fractures** [MWW15, RKM13]. **Fragmentation** [JS10]. **Frame** [COS10, DJS17, DN07, GABD17]. **Framework** [ACF12, ABRE16, CHS17, Glo06, Glo08, HWY06, LB16, MB14, NPP08, DBGS08, SHB⁺14]. **Frank** [AE11]. **Free** [AAHM14, DP09, HP15, HFOC05, HFOC08, KvNP11, MTW16, PK07, San03, VVR08, WN14, XK05, ZK08]. **Freedom** [SWHH04]. **Frenkel** [AL08]. **Frequencies** [LQB16]. **Frequency** [AIL05, Dur09, JJ15, LR10a, LR10b, LSH15, OSP10, QLY⁺16, THS14, Yin15a, Yin15b]. **Friction** [KK14]. **Front** [NX03, SXZ09]. **Fronts** [SE06]. **Frozen** [GPW⁺12, LY12]. **Full** [CE16]. **Fully** [Abd05, GKP⁺14]. **Function** [FM03, LL09, NMJ11, VMM11]. **Functional** [CF15, GPK12, HFOC05, HFOC08, LOS13, SVZ11, BEZ15]. **Functionals** [KOJ05]. **Functions** [BKL⁺10, KK14]. **Fundamental** [CCM16, VHPT17]. **Fusion** [KBP⁺11]. **Fuzzy** [SSVE10].

Galerkin [CES05, CC10, EGM13, JL17, WLS08]. **Galvanic** [BM06]. **Gap** [AKSZ06, BK07a, DD13, SRK05]. **Gap-Tooth** [SRK05]. **Gaps** [ÁGMR08, LJ17]. **Gas** [AAPP10, AVE08, BGH11, GABD17, LE05b, Str05]. **Gaseous** [BGMO08]. **Gates** [AGK⁺11]. **Gaussian** [CFL⁺17, JJ15, LY12, MDHY17, QY10, TQR07]. **Gene** [IHM09]. **General** [GS15, LY12, SHB⁺14, XY09]. **Generalized** [AK03, BL11a, CEGL16, CEL14, CEL15,

ED03, Fan09, RTW⁺06, YY14].
Generation [BN05, HKDS08, Sou05].
Generator [GS13]. **Generators** [CVE09].
Genome [LH06]. **Geometric**
[CM17, DAG09, MN11]. **Geometrical**
[FMQ05, FM03, QLY⁺16, QV03].
Geometries [GK10, MMPS17]. **Geometry**
[BS10, El09, LE05a, Nøe13].
Geometry-Based [LE05a]. **geostrophic**
[LR08]. **Geothermal** [KJ16]. **Germ**
[CMMS13]. **Giant** [BM09]. **Given** [WF14].
Glassy [Cal07]. **Gliding** [CHS17]. **Global**
[AEJ08, BS07, CD06, CL09, GKP⁺14, HC14,
ZBK⁺06, ZBFO10]. **Gordon** [BDW10].
Governed [DD14]. **Grad** [ÖS07, Tor06].
Gradient [AG05, ST17]. **Gradients** [PC15].
Grain [GPP⁺17]. **Grained** [DK14].
Graining
[AE11, BLPV15, EAW04, MSAW10, ÖS07].
Granular [CPT11]. **Graph** [RSB11].
Graphs [BF12, KCH03]. **Gray** [BCV03].
Grayscale [CFM17]. **Greater** [Aar04].
Grid [EP10]. **Grid-Particle** [EP10]. **Grids**
[AKL06, MSAW10, PEPL16]. **Ground**
[Bao04]. **Group**
[BFMR03, DRLS04, WYG07]. **Groups**
[BRV12]. **Growth** [ABM05, BV06, BCP06,
CL03a, CEK08, CMMS13, HJV07, JL05b,
LMS17, LXY16, MC08, Rey14, SCE11].
Guiding [Bos07]. **Guiding-Center** [Bos07].
Gyrokinetic [Bos10]. **Gyroscopic** [BM17].

Half [AIL05]. **Half-Space** [AIL05]. **Hall**
[BM09]. **Hamilton**
[GSVE14, LYZ11, OTV09]. **Hamiltonian**
[HVS10, PR10, TOM10]. **Hamiltonians**
[LYZ11]. **Härm** [GP11]. **Harmonic**
[BN05, CM14, NDEG11, QLY⁺16, Sou05].
Hash [Rey14]. **HDMR** [JMW14]. **HDWT**
[Dur09]. **Heart** [WiOT⁺13]. **Heat**
[AE09, BP14, CD03, HCY12, HC14]. **Heavy**
[AVE08]. **Helices** [CCOS06]. **Helmholtz**
[EY11, HL17, LY16]. **Heteroepitaxial**
[HJV07]. **Heteroepitaxy** [RS06].

Heterogeneity [FZW07]. **Heterogeneous**
[AE06, AS05, Abd05, AE08, AG11, AGS14,
AB15a, AKN14, ABJ06, AR14, AR17,
BST16, CY03, CES05, CD06, CL09, Che08,
CEL14, DM10, EAW04, Ebe05, EGT12,
FDJ11, GGS12, HPV15, HMT08, JFD03,
KR15, LBB11, LMT12, LE05b, LH11, LZ07,
MNLD15, Nøe13, Ohl05, SE06, SJF⁺11,
YM11, ZCL14]. **Heuristics** [Cal07].
Hidden [Pap12, TOM10, WN10].
Hierarchical [AKL06, BEH13, CCOS06,
KJ16, Mil05, MDHY16, PEV10, TNV04].
Hierarchies [AMR03, BGH11, MT09].
High [AKSZ06, BF12, BGW14, BELS15,
CCG15, CE10, CM17, FHV11, GE10a,
GE10b, Gor15, EA08, HZZ14, HS05, JJ15,
JRX17, KC15, KB11, LMT12, LR10a,
LR10b, LQB16, NOR⁺06, OZ11, QLY⁺16,
XH14, Yin15a, Yin15b]. **High-Contrast**
[BELS15, CCG15, CE10, GE10a, Gor15].
High-Dimensional
[CM17, HS05, KB11, NOR⁺06].
High-Frequency [QLY⁺16]. **High-Order**
[HZZ14]. **Higher** [AG05, CE16, Sti07].
Higher-Order [CE16]. **Highly**
[CLMZ17, EGT12, FDJ11, ILW11, KZ16,
LJ07, PS12, SG09, TW17]. **Hilliard**
[BIG07, CFM17, DD14, LZZ13]. **Hitting**
[SH10]. **HMM** [BJ11]. **Homentropic**
[NM10]. **Homeostasis** [MB10].
Homogeneous [DLO10, DOS12, OYS⁺11].
Homogenization
[AT05, APV12, AHV15, AB05, AE09, AD17,
AAPP10, AL11, AD03, Arb11, BGMO08,
Bal08, Bal10, BM06, BP14, BGZ10, BS10,
Boy08, BELS15, CGM15, CY03, CCSY08,
CE16, CL04, CP06, DRZ07, DLS14, DW11,
Dun15, Eck04b, EP03, EP04, EKL15, GP17,
Glo06, Glo08, GSF06, GW05, GK10, GR16,
GM16, IZ12, JZ14, KS08a, KNR14, KB16,
KY16, LM15b, LM04, LYZ11, MCM12,
MS08, OTV09, Ohl05, OZ05, OPS16, OZ11,
Owh15, PP17, Pta13, QHL13, SRK05,
SEK⁺05, Sjö05]. **Homogenization-Based**

[Arb11]. **Homogenized** [BMP05, JLW16]. **Homology** [DKW09]. **Hookean** [LZ06]. **Hopping** [CJLM15, JQZ11]. **Huge** [KCH03]. **Human** [FKH07, MP05]. **Huygens** [QLY⁺16]. **Hybrid** [BST16, CWD⁺08, CLLW15, DP08, DBGA10, HPV15, HM13b, JMW14, LB16, MB14, MLSH12, MTV14, OSAND13, EP10, VVVR07, WSK13b, WSK13a]. **Hybrid-Mixed** [HPV15]. **Hydrated** [CSB08]. **Hydraulic** [LBB11]. **Hydrodynamic** [CHS17, OSAND13]. **Hydrodynamics** [DGM07, DBGA10, FZW07, FMKS06, ÖS07, QW05, UBDB⁺12, WBG08]. **Hydrophobic** [KN06]. **Hygroscopic** [CTP13]. **Hyperbolic** [AW13, CES05, CNPT10, FMQ05, GS15, JJ15, LY12, MN11, STY14]. **Hysteresis** [BP05, GT17].

Identification [CEK08, Man06]. **Identifying** [Che08]. **II** [AKSZ06, CWS10, CSB04, DP08, FZW05, Glo08, RND⁺12b]. **Image** [ACF12, BIG07, BCM05, COS10, CC06, CFM17, CCBL11, CMM11, DJS17, GO07, GO09, GST14, HW05, HNW08, JZZ11, KBP⁺11, LV05, LM05, MSE08, OSV03, OBG⁺05, Pey08, TNV04, YLY15]. **Images** [ACHR06, BCCF14, EW14, GR07, KOJ05, LAG09, Nik05]. **Imaging** [AIKK05, AGJ13, ARS17, BP07, BdCPT09, BdCPT10, Gar05]. **Immersion** [KAO05]. **Immiscible** [AAPP10, JR03]. **Immune** [GGM⁺05]. **Immunodeficiency** [MP05]. **Imperfect** [VMM11]. **Implants** [HPČ⁺09]. **Implementation** [XGBD16]. **Implicit** [CNPT10, GKP⁺14, MBC⁺13, PR10, SG09]. **Implicit-Explicit** [CNPT10, SG09]. **Importance** [DSW12, TASY⁺05]. **Improvable** [Sha16]. **Improved** [Aar04]. **Improvement** [GR17, LRZ10]. **Improving** [KN06]. **Impulse** [MI03]. **Impulsive** [BSK07]. **In-** [OSZ14]. **In-Plane** [FZW05]. **Included** [WF14]. **Including** [BMP05, LM04]. **Inclusion** [Nøe13]. **Inclusions** [AIKK05, AIL05, BGMO08, EKH06, FFJD09, MMN17, RKM13]. **Incoherent** [BAZC10]. **Incommensurate** [CLT17, MLO17]. **Incompressible** [HP15, HYR08]. **Incorporating** [HL10a]. **Incorporation** [CD06]. **Increased** [Aar04]. **Indefinite** [Yin15c]. **Independent** [BK11, HM17, MR03]. **Indeterminacy** [FKMW05]. **Induced** [BCC⁺10, FKMW05, JS10, SWFM13, SWF⁺14]. **Inelastic** [MR03]. **Inertial** [PS03]. **Inference** [Cal07, CVE09, LYTP13, RSM⁺11, RND⁺12b]. **Infinite** [BKL⁺10, DLPD12, Sch14]. **Infinitely** [GH11]. **Influence** [LYZ⁺15]. **Information** [AEJ08, CMCS10a, CMCS10b, Che08, HW05]. **Ingredients** [SE07]. **Inhomogeneous** [LQB16, NK11, QLY⁺16, VMM11, XEMK09]. **Initial** [Bos07]. **Initialization** [VVR08]. **Initio** [LXY17]. **Inpainting** [ACF12, BIG07, CFM17]. **Input** [LOT05]. **Input/Output** [LOT05]. **Inputs** [JL17]. **Insight** [CMMS13]. **Instabilities** [HI12]. **Instability** [ARRV12, YCF⁺08]. **Instantons** [GGSVE14]. **Integral** [AdHW12, CDY09, LYY15, LS16a, MDHY16, dHUVW13]. **Integrals** [Yin15b]. **Integrated** [OSP10]. **Integration** [BRDVE14, GK08, SGOK05, SG09, TOM10, WSK13a, WSK13b]. **Integrative** [TW06]. **Integrator** [MI03]. **Integrators** [LW14]. **Interacting** [BBT10, BKN⁺17, FHV11, KT14, MK06]. **Interaction** [AP13, DKMO03, HPČ⁺09, HKY03, JS10, Str05]. **Interactions** [BT14, BDZ17, CHS17, GPR17, KX05, Peu16]. **Interatomic** [Sha16]. **Interception** [DBGS08]. **Interface** [AD16, BF12, DW11, EFM12, GPW⁺12, GBS17, HH13, MCM12, MMB12, SE06, VMM11]. **Interfaces** [QHL13]. **Interfacial** [BGP16, VMM11]. **Interferometry** [BPT06]. **Interlaced** [CR11]. **Internal** [DKMO03]. **Interplay**

[RV15]. **Interpolation** [BCV03]. **Interpretation** [PC15]. **Intracellular** [GSF09]. **Intrawave** [THS14]. **Invariance** [GMO17, KAO05, KD05]. **Invasion** [AWA06, TLCW13]. **Inverse** [BFOS07, FLR11, GLM15, HMS14]. **Investigation** [LH14]. **Inviscid** [NM09]. **Involving** [KvNP11]. **Ion** [MZCJ16]. **Irregular** [FAAC09]. **Irregularly** [ACHR06]. **Irreversible** [MS04]. **Island** [CL03a, LE05a]. **Islet** [GSF09]. **Isothermal** [DGM07]. **Isotropic** [JFD03, LS16a, OYS+11]. **Issue** [AHGJ05]. **Itô** [OSP10, PRS07]. **Iterated** [BRV12]. **Iterative** [BSK07, LXQ09, OBG+05].

Jacobi [LYZ11, OTV09]. **Jacobian** [GPW+12, GKP+14]. **Joint** [BCV03, CLY+11]. **Joint-MAP** [CLY+11]. **Jump** [CVE09, GAK15, Giv07, GK08, MSVE09, NK11, SH10]. **Jump-Diffusion** [GAK15, Giv07, GK08]. **Justification** [ÁGMR08, BMT10, CS14].

Kalman [ZG04]. **KdV** [GMWZ14]. **Keeping** [BKL+10]. **Kernels** [BRV12]. **Key** [SE07]. **Kinetic** [AMR03, AR05, BP07, BCCD16, BDZ17, BS07, BSS14, CY13, DDNP17, DLM06, DP08, FZW05, FHV11, Gos14, HM13b, HT17, MC08, MT09, PM14, Rey14, RBHK13, ST17, VHPT17, ZFW05]. **Kinetics** [AH12, BEHL16, CMMS13, Eng09, MBS08, WF14]. **Kink** [BV06]. **Klein** [BDW10]. **Kohn** [CDG+14]. **Kolmogorov** [SXZ09]. **Kontorova** [AL08]. **Kramers** [HNV12]. **Kuramoto** [Sti04].

L [NOR+06]. **Lagrangian** [BK06, BFM+05, CLMZ17, FLR11, Sch14]. **Laminates** [Mil05]. **Landau** [CLZ16]. **Langevin** [HS08, JS12, JS13, LMC+08]. **Laplace** [GN12]. **Large** [Bal10, BK07b, CS06, CLMT05, CMV15, CF10, DLS14, HKY03, HL17, LRZ10, LX17, LOT05, SWFM13, ST17, TS06]. **Large-Eddy** [TS06]. **Large-Scale** [CS06, LOT05]. **Larmor** [BF16]. **Laser** [BN05]. **Lasers** [AAHM14]. **Latent** [LYTP13]. **Lateral** [Dun15, PRS07]. **Lattice** [BSS14, JC13, LE05b, OSAND13, VVVR07, VV12, YY14]. **Lattice-Gas** [LE05b]. **Lattices** [GMWZ14, VO13]. **Law** [BGMP03, GPY13, MCM12]. **Laws** [AW13, CE16, PKC05]. **Lax** [CS14]. **Layer** [AKSZ06, BdCPT09, CL03b, KNR14]. **Layered** [BPT06, BS16, Gar05, QHL13]. **Layering** [BdCPT10, GS10]. **Layers** [EY11, MLO17]. **Leap** [MTV14]. **Leaping** [CL17, Li07, RPCG05]. **Learning** [CM17, MSE08]. **Least** [Nik05]. **Least-Squares** [Nik05]. **Length** [DKMO03, Mom13, Rob09]. **Level** [BKL+10, BIL+08, DYOD08, LBM05]. **Level-Set** [LBM05]. **Levels** [BCV03]. **Leverett** [WTJT13]. **Li** [FG09]. **Lie** [WYG07]. **Life** [HK05]. **Lifetime** [OW11]. **Lifshitz** [CLZ16]. **Lifting** [KN06, VV12, VV16]. **Light** [KM11, DBGS08]. **Like** [HT17, HMS14, LQB16, OPS16, BFRD13]. **Likelihood** [HS08, MDHY17, PS14]. **Likelihood-Based** [HS08]. **Limb** [FKH07]. **Limit** [BS17, BR12, BLL14, BCM13, CY13, DLPD12, FG08, GPK12, GM16, EA08, KK14, Sch14, VHPT17]. **Limited** [AEJ08]. **Limits** [APV12, BK07a, Bal08, BDW10, CDV16, MT09, PS03, PS05, STY14, ST17]. **Line** [JC13, KG13, SE07]. **Linear** [Abr12, BL11b, BM17, DLY05, FLR11, GO07, HVS10, HM13b, LY12, EFS14, McC05]. **Linearized** [AHV15]. **Liners** [MRTV14]. **Lines** [DDNP17]. **Linked** [Peu16]. **Linking** [MS04]. **Lippmann** [Yin15d]. **Lipschitz** [BKL+10]. **Liquid** [Eck04a, MZ15]. **Liquid-Solid** [Eck04a]. **Liver** [CKS08]. **Living** [HL10a]. **Local** [ACHR06, BL11a, BLI07, CL09, CHO07, CNPT10, GP17, HFOC05, HFOC08, LAG09,

MO06, Nøe13, PEV10, Yin15b].
Local-Global [CL09]. **Locality** [CO16].
Localization [BIT10, Che08, Dur09, HM17].
Localized [DLM06, OZ11]. **Locally**
[AR17, HLZ17a, Pta13, Pta15]. **Locating**
[AIL05, LLZ14]. **Log** [NYY11]. **Log-Exp**
[NYY11]. **Lognormal** [JFD03]. **Long**
[AGS14, AFM06, AR14, CSPD06, GS09b,
GH11, GPR17, MI03, SWHH04].
Long-Range [GS09b, GPR17]. **Long-Term**
[SWHH04]. **Long-Time** [AGS14, CSPD06].
Looping [AKH12]. **Low** [CCOS06,
CKL+08, CTHC06, HLZ17a, HLZ17b].
Low-Resolution [CCOS06, CTHC06].
Lungs [CGM15]. **Lymph** [DWC15].

Macro [CHS17, HDL08, YDL05].
Macrodiffusion [ABJ06].
Macromolecular [SWF+14]. **Macroscopic**
[BLL14, DLM06, FG08, FZW07, HDL08,
KT14, MT09, Peu16, QM10, ST17, VV12].
Magnetic [Bos07, DDNP17, WTT05].
Magnetism [KS08a]. **Magnetized** [NP16].
Main [BCC+10]. **Manifold**
[KAO05, RDS+05, XY09].
Manifold-Valued [RDS+05, XY09].
Manifolds
[ASST12, BCCF14, CM17, GMO17, LLZ16].
Many
[HNV12, LB16, Mar12, Mar13, MMN17].
Many-Body [Mar12, Mar13].
Many-Particle [HNV12]. **Map**
[BGW14, LAG09, CLY+11]. **Maps**
[CKL+08]. **Market**
[MTW16, OSP10, ZYL05].
Market-Microstructure [OSP10].
Markov [AH12, CWS16, CVE09, DSS12,
MSVE09, NT10, Pap12, SNS10, SH10,
TWZ15, WN10, dWMH13]. **Markovian**
[KTY09, LS16b]. **Mass**
[BFRD13, CD03, Mic11, PR10, XX14].
Mass-matrix [PR10]. **Mass-Spring**
[BFRD13]. **Massive** [DMZ17]. **Master**
[CTL16, Jah11, MBS08, MB10, MLSH12].

Matched [BMT10, EY11]. **Matching**
[JT06, ZBFO10]. **Material** [Sjö05].
Materials [AKSZ06, CM14, CLLW15,
EAC09, EKH06, HK05, HCY12, HDL08,
Nøe13, OPS16, WCW15]. **Mathematical**
[AL14, ABRE16, GP17, GGM+05, ÖS07,
STY14]. **Matrices** [HLZ17b]. **Matrix**
[DG09, DRLS04, PS12, PR10]. **Maturity**
[Mic11]. **Maximizing** [OW11]. **Maximum**
[Mil05, MDHY17, PS14]. **Maxwell**
[Bos07, BS10, CLLW15, CE16, JZ14, LQB16,
QLY+16, SW11, SEK+05, Sjö05]. **MD**
[RND+12a, RND+12b]. **Mean**
[AKH12, AGK+11, BKN+17, CGCY15,
CWS10, DWC15, FJK09, Mar12, Mar13,
Pap12, PWPK10, STY14, TK15].
Mean-Field [BKN+17, CGCY15, STY14].
Mean-Reverting [Pap12]. **Measure**
[ALT08, LAG09]. **Measurements** [LR10b].
Measures [TMC+17]. **Mechanical**
[ASST12, CSB08]. **Mechanics** [VFEK11].
Mechanism [DD14]. **Mechanisms** [PB09].
Media [AE06, AB15a, AKN14, ABJ06,
AAPP10, AR17, BGMO08, Bal04, BP07,
Bal08, BJ11, BPT06, BGW14, BS16,
BGMP03, BBPR16, BEH13, CTP13, CD03,
CY03, CGCY15, CEPT12, CEL14, EAW04,
Ebe05, ED03, EGT12, FFJD09, GE10a,
GE10b, Gar05, GS09a, GS09b, GGS12,
GS13, HWY06, IW10, IMP08, ILW11,
JLT04, JCM12, JMW14, JT06, KdL15,
KR15, KB16, LMS11, LJ17, LZ07, Mom13,
MNLD15, NDEG11, Nor09, PKC05, PB09,
QLY+16, Sha04, VK10, YM11, tTP05].
Mediated [BDZ17]. **Medium** [Alm14,
BP14, CLMT05, CP06, HB05, JFD03,
LQB16, MCM12, MWW15, SJF+11, vN09].
Medium-to-Large [CLMT05]. **Membrane**
[TASY+05]. **Memory** [BR12, MR03]. **Mesh**
[XGBD16]. **Meshfree** [GZ06, KT14, Sch14].
Meso [BR12]. **Mesoscale** [BCP06, LE05b,
MMN11, MMN16, PKC05, VVR08].
Mesoscopic
[BEHL16, GS13, HL10a, HHL12].

Messaging [LYTP13]. **Metabolic** [CS06]. **Metabolism** [CKS08]. **Metals** [KSH03]. **Metastability** [HDFS06]. **Metastable** [HS10, WKWD07]. **Method** [Aar04, AE06, AKL06, AG11, AGS14, AB15a, AHV15, AJS16, AST06, AB05, APWY07, BCGP10, BS17, BSK07, BST16, BBK07, BMT10, BK06, BLO17, BIL⁺08, BEH13, BP16, CWD⁺08, CM07, CFL⁺17, CES05, CCSY08, CGCL15, CEPT12, CR11, DRZ07, DW14, DBGA10, DM10, EGM13, EKCO13, Fan09, FMTV05, FLR11, GKP⁺14, GMP10, GZ06, GZ10, HPV15, HP15, HM13b, HFOC05, HFOC08, HP13, HOS14, HMT08, HZZ14, Hoa09, HNW08, ILW11, JJ15, JLT04, JRX17, JQZ11, JL17, KR15, KT14, LZ06, LMT12, LLO12, LS16a, LL17, LMS11, LXQ09, LY17, LJ07, LL09, MSO14, MDO10, MWW15, MY09, MX16, MNLD15, Ohl05, OSAND13, OBG⁺05, Pta15, RS06, San03, SS15, SCE11, THS14, VBMS04, WLS08, WLT06, XX14, YY14, ZKK04, ZBFO10, ZCH15, ZJ17]. **Methodologies** [MNLD15]. **Methods** [AEJ08, AE08, ABS12, ABS13, AKN14, AW13, AK12, AET09, AR14, AR17, AWA06, BL11a, BCK05, COS10, CEGL16, CC10, CO16, CLZ16, CO17, CEL14, CEL15, CNPT10, CLMZ17, DP08, HZZ15, JZZ11, JCM12, JP12, JMW14, KZ16, KS08b, LM15a, Liu10, LY12, Mäl11, McC05, NPP08, Nor09, OSZ14, EP10, PA06, QLY⁺16, Sch14, SWOJ05, SE06, ZBK⁺06]. **Metric** [OTV09]. **Metropolis** [BRDVE14]. **Meyer** [SAC06]. **Micro** [BR12, CHS17, HDL08, YDL05]. **Micro-Macro** [CHS17, HDL08]. **Micro-to-Meso** [BR12]. **Microcolony** [JL05b]. **Microdomain** [RH11]. **Microflow** [Tor06]. **Micromechanical** [RCMD09]. **Microresonators** [KS08a]. **Microscale** [BBK13, CM14, GN05, KvNP11]. **Microscopic** [FZW07, HHL12, LKGK03, YM11]. **Microscopic-Macroscopic** [FZW07]. **Microstructure** [CSB08, CP06, CHO07, Eck04a, Mar12, Mar13, OSP10, PB09]. **Microstructure-Based** [CSB08]. **Microstructures** [BP16, Che08, DM10, GW05, GK10, Pta13, Pta15, YM11]. **Migration** [AAPP10]. **Milestoning** [ABRE16]. **Mimetic** [LMS11]. **Minimal** [FG09, WF14]. **Minimization** [ACHR06, HNW08, LY17, OSV03, RSB10]. **Minimizing** [Nik05]. **Mismatch** [FYW11]. **Missing** [KIH15]. **Mixed** [Aar04, AKL06, AEJ08, APWY07, Arb11, CEL15, GST14, HPV15, HHL12, JCM12, JMW14, MMN11, SWOJ05]. **Mixing** [CO17, GJL⁺03, GBS17]. **Mixture** [BRV12, CLY⁺11, CBS04, CSB04]. **Mixtures** [Eck04b]. **MM** [CO16]. **Mobile** [LTK17]. **Mobility** [DD14]. **Mode** [DD13, KZ16, WSK13a, WSK13b]. **Model** [ABM05, ADM⁺08, AMR03, AL08, AK07, BV06, BCCD16, BKL⁺10, BMT10, BM04, BLL14, BRR13, BIG07, BIL⁺08, BMP05, BGH11, CKS08, CCGB05, CEK08, CGM15, CJLM15, CF10, CLY⁺11, CGCY15, CO16, CCBL11, CMMS13, CCPT17, DPV06, DGHK07, DLY05, DAG09, Eck04a, Eck04b, Eck07, ED03, EGT12, El09, FMQ05, Fil04, FYW11, FG08, FG09, GKP⁺14, GJL⁺03, GLG05, GPP⁺17, GN06, GBS17, GS13, GABD17, HJV07, HT17, HDFS06, HKDS08, Hor11, HCY12, HDL08, JS10, JLW16, JN06, JL05b, KJ16, KX05, LOS13, LZ06, LM14, LH06, LOT05, MC08, MZ15, MR03, MT16, PM14, PEV10, Peu16, QV03, Rob09, RTE17, RBHK13, SP12, STY14, Sto08, TW06, TWZ15, TLCW13, VO13, VV12, VFEK11, XGBD16, YGO07, YDL05, ZYL05]. **Model-Based** [CMMS13]. **Modeling** [AHGJ05, AMK03, ÁGMR08, BM06, BLO17, BEHL16, BN05, BE03, BL05, CM14, CLMT05, CTP13, CSB08, Che08, CPT11, DGN⁺08, DPV03, DK14, DRE16, DD13, ECS07, EAC09, EKH06, EO05, FKH07, FHV11, FSS09, GSF09, GP11, GR07, GS13,

SD06, SP12, DBGS08, Spi15, Sto08, SWOJ05, SE06, SCE11, TNV04, TOM10, TLCW13, VZ08, VBMS04, WLS08, WCW15, WiOT⁺13, WLT06, XH14, XX14, XEMK09, XK05, XGBD16, YGO07, YWS11, YYW13, ZCL14, ZCH15, ZG04, ZG05, dHUVW13]. **Multiscale-Linking** [MS04]. **Multiscaling** [FKMW05]. **Multitone** [KX05]. **Multivalued** [VHPT17]. **Multivariate** [CFL⁺17]. **MUSIC** [AIL05].

Naïve [MB10]. **Nanoindentation** [HFOC05, HFOC08]. **Nanopore** [FMKS06]. **Nanorod** [YCF⁺08]. **Nanoscale** [WTT05]. **Nanostructures** [ZCL14]. **Nanotube** [BFRD13, MMPS17]. **Nanowire** [Rey14]. **Narrow** [AGK⁺11, BCGP10, CWS10, PWPK10, RH11]. **Natural** [GR07]. **Nature** [LKGK03]. **Navier** [CF10, HKY03, HYR08, JS10]. **Near** [AE08, CM17, KK14, ZYL05]. **Near-Brownian-Limit** [KK14]. **Near-Optimal** [ZYL05]. **Néel** [DKMO03]. **Negative** [CL13]. **NeighborhoodWise** [KBP⁺11]. **Nematic** [FZW05, ZFW05]. **Network** [ABG05, CEPT12, DGHK07, SWF⁺14, Yin17]. **Network-Based** [SWF⁺14]. **Networked** [YWS11, YYW13]. **Networks** [BDZ17, BBK07, BPW⁺16, BGH11, CSB08, Coh10, DHL14, IHM09, KRK17, LBB11, LM04, PA06, SSVE10, SWFM13, TMC⁺17]. **Neumann** [BGW14, MX16]. **Neuronal** [GH15]. **Neutral** [CDV16]. **Neutrality** [DPV03]. **Newtonian** [YY14]. **Ni** [RSM⁺11]. **Ni/Al** [RSM⁺11]. **NLS** [BCM13]. **Nodal** [DKW09]. **Nodes** [DWC15]. **Noise** [BSK07, CM07, GS15, OSP10, PS03, PS05, SSJ⁺12, SSJ⁺15, Sha04, TKM15]. **Noises** [GST14]. **Noisy** [ACHR06, Gar05]. **Non** [DSH16, HNV12, HS14, LS16b]. **Non-Kramers** [HNV12]. **Non-Markovian** [LS16b]. **Non-Poissonian** [DSH16].

Non-Self-Adjoint [HS14]. **Nonclassical** [KR15]. **Nonconforming** [CCSY08, MNLD15]. **Nonconservative** [MN11]. **Nonconvex** [BK11, Nik05]. **Nonequilibrium** [DRLS04, GLG05, HS10, JS12, JS13]. **Nonintrusive** [TOM10]. **Nonisothermal** [BBPR16, BGH11]. **Nonlinear** [AHV15, Abr13, BT14, BM06, BM17, BN05, BFMR03, CC10, CRK05, DRL05, DJS17, DLY05, EP04, Fil04, GPW⁺12, Hoa09, HJMS08, IW10, KAO05, KD05, KX05, MDO10, Pap12, Sch06, SW11, Sti12, WF08]. **Nonlinearly** [AMK03]. **Nonlocal** [BL11b, DYOD08, GO07, GO09, GP11, GL10, KX05, KOJ05, MY09, PC15, Pey08, XGBD16]. **Nonoverlapping** [MR12]. **Nonperiodic** [PS12]. **Nonperturbative** [XT04]. **Nonreversible** [CWS16]. **Nonrotating** [EKH06]. **Nonseparated** [OZ11]. **Nonsmooth** [DM10]. **Nonstationary** [Hor11, LZ07]. **Nonuniform** [AKL06, DKMW14, EF14]. **Norm** [SAC06]. **Normal** [CR06, TS06]. **Normalizing** [ACT⁺10]. **Novel** [GMP10]. **Nuclear** [AAPP10]. **Nucleation** [BCP06, HFOC05, HFOC08, LZZ13, Sha04]. **Number** [BBPR16, CMV15]. **Numbers** [HL17]. **Numerical** [ALS12, AHV15, AP06, AST06, AB05, AL11, AK12, AAHM14, AET09, ÁGMR08, BT14, BK11, BMT10, BN05, CDCLLZ11, CF04, CY03, CLZ16, CL04, DP09, DSH16, EP03, EP04, EKL15, EFM12, GJL⁺03, Glo06, Glo08, Gos14, GP11, GK10, GLM15, HKY03, HJMS08, IZ12, KY16, LMC⁺08, LW14, LH14, Mom13, MN11, MNLD15, Owh15, Peu16, SE07, Sti12, VV12, vN09]. **Object** [AFM06]. **Obscure** [CCM16]. **Observations** [Man06]. **Obstacle** [Yin15a]. **Obstacles** [tTP05]. **Obtaining** [LB16]. **Occlusion** [GR07]. **Ocean** [AFM06, Med05]. **Octaalanine** [NOR⁺06]. **ODE**

[CRK05, QV03]. **ODEs** [FMQ05, TOM10]. **Off** [BSS14]. **Off-Lattice** [BSS14]. **One** [BLL14, BCM05, CDCLLZ11, CLT17, CCG15, Gos14, EA08, LOS13, LM14, MBC⁺13, MY09, NM10, PM14, Sha11, VV16, XGBD16, ZJ17]. **One-Dimensional** [BLL14, CDCLLZ11, CLT17, CCG15, Gos14, LOS13, LM14, MBC⁺13, MY09, NM10, VV16, ZJ17]. **One-Step** [PM14]. **Operator** [CVE11, DOS12, HS14, LXY17, LL09, VV12, VV16, VMK05]. **Operators** [AdHW12, CDY09, DRL05, EP03, EP04, GPW⁺12, GO09, Glo06, KS08b, LYY15, MDHY16, dHUVW13]. **Optical** [ARS17, KG13]. **Optics** [FM03, QLY⁺16]. **Optimal** [AE08, BL11a, Ber07, CDCLLZ11, GMO17, KS08b, MMPS17, MR12, SSVE10, Sch14, Sti04, TWZ15, WN14, ZYL05]. **Optimization** [AJS16, CC06, CVE09, KCH03, LTK17, LOT05, OPS16]. **Optimization-Based** [CC06]. **Optimizing** [Mil05]. **Orbital** [HFOC05, HFOC08, LY17]. **Orbital-Free** [HFOC05, HFOC08]. **Order** [AG05, Bos10, BCC⁺10, BEZ15, CE16, CCBL11, CDV16, DMZ17, FG08, HVS10, HZZ14, JLW16, JRX17, KB11, LMT12, Sti07, Sto08, Str05, VO13, WSK13a, WSK13b]. **Ordering** [BGP⁺11, LE05b]. **Organization** [RSB11]. **Orientation** [SE07]. **Orthogonal** [WSK13a, WSK13b]. **Oscillating** [GN06, MX16]. **Oscillations** [ALT08, TASY⁺05]. **Oscillators** [AET09]. **Oscillatory** [BKL⁺10, CLMZ17, DSH16, DW11, HS14, KC15, KZ16, LL17, SG09]. **Out-of-Plane** [DD13]. **Ovarian** [CMMS13]. **Overdamped** [GPK12]. **Oversampling** [CEGL16, Glo08, HP13]. **Ovulation** [ECS07, Mic11].

P [CMCS10a, CMCS10b]. **P-Splines** [CMCS10a, CMCS10b]. **Packing** [CCOS06, LH06]. **Pair** [CF15]. **Pairs** [KBP⁺11]. **Pancreas** [GSF09]. **Parabolic** [AHV15, ABG05, CES05, EP04, MTW16, STY14]. **Paradigm** [EO05]. **Parallel** [DLPD12, Eng09]. **Parameter** [CS06, CEK08, EGT12, GPP⁺17, LBM05, SAC06]. **Parameter-Dependent** [EGT12]. **Parameters** [RND⁺12b, Sjö05, WTJT13]. **Parametric** [SSJ⁺15]. **Parametrizations** [NT10]. **Parametrized** [GGSV14]. **Paraxial** [BG14, GS09a, GS14, GS15]. **Part** [AKSZ06, CO16, CO17, CWS10, Glo08, MNLD15, PWP10, RND⁺12a, RND⁺12b]. **Partial** [YF09]. **Particle** [AVE08, BDZ17, BCK05, BK06, CCM16, CR06, DRE16, DBGA10, Fan09, FHV11, HNV12, JS10, KT14, KSH03, LBW17, MHW13, EP10, Sch14]. **Particle-Based** [DRE16]. **Particle-Continuum** [DBGA10]. **Particle-Wavelet** [BK06]. **Particles** [DPV06, HT17, OSAND13, PS03]. **Partitioned** [LBB11]. **Passage** [CWS10, DWC15, LBW17, LTK17, PWP10, TK15]. **Passing** [Che08]. **Passive** [AGJ13]. **Patch** [BMT10, CLY⁺11]. **Path** [MSVE09, Plo09]. **Pathway** [STY14, ST17]. **Pathway-Based** [STY14, ST17]. **Pathways** [LLZ16, NOR⁺06]. **Pattern** [EO05]. **Patterns** [LE05b]. **PDE** [MDO10, QV03, VV12]. **PDE-Based** [MDO10]. **PDEs** [ABS13, DJS17, HLZ17a, KD05, McC05, ZCH15, FMQ05, LRZ10]. **Péclet** [BBPR16]. **Pedestrian** [CCM16]. **Penalization** [BEZ15, PR10]. **AI** [RSM⁺11]. **Continuum** [CGCL15, Fan09, Sha11]. **Finite** [VVVR07]. **Gross** [IW10]. **MM** [CO17]. **Output** [LOT05]. **Percolation** [SWFM13, SWF⁺14]. **Percolation-Induced** [SWFM13, SWF⁺14]. **Perfectly** [EY11]. **Perforated** [LLL14, MMN11]. **Peridynamics** [SPGL09, XGBD16]. **Perimeter** [BKL⁺10]. **Periodic** [AD17, AD03, AR17, BO16, Boy08, BFMR03, CCG15, DOS12, Hoa09, HJMS08, KdL15, LM04, LJ17, Mar12, Mar13, MS08, NX03, OW11, Pta13, Pta15, QHL13, SW11, Yin15c].

Permanent [BFRD13]. **Permeability** [BFPS09, Man06]. **Permittivity** [NDEG11]. **Perspective** [BK07b]. **Perturbation** [ZKK04]. **Perturbed** [FMTV05, GPY13, GMP10]. **Petrovsky** [SXZ09]. **Phase** [AKL06, AKN14, AAPP10, BCCD16, BL05, CMV15, CD06, CL09, CEPT12, Eck04a, Eck04b, Eck07, FG08, GKP⁺14, HJV07, HNV12, HWY06, LZZ13, LMS11, LR10b, LS16b, MWW15, Sto08]. **Phase-Field** [MWW15]. **Phason** [BM17]. **Phenomena** [DRLS04, MCM12]. **Phonon** [LXY17]. **Photonic** [BGZ10, DD13]. **Physical** [GN06]. **Piecewise** [JK12]. **Piezoelectric** [VS11]. **Pipeline** [BGH11]. **Piskunov** [SXZ09]. **Pitaevskii** [IW10]. **Planar** [LMMM03, RSB10]. **Planck** [DSS05, HS14, LF06, PKC05, VHPT17, ZJ17]. **Plane** [BL11b, DD13, FZW05, HL17, ZFW05]. **Planewave** [LY17]. **Plant** [PP17]. **Plasma** [CWD⁺08, DPV03]. **Plasmonic** [CL13]. **Plasticity** [CHO07]. **Plate** [Sch06]. **Plywood** [Pta13]. **Point** [BG17, DAG09, GS14, HMS14, LS16a, LQB16, MLS12]. **Point-Like** [HMS14]. **Point-Source** [LQB16]. **Poisson** [ZJ17, AST06, BF16, CDV16, CLMZ17, EA08, ZCL14]. **Poissonian** [DSH16]. **Polarizability** [LXY17]. **Polarization** [AK03, VFEK11]. **Polarized** [JJ15, KM11]. **Policies** [DGHK07]. **Polyatomic** [GMWZ14]. **Polycrystal** [BG08, EW14]. **Polydisperse** [FFJD09, KB16]. **Polymer** [AKH12, BGMP03, CF04, FZW07, LMC⁺08, WGM10]. **Polymeric** [HDL08, YDL05]. **Polymers** [BS07, CBS04, CSB04, FZW05, ZFW05]. **Pontryagin** [Mil05]. **Population** [AK12]. **Pore** [MB14]. **Poroelectric** [MT16]. **Porosity** [BBPR16]. **Porous** [AE06, AB15a, AKN14, ABJ06, AAPP10, BGMP03, BBPR16, BP16, CTP13, CD03, CY03, CEPT12, CP06, EAW04, Ebe05, ED03, HWY06, IMP08, ILW11, JLT04, JCM12, JMW14, KR15, KB16, LMS11, LZ07, MCM12, MWW15, Nor09, PKC05, PB09, VK10, vN09]. **Posedness** [CCGB05]. **Position** [LYTP13]. **Positive** [HLZ17b, LLO12]. **Possessing** [CRK05]. **Posteriori** [BET10, BE03, Ohl05]. **Potential** [AKSZ06, Bal10, Cal07, DPV06, HB05, NM10]. **Potentials** [DW11, GR16, HJMS08, Sha11, Sha16, Str05]. **Potts** [SP12]. **Practical** [CM07]. **Precipitation** [vN09]. **Preconditioner** [EY11, GPW⁺12, LY16, Yin15a, Yin15d, Yin15c]. **Preconditioners** [GE10a, GE10b, HL17, XX14]. **Preconditioning** [HWW⁺13, LY17]. **Predicted** [MO06]. **Prediction** [Ber07, CCOS06, HFOC05, HFOC08, KN06, Kst04]. **Predictor** [BLO17]. **Predictor-Corrector** [BLO17]. **Premixed** [BK07b]. **Presence** [FKMW05, OSP10, XEMK09]. **Preserving** [BCM13, CY13, CMV15, DDN10, DN07, JL17, LL17, TOM10, VS11, ZJ17]. **Pressure** [GS10, GJL⁺03, Man06, MCM12]. **Price** [MTW16]. **Primitive** [Med05]. **Principle** [Mil05, SWHH04, TPC09, FLR11]. **Prior** [CLY⁺11]. **Priori** [Abd05]. **Prisms** [GH11]. **Probabilistic** [BP05]. **Probabilities** [GPY13, PHSN11]. **Probability** [DSH16, HS14, WKWD07, WN10]. **Problem** [AD16, AE09, AGK⁺11, BM06, BFPS09, CDCLLZ11, CCN07, ECS07, HL10b, MMN17, MX16, RH11]. **Problems** [AS05, AHV15, AJS16, AST06, AL11, Arb11, AR14, AR17, BL11a, BCGP10, BK11, CM07, CES05, CCSY08, CCG15, CWS10, CE10, DGY⁺11, DRZ07, DDN10, DW14, DM10, EGM13, FMTV05, FLR11, GMP10, GGS12, GL10, HPV15, HM17, HZZ14, HZZ15, HS05, Hoa09, KC15, KY16, LMT12, Mål11, MMN11, NPP08, Ohl05, OZ05, PS14, PEV10, PS12, PWP10, SRK05, San03, SG09]. **Procedure** [ÖS07]. **Procedures** [Cal07]. **Process** [MDHY17, NK11]. **Processes**

[AK12, CWS16, CVE09, DSS05, GN06, HHL12, JK12, MSVE09, NN13, OSP10, PSVE09, PHSN11, SH10, dWMH13]. **Processing** [El09, GO09, Pey08]. **Product** [BRV12]. **Production** [CCOS06]. **Products** [Gos14]. **Projection** [DRL05, HP15, McC05]. **Projections** [SVZ11]. **Projective** [JL05a]. **Propagating** [BG14, MWW15, MMB12]. **Propagation** [AB15b, AR14, AR17, BAZC10, BP05, BS16, CGM15, CEL14, FS05, GS09b, JT06, RND⁺12a, tTP05]. **Proper** [WSK13a, WSK13b]. **Properties** [AK03, AKSZ06, FG09, GS13, LXY16, MO06, Mil05, Nøe13, SVZ11, SHB⁺14, VK10, WYG07, XY09, YWS11, ZBK⁺06]. **Protein** [CCOS06, CSPD06, DK14, KN06, VBMS04]. **Protein-DNA** [VBMS04]. **Proximal** [CW05]. **Pseudospectral** [Yin15c]. **Puff** [DRE16]. **Pulsating** [CP06]. **Pulse** [BS16, BG17, BN05, GS09b]. **Pulsed** [RK17]. **Pump** [Sou05].

Q [MZ15]. **Q-Tensor** [MZ15]. **QM** [CO16, CO17]. **QM/MM** [CO16]. **QM/MM** [CO17]. **QNL** [OSZ14]. **QNL-Type** [OSZ14]. **Quadrature** [CFL⁺17, GZ10]. **Quadrature-Rule** [GZ10]. **Quality** [SNS10]. **Quantification** [RND⁺12a, RND⁺12b, ZK08]. **Quantifying** [LYZ⁺15, SSJ⁺15]. **Quantized** [BT14]. **Quantum** [CJLM15, DGM07, HMP17, JN06, WTT05]. **Quasi** [BL11b, BGZ10, CE16, CDV16, DPV03, EFS14, GP17, GZ10, HFOC05, HFOC08, JZ14, LM14, LR08, McC05, MY09, MP05]. **Quasi-Continuum** [GZ10, HFOC08, MY09, HFOC05, LM14]. **Quasi-geostrophic** [LR08]. **Quasi-linear** [EFS14, McC05]. **Quasi-Local** [GP17]. **Quasi-Neutral** [CDV16]. **Quasi-Nonlocal** [BL11b]. **Quasi-Species** [MP05].

Quasi-static [CE16, JZ14]. **Quasicontinuum** [AL08, DLO10, DOS12, EKCO13, LLO12, SS15]. **Quasiconvex** [Glo06]. **Quasicrystals** [BM17]. **Quasigeostrophic** [GLM15].

Radiation [HC14, OW11]. **Radiative** [AE09, EGO15, GLG05, GPR17]. **Radius** [BF16, OSAND13]. **Ramified** [AST06]. **Random** [Alm14, AB15b, AGJ13, AL11, Bal04, BP07, Bal08, Bal10, BJ11, BO16, BPT06, BdCPT10, BIT10, BG14, BG17, CEK08, DG09, Dum15, EP04, FFJD09, GGN07, GS09a, GS09b, GS10, GS14, GS15, Gom09, GR16, GS13, HLZ17a, JMW14, JL17, LB16, NDEG11, PS03, SXZ09, SWFM13, Spi15, SHB⁺14, SJF⁺11, XT04, XK05, YWS11, ZCH15]. **Randomization** [LRZ10]. **Randomized** [CEGL16]. **Randomly** [BS16, BL15, CP06, Gar05, GMP10, LZ07, tTP05]. **Range** [GS09b, GPR17]. **Rank** [HLZ17b]. **Rare** [Spi15]. **Rarefied** [ADM⁺08, GABD17, Str05]. **Rate** [BK11, Giv07, LZZ13, MR03]. **Rate-Independent** [BK11, MR03]. **Rates** [BLPV15]. **Rational** [CBS04, CSB04]. **Rattling** [GT17]. **Ray** [AAHM14]. **Rayleigh** [GBS17, JC13]. **Reachability** [ECS07]. **Reacting** [Li07]. **Reaction** [BBK07, BRR13, BEHL16, CL17, GAK15, HHL12, JK12, KRK17, NX03, PA06, RPCG05, VVVR07, ZK08]. **Reaction-Diffusion** [BRR13, BEHL16, HHL12, NX03, VVVR07]. **Reactions** [LE05b, LF06]. **Reactive** [BST16, BBPR16, CD03, HPV15, KB16, KvNP11]. **Rebinding** [WF14]. **Recognition** [SAC06]. **Reconstruction** [CLY⁺11]. **Recovery** [CL03b, CW05, LR10a, LR10b, Nik05, TW17]. **Recursive** [MHDY17, YWS11]. **Redheffer** [Gos14]. **Reduced** [Boy08, CE10, DMZ17, GE10b, HZZ15, HKDS08, Jah11, KB11, LMS17,

WSK13a, WSK13b]. **Reduced-Basis** [Boy08]. **Reduced-Contrast** [CE10]. **Reduced-Order** [DMZ17, KB11, WSK13a, WSK13b]. **Reduction** [CCPT17, CRK05, CKL⁺08, EGT12, GN06, HDFS06, HKDS08, Hor11, KRK17, LM15b, LF06, LOT05, PK07, PEV10, TPC09]. **Reduction-Based** [LOT05]. **Redundancy** [Dur09, KBP⁺11]. **Reentrant** [AR05]. **Refinement** [CCOS06, WBG08, XGBD16]. **Reflection** [BG17]. **Reflective** [TK15]. **Refocusing** [FN03, GN05]. **Regime** [BS17, BEHL16, BF16, CM14, GS14, GP11, KK14, NP16, Pap12, TWZ15, YYW13, dWMH13]. **Regime-Switching** [TWZ15, YYW13]. **Registration** [KG13]. **Registration** [CCBL11, HW05]. **Regression** [HMP17, KIH15]. **Regular** [FAAC09]. **Regularity** [GPR17, HC14]. **Regularization** [DN07, GO07, HL09, Man06, NM10, OBG⁺05, SAC06]. **Regularized** [BS07, Nik05, Tor06, YGO07]. **Regulation** [IHM09]. **Related** [AL11]. **Relations** [CL13]. **Relative** [GPP⁺17]. **Relaxation** [CHO07, JZZ11, MK06, NM13, PS05, QM10, RSB11]. **Relaxation-Based** [RSB11]. **Release** [GS10, GH15, VZ08]. **Remarks** [PSVE09]. **Remote** [LAG09]. **Removal** [BSK07]. **Renormalization** [BFMR03, Cho03, DRLS04, WTT05]. **Repository** [AAPP10, BMP05]. **Representation** [CKL⁺08, LNL17, LSH15, Plo09, TNV04, THS14]. **Representations** [MSE08, RDS⁺05]. **Repulsive** [DKMO03]. **Reservoir** [Aar04, HWW⁺13]. **Residual** [San03]. **Residual-Free** [San03]. **Residue** [CCOS06]. **Resistance** [MP05]. **Resistor** [SWFM13]. **Resolution** [CCOS06, CTHC06, RTE17]. **Resonances** [GW05]. **Resonant** [AF17]. **Resourceful** [JP12]. **Response** [Abr12, GGM⁺05]. **Restoration** [ACHR06, COS10, CMM11, DYOD08, DJS17, GST14, HNW08, MSE08, OSV03, OBG⁺05]. **Restrains** [MO06]. **Results** [AWA06, BM17, DSS05, GPK12, KAO05]. **Retarded** [BKN⁺17]. **Retraction** [NYY11]. **Reversal** [BV04, FS05, FS03, Gom09]. **Reversed** [FN03]. **Reverting** [Pap12]. **Review** [BCM05]. **Revisited** [BGH11]. **Reynolds** [BCC⁺10]. **Rheochaos** [FZW07]. **Ribbon** [GH15]. **Ribosomal** [CTHC06]. **Ridgelet** [EGO15]. **Riemannian** [BCCF14]. **Right** [GH11]. **Rigid** [CS14, EKH06, FZW07, WGM10]. **Rigid-Rod** [FZW07]. **Rigorous** [BK07b, GPK12]. **Ring** [BS10]. **Rippling** [CLT17]. **Robustness** [FYW11, YCF⁺08]. **Rod** [AKH12, FZW07, HT17, SWF⁺14]. **Rod-Like** [HT17]. **Rod-Polymer** [AKH12]. **Rods** [CL13]. **Rotating** [TK15]. **Rough** [AS05, MX16, QHL13]. **Roughness** [BCC⁺10]. **Roughness-Induced** [BCC⁺10]. **Rouse** [RTE17]. **Route** [GLM13]. **Ruijgrok** [Fil04]. **Rule** [GZ10, ZYL05]. **Runs** [VVR08, VV16]. **S** [CTHC06]. **Sampled** [ACHR06]. **Sampling** [BLK16, CKS08, DSW12, EF14, FAAC09, PR10, SSJ⁺12, SSJ⁺15]. **Sampling-Based** [CKS08]. **Scalable** [KB11]. **Scalar** [GPY13]. **Scale** [AF17, ABM05, AD17, BR12, BIG07, BK07b, CS06, CTP13, CE16, CBS04, CSB04, DKMO03, Eck04a, Eck07, EGT12, EFM12, FKH07, Giv07, HKY03, HL10b, KTY09, LXY17, LE05b, LOT05, LAG09, Pta13, Pta15, SAC06, TWZ15, XT04, ZYL05]. **Scales** [APV12, CRK05, DLS14, GGM⁺05, HS05, Liu10, OZ11, Rob09, RTE17, San03, TKM15, TASY⁺05]. **Scaling** [BFPS09, GR07, GM16, LXY16, PKC05, SWFM13]. **Scalings** [JL17]. **Scatterers** [GS14, HMS14, LLZ14]. **Scattering** [AIL05, CS14, DW11, GW05, HMP17, HMS14, HL10b, LL17, Yin15a]. **Scheme** [AP06, BCM13, CY13, CMV15, CL17,

DDN10, LKGK03, LZ06, LOT05, NYY11, SSJ⁺12, SRK05, VVR08]. **Schemes** [BRDVE14, CDV16, GK08, GLM15, JZZ11, Li07, RPCG05, UBDB⁺12, VVVR07, WYG07, XY09]. **Schrödinger** [BDW10, BT14, CC10, CLZ16, GR16, EA08, HJMS08, IW10, JQZ11, LS16b, PRS07, Sti12, ZCL14]. **Schrödinger/Gross** [IW10]. **Schwinger** [Yin15d]. **Sciences** [HK05]. **SDEs** [CM07, TOM10]. **Search** [GH15, KG13]. **Searching** [DWC15]. **Second** [Bos10, BN05, BEZ15, FG08, HVS10, JLW16, Sou05, Sto08, Str05, VO13]. **Second-Harmonic** [Sou05]. **Second-Order** [BEZ15, HVS10]. **Section** [AD03, EAC09, HK05, SD06]. **Sediment** [JLW16]. **Sedimentation** [HT17]. **Segmentation** [GO07]. **Segmentations** [BKL⁺10]. **Segments** [KN06]. **Segregation** [HJV07]. **Selection** [Hor11, SAC06]. **Self** [AD16, Bal04, BFPS09, BRDVE14, CLMT05, CF04, HS14, PRS07, XEMK09, ZBFO10]. **Self-Adjoint** [BRDVE14]. **Self-Assembling** [ZBFO10]. **Self-Averaging** [Bal04, PRS07]. **Self-Consistent** [CLMT05, CF04, XEMK09]. **Self-Similar** [AD16, BFPS09]. **Selling** [ZYL05]. **Semi** [CLMZ17]. **Semi-Lagrangian** [CLMZ17]. **Semiclassical** [BCM13, CJLM15, FM03, JN06]. **Semiconductor** [AT05, Gos14, JL17]. **Semidefinite** [HLZ17b]. **Semidilute** [RBHK13, YCF⁺08]. **Semidirect** [BRV12]. **Semigeostrophic** [CR06]. **Semiparametric** [KPK13]. **Senescence** [AK07]. **Senescence-Structured** [AK07]. **Sensing** [EFS14, LAG09]. **Sensitivity** [AKSZ06, Nøe13, PHSN11]. **Separate** [APV12]. **Separation** [ARS17, Gil12, Had07, LXQ09]. **Sequence** [KN06]. **Sequential** [KB16, MLS12]. **Series** [HKDS08, HS10, Hor11, dWMH13]. **Set** [BKL⁺10, CCM07, DYOD08, LBM05]. **Setting** [Bos10, Boy08]. **Several** [DLY05]. **Shallow** [LR08]. **Sham** [CDG⁺14]. **Shape** [BR12, LMMM03, MR03]. **Shape-Memory** [MR03]. **Shape-Memory-Alloy** [BR12]. **Shaped** [RJM05]. **Shapes** [CS14]. **Sharp** [DLO10, EFM12]. **Sharp-Interface** [EFM12]. **Shear** [BP05, JS12, JS13, KNR14, NX03, SXZ09]. **Sheared** [SWF⁺14, YCF⁺08]. **Shell** [MT16]. **Shock** [GPY13, HI12, KR15]. **Shocks** [SW11]. **Short** [CSPD06]. **Short-Time** [CSPD06]. **Shrinkage** [DJS17]. **Signal** [ARS17, CW05, EO05]. **Signals** [Gar05, Nik05, THS14]. **Similar** [AD16, BFPS09]. **Similarities** [BCCF14]. **Similarity** [CLY⁺11, ZBK⁺06]. **Simple** [Abr12, Abr13, RJM05]. **Simple-Shaped** [RJM05]. **Simplified** [DFL10]. **Simulating** [KB11, Li07, VBMS04]. **Simulation** [Aar04, AE06, AP13, AVE08, ÁGMR08, BAZC10, BMT10, CWD⁺08, CMV15, CF10, DGM07, DP09, Eng09, GK10, HHL12, HWW⁺13, HJMS08, KSH03, KS08b, LMS17, LE05a, LE05b, MS04, MZCJ16, OYS⁺11, PK07, Spi15, TS06, WiOT⁺13, WLT06, ZK08]. **Simulations** [AAHM14, BBK07, BK07b, BGH11, CSPD06, CTHC06, DMZ17, FZW05, FZW07, GR17, GP11, LKGK03, LH11, LZ07, MI03, MHW13, MN11, Peu16, QV03, Rey14, RND⁺12a, RND⁺12b, SSJ⁺12, SSJ⁺15, Tor06, WTT05, WN14, ZFW05]. **Simultaneous** [HKDS08]. **Single** [AKN14, CEPT12, CHO07, EFM12, MO06, Sto08]. **Single-Crystal** [CHO07]. **Singular** [BDW10, Gor15, KD05, Sjö05, ZKK04]. **Singularities** [CY03, DW11]. **Singularity** [Sti12]. **Singularly** [FMTV05]. **Sintering** [Rey14]. **Sivashinsky** [Sti04]. **Size** [Hüt03, MFW16]. **Skeletonization** [MDHY16, MDHY17, MHDY17, Yin17]. **Skeletonization-Based** [MDHY16]. **Skew** [RTW⁺06]. **Slots** [JT06]. **Slow** [Abr12, Abr13, ASST12, GMO17, NN13, TOM10, ZKK04]. **Slowly**

[ALT08, BEH13, GN06]. **SMA** [Sto08]. **Smagorinsky** [BIL⁺08]. **Smale** [BCCD16]. **Small** [AIKK05, AIL05, AD03, CM07, CS14, CMV15, DWC15, GH15, HB05, HKY03, NMJ11, San03, TK15]. **Small-Scale** [HKY03]. **Smoothness** [WYG07, XY09]. **Sociology** [Hor11]. **Soft** [LXQ09]. **Soft-Constrained** [LXQ09]. **Softening** [BL05]. **Solid** [Eck04a, MMN17, NMJ11]. **Solidification** [Hüt03]. **Solids** [AG05, MMN16, WLS08]. **Solitary** [GGN07, GN05, KdL15]. **Solitons** [DD13, HI12, IW10]. **Solute** [ABJ06, AMK03]. **Solution** [BK11, CTL16, CF04, FG09, GGS12, JJ15, MLSH12, NM09]. **Solutions** [BS07, BRR13, CCN07, GN12, LMC⁺08, MMN11, MMN16, Sti12, WTJT13]. **Solvation** [LYZ⁺15]. **Solving** [GMP10, HLZ17a]. **Somatic** [CMMS13]. **Some** [AST06, AL11, BS07, Cal07, CCN07, Man06]. **Sound** [CGM15]. **Source** [BAZC10, BIT10, LXQ09, LQB16]. **Space** [ACT⁺10, AIL05, Dur09, LR10b, LS16b, VV16]. **Space-Frequency** [Dur09]. **Space-Time** [LS16b]. **Spaces** [BL11a, GE10b, KC15]. **Sparse** [BLK16, DRZ07, Hoa09, HLZ17b, LSH15, MSE08, MDO10, Plo09, THS14]. **Sparsifying** [Yin15d, Yin15c]. **Sparsity** [LYZ⁺15]. **Spatial** [Bal10, BLPV15, EO05, JL05b, LE05b, MDHY17, NDEG11, Rob09, RTE17, VS11, ZG05]. **Spatially** [BAZC10, CKS08, GT17, NK11, NX03]. **Spatially-Temporally** [NX03]. **Spatiotemporal** [BLK16]. **Special** [AHGJ05, EAC09, HK05, SD06]. **Species** [MP05]. **Spectra** [FG09]. **Spectral** [AKSZ06, CC10, CCG15, DRZ07, MSO14, Pey08]. **Spectral-Galerkin** [CC10]. **Spectrum** [DOS12]. **Speed** [Aar04]. **Speeds** [NX03, SXZ09]. **Sphere** [CWS10]. **Spheres** [AVE08]. **Spherical** [LBW17]. **Spin** [CGCY15]. **Spitzer** [GP11]. **Splines** [CMCS10a, CMCS10b]. **Split** [BS10, COS10]. **Splitting** [CM07, CW05, JP12, Med05]. **Spontaneous** [Mai16]. **Spring** [BFRD13, JS10]. **Square** [HP15]. **Squares** [Nik05]. **Stability** [CDV16, DLO10, DKMW14, FYW11, RPCG05, OSZ14]. **Stabilization** [KAO05, OSZ14]. **Stable** [TKM15, WKWD07]. **Staggered** [UBDB⁺12]. **State** [BLPV15, CKS08, CEPT12, DSS12, Mar12, Mar13, OW11, SNS10]. **States** [Bao04, DKMW14, MLO17, Pap12]. **static** [CE16, JZ14]. **Stationary** [Ebe05, EA08, WN14, ZCL14]. **Statistical** [CS06, KIH15]. **Statistics** [LB16, LBW17]. **Steadily** [MMB12]. **Steady** [CKS08, CEPT12, FDJ11]. **Steady-State** [CEPT12]. **Stents** [GS17, VZ08]. **Step** [AE11, BV06, HJV07, LXY16, MC08, PM14, SE07]. **Step-Flow** [AE11, HJV07]. **Stepped** [QM10]. **Stepping** [CNPT10]. **Steps** [MK06, MT09]. **Steric** [CHS17]. **Sticky** [DWC15]. **Stiff** [ASST12, CM07, CR11, GN05, PR10, TOM10]. **Stiffness** [MC08, SE07]. **Stochastic** [ABS13, AK12, BBK07, BEHL16, CR11, Coh10, CKL⁺08, CM17, DG09, Eng09, FPSS03, GAK15, Giv07, GLM15, GM16, GS13, HL10a, HHL12, HKDS08, JK12, JR03, JP12, JL17, KRK17, KK05, LYTP13, LMQ17, LM15b, LB16, LE05a, LZZ13, Liu10, LF06, LZ07, MI03, MB10, MHW13, MZCJ16, NT10, NN13, PK07, PS05, PA06, SSJ⁺12, Sti04, TKM15, WGM10, WiOT⁺13, YWS11, YYW13, ZCH15, ZK08, MLSH12]. **Stochasticity** [Mai16]. **Stokes** [AB15a, BEH13, CMV15, CF10, HKY03, HYR08, JS10, MNLD15]. **Strain** [Che08]. **Strained** [HJV07]. **Straits** [HS12]. **Strategies** [LMS11]. **Strictly** [LY12]. **Strip** [VMM11]. **Strong** [Bos07, DW11, Giv07, LW14, MHDY17].

Strongly [DDN10, NP16]. **Structural** [BL05, MMB12, ZBK⁺06]. **Structurally** [TW06]. **Structure** [CM14, CLZ16, CCOS06, DGY⁺11, FZW05, HLZ17a, OW11, TOM10, VMM11, VS11, WF08, YYW13, ZFW05]. **Structured** [AWA06, AK07, LBW17, PEPL16]. **Structures** [BKN⁺17, CL03b, CWS16, Pta13, SW11, WiOT⁺13, Yin15c]. **Studies** [IZ12]. **Study** [BT14, DSH16, LM14]. **Sub** [ARS17]. **Sub-Cellular** [ARS17]. **Subcellular** [BL15]. **Subdiffusive** [BEHL16, Mom13]. **Subdivision** [NYY11, WYG07, XY09]. **Subgrid** [BET10, ED03, HWY06]. **Subject** [BST16]. **Submonolayer** [LE05a]. **Subsonic** [BS17]. **Subspace** [KY16]. **Substitutional** [HJV07]. **Substrates** [CBS04, CSB04]. **Subsurface** [LJ07, MB14, WLT06]. **Subunit** [CTHC06]. **Subwavelength** [BBT10]. **Superparameterization** [HM13a, LMQ17]. **Superresolution** [Gom09]. **Supervised** [GO07]. **Supply** [AMR03, AR05, DGHK07]. **Surface** [BLO17, CJLM15, DPV06, DYOD08, Dun15, FN03, JQZ11, LBW17, LE05b, NM13, NMJ11]. **Surface-Breaking** [NMJ11]. **Surfaces** [AS05, MK06, PM14, Pta15, QM10, RV15]. **Surrogate** [LYZ⁺15, SSJ⁺15]. **Surrounding** [MWW15]. **Survey** [KAO05]. **Survival** [DSH16, HS14]. **Suspension** [LH11]. **Suspensions** [CCGB05, RBHK13]. **Swapping** [DLPD12]. **Swarming** [AP13, MN11]. **Sweeping** [DHL14, EY11, LY16, QLY⁺16]. **Switching** [AGK⁺11, BL15, IHM09, LB16, TWZ15, YWS11, YYW13]. **Symmetric** [HLZ17b, JJ15]. **Symmetries** [VO13]. **Symmetry** [GS13, NYY11]. **Synapses** [GH15]. **Synaptic** [RH11]. **Synchrosqueezed** [YLY15]. **System** [Abr12, Abr13, BS17, Bos07, BF16, CLZ16, CL17, CE16, CCM16, CDV16, DFL10, GS15, EA08, KAO05, KTY09, Mic11, MN11, RSM⁺11, WCW15, ZCL14, ZJ17]. **Systematic** [EGT12]. **Systematically** [KIH15, Sha16]. **Systems** [AW13, ASST12, BO16, BGP16, CS06, CY13, CRK05, CKL⁺08, CNPT10, CM17, DD14, FHV11, Giv07, GK08, HVS10, HNV12, HDFS06, HL17, Hüt03, JK12, JJ15, KJ16, KD05, KZ16, KT14, KB11, LRZ10, LM15a, LYZ⁺15, Li07, Liu10, LY12, LOT05, NOR⁺06, NN13, PK07, PS05, PR10, RPCG05, TOM10, TKM15, TW17, VVVR07, WGM10, WKWD07, WTT05, YWS11, YYW13, Yin15c]. **T** [DWC15, MB10]. **Table** [Rey14]. **Tails** [SWFM13]. **Target** [LBW17]. **Targeted** [MI03]. **Tau** [Li07, RPCG05, MTV14]. **Tau-Leap** [MTV14]. **Tau-Leaping** [Li07, RPCG05]. **Taylor** [GBS17, RTW⁺06]. **Technique** [ARS17, ASST12, EGT12, JL05a, JP12, MDHY16]. **Techniques** [AKSZ06]. **Temperature** [AL14, SL17]. **Tempering** [DLPD12]. **Temporal** [BPW⁺16, HL09, RTE17, TMC⁺17]. **Temporally** [NX03]. **Ten** [ÖS07]. **Ten-Moment** [ÖS07]. **Tensile** [DLO10]. **Tension** [SE07]. **Tensor** [MZ15, Sha16, WF08, Yin17]. **Tensors** [AK03, GP17]. **Term** [AFM06, DN07, SWHH04, VV16]. **Terrace** [BV06]. **Terrace-Step-Kink** [BV06]. **Test** [HM13a]. **Textile** [GK10, OPS16]. **Textile-Like** [OPS16]. **Texture** [Gil12, Had07]. **Their** [JCM12, SH10]. **Theoretical** [ÁGMR08]. **Theories** [AL11]. **Theory** [BJ11, BDZ17, BLPV15, CF04, CF15, CBS04, CSB04, GP17, GPK12, GW05, HFOC05, HFOC08, LOS13, LM15b, LMC⁺08, LMMM03, McC05, MSVE09, PM14, Peu16, Sch06, HJV07]. **Thermal** [AIKK05, BR12, DFL10, HC14]. **Thermalized** [AR05]. **Thermoelastic** [WCW15]. **Thermostatting** [JL05a]. **Thin** [BK07a, CL03a, DKMW14, JN06, JT06,

VMM11]. **Three** [BG14, Bos10, CSB04, FDJ11, HYR08, HL17, LQB16, MBC⁺¹³, OYS⁺¹¹, QLY⁺¹⁶]. **Three-Dimensional** [BG14, FDJ11, HYR08, HL17, LQB16, MBC⁺¹³, OYS⁺¹¹, QLY⁺¹⁶]. **Three-Scale** [CSB04]. **Threshold** [KIH15]. **Tide** [AFM06]. **Tie** [DKMO03]. **Tight** [CO16]. **Time** [AGS14, AKH12, AGK⁺¹¹, AH12, AR14, BV04, BS16, CLLW15, CWS10, CSPD06, CCPT17, CNPT10, DLS14, DSH16, Eng09, FS05, FKH07, FS03, FN03, Giv07, Gom09, GR16, GH15, HM13b, HKDS08, HS10, Hor11, JLW16, KX05, KK14, KTY09, Liu10, LSH15, LS16b, LH14, Med05, NDEG11, NYY11, PWPk10, QLY⁺¹⁶, Rob09, SH10, TWZ15, THS14, TKM15, TASY⁺⁰⁵, TK15, ZYL05, dWMH13]. **Time-Dependent** [CLLW15, GR16, HM13b]. **Time-Frequency** [LSH15, THS14]. **Time-Harmonic** [NDEG11, QLY⁺¹⁶]. **Time-Reversal** [FS03, Gom09]. **Time-Reversed** [FN03]. **Time-Scale** [FKH07]. **Time-Symmetry** [NYY11]. **Times** [DWC15, DSS05, LTK17, PS05]. **Timoshenko** [VS11]. **Tissue** [HPČ⁺⁰⁹]. **Tissues** [PP17]. **Tomographic** [CLY⁺¹¹]. **Tomography** [ARS17]. **Tonelli** [TPC09]. **Tool** [CRK05]. **Tooth** [SRK05]. **Topographic** [LAG09]. **Topography** [GGN07]. **Topologies** [YYW13]. **Torsional** [MO06]. **Tortorelli** [BEZ15]. **Total** [ACHR06, BFOS07, CC06, El09, HNW08, LV05, OSV03, OBG⁺⁰⁵, SAC06, YGO07]. **Totally** [GH11]. **Touching** [HB05]. **Toy** [LOS13]. **Tracer** [BFPS09]. **Tracers** [LMQ17]. **Tracing** [VK10]. **Tracking** [SE06]. **Traffic** [Fil04, GLM13, VHPT17]. **Traffic-Flow** [Fil04]. **Trajectories** [MLS12, TPC09]. **Transduction** [EO05]. **Transfer** [AE09, CD03, GLG05, GPR17, HCY12, HC14]. **Transform** [EGO15, LA07, LS16b, Plo09]. **Transformation** [BL05]. **Transformations** [Sto08, dHUVW13]. **Transforms** [CDDY06, QY10, YLY15, YF09]. **Transient** [AF17]. **Transition** [BLPV15, DDNP17, LZZ13, LLZ16, MSVE09, NOR⁺⁰⁶, dWMH13]. **Transitions** [BCCD16, Eck04a, FZW05, HNV12, NOR⁺⁰⁶]. **Translocation** [FMKS06]. **Transmembrane** [KN06]. **Transmission** [AD16, GS10]. **Transport** [ABJ06, AMK03, CD03, CY03, CD06, CL09, Ebe05, ED03, EGO15, HM13b, HL10a, JLT04, JLW16, JN06, KB16, LL17, MCM12, MB14, Mom13, MZCJ16, Nøe13, SHB⁺¹⁴, TASY⁺⁰⁵]. **Transportation** [Sch14]. **Transverse** [HI12]. **Trap** [TK15]. **Trapped** [DPV06]. **Traps** [DWC15, LBW17, LTK17]. **Traveling** [BRR13]. **Treating** [LJ07]. **Trees** [DBGS08]. **Tridomain** [GSF09]. **Truncation** [HVS10]. **Trust** [KG13]. **Tuberculosis** [GGM⁺⁰⁵]. **Tumor** [ABM05, AWA06, LMS17]. **Tunnel** [CCM16]. **Tunneling** [AF17]. **Turbulence** [DP09, FS05, FKMW05, GLM15, Mai16, OYS⁺¹¹]. **Turbulent** [BK07b, CL03b, CFL⁺¹⁷, LM15a, LMQ17]. **Turning** [BG17]. **Turnover** [GBS17]. **TV** [CCN07]. **TVL1** [DAG09]. **Two** [AKL06, AD17, AAPP10, BIG07, BIL⁺⁰⁸, CD06, CL09, CE16, CBS04, Eck04a, Eck07, EFM12, Fil04, GKP⁺¹⁴, Giv07, GJL⁺⁰³, HWY06, HL10b, JRX17, KX05, KC15, KTY09, LMS11, PS05, PWPk10, Plo09, Pta13, Pta15, RJM05, Sha11, TWZ15, Tor06, TASY⁺⁰⁵, XT04, ZYL05]. **Two-Body** [Sha11]. **Two-Dimensional** [KX05, KC15, PWPk10, Plo09, RJM05, Tor06]. **Two-Level** [BIL⁺⁰⁸]. **Two-Phase** [AKL06, AAPP10, CD06, CL09, GKP⁺¹⁴, HWY06, LMS11]. **Two-Scale** [AD17, BIG07, CE16, CBS04, Eck04a, Eck07, EFM12, HL10b, Pta13, Pta15, XT04]. **Two-Time-Scale** [Giv07, KTY09, TWZ15, ZYL05].

Two-Velocity [Fil04]. **Type** [AE11, AL11, BCCD16, LLL14, GZ10, LM15b, OSZ14, KZ16].

Uncertain [WTJT13]. **Uncertainty** [LYZ⁺15, RND⁺12a, RND⁺12b, SSJ⁺15, XT04, ZJ17, ZK08]. **Unconfined** [MCM12]. **Undepleted** [Sou05]. **Undepleted-Pump** [Sou05]. **Underground** [BMP05]. **Understanding** [GGM⁺05, GN06]. **Unfolding** [DK14, Pta15]. **Unidirectionally** [QHL13]. **Uniform** [BS17, CR11]. **Uniformly** [CLMZ17]. **Uniqueness** [LSH15]. **United** [CCOS06]. **United-Residue** [CCOS06]. **Unknown** [GST14]. **Unsteady** [DKMW14, XK05]. **Unstructured** [PEPL16]. **Updates** [BM04]. **Updating** [MDHY16]. **upon** [AKL06, BLPV15]. **Upscaled** [CD06]. **Upscaling** [AR17, BBPR16, CL09, DG09, DLM06, EAW04, Ebe05, FDJ11, IMP08, Mom13, PC15, SPGL09, VMK05]. **Use** [Aar04]. **Using** [AEJ08, ARS17, BM04, CMCS10a, CMCS10b, CTL16, CGCL15, CVE09, DP09, DN07, GGM⁺05, LV05, LZ07, MCM12, Mil05, OSV03, Rey14, SSJ⁺15, San03, Sjö05, SWOJ05, TNV04, THS14, YLY15, KZ16, KN06].

V [McC05]. **V-cycle** [McC05]. **Vacuum** [DPV03]. **Value** [BM06, GL10, MMN11, Sjö05]. **Valued** [RDS⁺05, XY09]. **Variables** [NT10]. **Variance** [LM15b, LMS17, PK07]. **Variance-Reduced** [LMS17]. **Variate** [LM15b]. **Variation** [ACHR06, BFOS07, CC06, El09, HNW08, LV05, OSV03, OBG⁺05, SAC06, YGO07]. **Variation-Based** [OBG⁺05]. **Variational** [ACF12, BSK07, BKL⁺10, CLZ16, CCBL11, ILW11, NN13, Nor09, SFO09, SG09]. **Variations** [MZ15]. **Varying** [BEH13, PS12, RTE17]. **Vector** [BCV03, GL10, TU10]. **Vehicular** [GLM13].

Velocity [BK07a, Fil04, GABD17, Mai16, NK11]. **Velocity-Adaptive** [GABD17]. **Velocity-Jump** [NK11]. **Verified** [DKW09]. **Version** [CFM17]. **versus** [GPP⁺17, KG13]. **Vesicular** [GH15]. **Vessels** [MBC⁺13]. **via** [BS17, BLK16, Che08, GMO17, KAO05, KSH03, LNL17, MBS08, MB10, MDHY17, OPS16, SHB⁺14, TOM10, Yin15b, YDL05]. **Video** [MSE08]. **View** [DAG09]. **Viral** [ARRV12, LH06]. **Virus** [MP05]. **Viscoelastic** [EKH06]. **Viscosity** [CL03b, JS12, JS13]. **Viscous** [HP15, LR08]. **Visualization** [CMM11]. **Vlasov** [CDV16, Bos07, Bos10, BF16, CLMZ17, ZJ17]. **Voids** [MMN16, NMJ11]. **Volatility** [FPSS03, OSP10]. **Voltage** [HB05, LM04]. **Volume** [Alm14, AKN14, BST16, DGY⁺11, HMT08, JLT04, LJ07, LL09, PEPL16, WLT06, XX14]. **Vortex** [BT14, DFL10, EP10]. **Vortices** [RV15]. **Vorticity** [OYS⁺11].

Walkers [LB16]. **Walks** [SHB⁺14]. **Wall** [DKMO03, FKMW05, TS06]. **Wall-Induced** [FKMW05]. **Wall-Normal** [TS06]. **Walls** [DKMO03]. **Waste** [AAPP10, BMP05]. **Water** [FN03, LR08]. **Wave** [AG11, AGS14, AB15b, AR14, AR17, BAZC10, Bal04, BP05, BRR13, CEL14, DLS14, FS05, GS10, GS12, GS14, GN05, HL17, JT06, LR10a, LR10b, QY10, VMK05, XH14, tTP05]. **Wavefield** [DMZ17]. **Waveguide** [AGJ13, BG17]. **Waveguides** [AB15b, BIT10, BG14, Gom09]. **Wavelet** [BK06, CL04, DJS17, HP15, HMP17, Plo09]. **Wavelet-Based** [CL04]. **Wavelets** [BM04, DP09, Dur09]. **Wavepacket** [QY10]. **Waves** [ÁGMR08, FN03, GGN07, GS09a, HI12, JJ15, JC13, KdL15, KR15, NDEG11, Sha04, TQR07]. **Weak** [AK12, BS07, FKKL11, FYW11, SVZ11]. **Weakly** [AL11, CM14]. **Wear** [MRTV14]. **Weather** [HKDS08]. **Weight**

[NMJ11, VMM11]. **Well** [CCGB05, CY03, WLT06]. **Well-Posedness** [CCGB05]. **Wetting** [GH11]. **while** [BKL⁺10]. **White** [GS15, PS03, PS05]. **White-Noise** [GS15]. **Wideangle** [GS12]. **Wiener** [BAZC10]. **Wigner** [FM03, LS16b]. **Willis** [DGN⁺08]. **Wind** [AFM06]. **Window** [LA07]. **Windowing** [Glo08]. **within** [MMB12]. **Wu** [Fil04].

X [AAHM14]. **X-Ray** [AAHM14]. **XFEL** [AAHM14].

Yeast [JL05b]. **Young** [ALT08]. **Yukawa** [BDW10].

Zakharov [BS17]. **Zone** [BMP05]. **Zoom** [ACHR06]. **Zwanzig** [Sti07].

References

[AAHM14] Paolo Antonelli, Agissilaos Athanassoulis, Zhongyi Huang, and Peter A. Markowich. Numerical simulations of X-Ray Free Electron Lasers (XFEL). *Multiscale Modeling & Simulation*, 12(4):1607–1621, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

[AAPP10] B. Amaziane, S. Antontsev, L. Pankratov, and A. Piatnitski. Homogenization of immiscible compressible two-phase flow in porous media: Application to gas migration in a nuclear waste repository. *Multiscale Modeling & Simulation*, 8(5):2023–2047, ??? 2010. CODEN MM-

[Aar04]

[AB05]

[AB15a]

SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p2023_s1.

Aarnes:2004:UMM

Jorg E. Aarnes. On the use of a mixed multiscale finite element method for greater flexibility and increased speed or improved accuracy in reservoir simulation. *Multiscale Modeling & Simulation*, 2(3):421–439, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60065>.

Allaire:2005:MFE

Grégoire Allaire and Robert Brizzi. A multiscale finite element method for numerical homogenization. *Multiscale Modeling & Simulation*, 4(3):790–812, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61123>.

Abdulle:2015:AFE

A. Abdulle and O. Budác. An adaptive finite element heterogeneous multiscale method for Stokes flow in porous media. *Multiscale Modeling & Simulation*, 13(1):256–290, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [AB15b] **Alonso:2015:EWP**
Ricardo Alonso and Liliana Borcea. Electromagnetic wave propagation in random waveguides. *Multiscale Modeling & Simulation*, 13(3):847–889, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ABd05] **Abdulle:2005:PEA**
Assyr Abdulle. On a *priori* error analysis of fully discrete heterogeneous multiscale FEM. *Multiscale Modeling & Simulation*, 4(2):447–459, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60713>.
- [ABG05] **Ali:2005:PDA**
Giuseppe Ali, Andreas Bartel, and Michael Günther. Parabolic differential-algebraic models in electrical network design. *Multiscale Modeling & Simulation*, 4(3):813–838, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61069>.
- [ABJ06] **Amaziane:2006:EMS**
Brahim Amaziane, Alain Bourgeat, and Mladen Jurak. Effective macrodiffusion in solute transport through heterogeneous porous media. *Multiscale Modeling & Simulation*, 5(1):184–204, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ABM05] **Alarcon:2005:MSM**
T. Alarcón, H. M. Byrne, and P. K. Maini. A multiple scale model for tumor growth. *Multiscale Modeling & Simulation*, 3(2):440–475, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60376>.
- [Abr12] **Abramov:2012:SLR**
Rafail V. Abramov. A simple linear response closure approximation for slow dynamics of a multiscale system with linear coupling. *Multiscale Modeling & Simulation*, 10(1):28–47, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v10/i1/p28_s1.
- [Abr13] **Abramov:2013:SCA**
Rafail V. Abramov. A simple closure approximation for slow dynamics of a multiscale system: Nonlinear and multiplicative coupling. *Multiscale Modeling & Simulation*, 11(1):134–151, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- Aristoff:2016:MFE**
- [ABRE16] David Aristoff, Juan M. Bello-Rivas, and Ron Elber. A mathematical framework for exact milestoning. *Multiscale Modeling & Simulation*, 14(1):301–322, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Abdulle:2013:MMC**
- [ABS13] Assyr Abdulle, Andrea Barth, and Christoph Schwab. Multilevel Monte Carlo methods for stochastic elliptic multiscale PDEs. *Multiscale Modeling & Simulation*, 11(4):1033–1070, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Arias:2012:AVF**
- [ACF12] P. Arias, V. Caselles, and G. Facciolo. Analysis of a variational framework for exemplar-based image inpainting. *Multiscale Modeling & Simulation*, 10(2):473–514, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Almansa:2006:RZI**
- [ACHR06] Andrés Almansa, Vicent Caselles, Gloria Haro, and Bernard Rougé. Restoration and zoom of irregularly sampled, blurred, and noisy images by accurate total variation minimization with local constraints. *Multiscale Modeling & Simulation*, 5(1):235–272, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Agnelli:2010:CCT**
- [ACT+10] J. P. Agnelli, M. Cadeiras, E. G. Tabak, C. V. Turner, and E. Vanden-Eijnden. Clustering and classification through normalizing flows in feature space. *Multiscale Modeling & Simulation*, 8(5):1784–1802, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1784_s1.
- Aoki:2003:HFP**
- [AD03] K. Aoki and P. Degond. Homogenization of a flow in a periodic channel of small section. *Multiscale Modeling & Simulation*, 1(2):304–334, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40993>.
- Achdou:2016:TPA**
- [AD16] Yves Achdou and Thibaut Deheuvels. A transmission problem across a fractal self-similar interface. *Multiscale Modeling & Simulation*, 14(2):708–736, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Alouges:2017:CAT**
- [AD17] François Alouges and Giovanni

- Di Fratta. Cell averaging two-scale convergence: Applications to periodic homogenization. *Multiscale Modeling & Simulation*, 15(4):1651–1671, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [AE08]
- [AdHW12] Fredrik Andersson, Maarten V. de Hoop, and Herwig Wendt. Multiscale discrete approximation of Fourier integral operators. *Multiscale Modeling & Simulation*, 10(1):111–145, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [AE09]
- [Aoki:2008:DMR] K. Aoki, P. Degond, L. Mieussens, S. Takata, and H. Yoshida. A diffusion model for rarefied flows in curved channels. *Multiscale Modeling & Simulation*, 6(4):1281–1316, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [AE11]
- [Aarnes:2006:AMM] Jørg E. Aarnes and Yalchin Efendiev. An adaptive multiscale method for simulation of fluid flow in heterogeneous porous media. *Multiscale Modeling & Simulation*, 5(3):918–939, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [AEJ08]
- [Abdulle:2008:FEH] Assyr Abdulle and Bjorn Engquist. Finite element heterogeneous multiscale methods with near optimal computational complexity. *Multiscale Modeling & Simulation*, 6(4):1059–1084, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Allaire:2009:HCR] Grégoire Allaire and Karima El Ganaoui. Homogenization of a conductive and radiative heat transfer problem. *Multiscale Modeling & Simulation*, 7(3):1148–1170, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Ackerman:2011:BCB] David M. Ackerman and J. W. Evans. Boundary conditions for Burton–Cabrerá–Frank type step-flow models: Coarse-graining of discrete 2D deposition-diffusion equations. *Multiscale Modeling & Simulation*, 9(1):59–88, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p59_s1.
- [Aarnes:2008:MMF] J. E. Aarnes, Y. Efendiev, and L. Jiang. Mixed multiscale finite element methods using lim-

- ited global information. *Multiscale Modeling & Simulation*, 7(2):655–676, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AET09] Gil Ariel, Bjorn Engquist, and Richard Tsai. Numerical multiscale methods for coupled oscillators. *Multiscale Modeling & Simulation*, 7(3):1387–1404, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AF17] N. Ben Abdallah and A. Faraj. A double scale fast algorithm for the transient evolution of a resonant tunneling diode. *Multiscale Modeling & Simulation*, 15(2):696–722, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AFM06] P. Ailliot, E. Frénod, and V. Monbet. Long term object drift forecast in the ocean with tide and wind. *Multiscale Modeling & Simulation*, 5(2):514–531, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AG05] M. Arndt and M. Griebel. Derivation of higher order gradient continuum models from atomistic models for crystalline solids. *Multiscale Modeling & Simulation*, 4(2):531–562, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60873>.
- [AG11] Assyr Abdulle and Marcus J. Grote. Finite element heterogeneous multiscale method for the wave equation. *Multiscale Modeling & Simulation*, 9(2):766–792, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i2/p766_s1.
- [AGJ13] Habib Ammari, Josselin Garnier, and Wenjia Jing. Passive array correlation-based imaging in a random waveguide. *Multiscale Modeling & Simulation*, 11(2):656–681, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AGK⁺11] Habib Ammari, Josselin Garnier, Hyeonbae Kang, Hyundae Lee, and Knut Sølna. The mean escape time for a narrow escape problem with multiple switching gates. *Multiscale Modeling & Simulation*, 9(2):817–833, 2011. CODEN MMSUBT. ISSN 1540-3459 (print),

- 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p817s1>. [AHGJ05]
- Avila:2008:MME**
- [ÁGMR08] A. Ávila, G. Griso, B. Miara, and E. Rohan. Multiscale modeling of elastic waves: Theoretical justification and numerical simulation of band gaps. *Multiscale Modeling & Simulation*, 7(1):1–21, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Abdulle:2014:FEH**
- [AGS14] Assyr Abdulle, Marcus J. Grote, and Christian Stohrer. Finite element heterogeneous multiscale method for the wave equation: Long-time effects. *Multiscale Modeling & Simulation*, 12(3):1230–1257, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Anderson:2012:MMC**
- [AH12] David F. Anderson and Desmond J. Higham. Multilevel Monte Carlo for continuous time Markov chains, with applications in biochemical kinetics. *Multiscale Modeling & Simulation*, 10(1):146–179, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Alber:2005:SIM**
- Mark Alber, Thomas Hou, James A. Glazier, and Yi Jiang. Special issue on multiscale modeling in biology. *Multiscale Modeling & Simulation*, 3(2):xii–xiii, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/97417>.
- Abdulle:2015:LNH**
- [AHV15] A. Abdulle, M. E. Huber, and G. Vilmart. Linearized numerical homogenization method for nonlinear monotone parabolic multiscale problems. *Multiscale Modeling & Simulation*, 13(3):916–952, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Ammari:2005:DAT**
- [AIKK05] Habib Ammari, Ekaterina Iakovleva, Hyeonbae Kang, and Kyoungsun Kim. Direct algorithms for thermal imaging of small inclusions. *Multiscale Modeling & Simulation*, 4(4):1116–1136, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62026>.
- Ammari:2005:MAL**
- [AIL05] Habib Ammari, Ekaterina Iakovleva, and Dominique Leseslier. A MUSIC algorithm for locating small inclusions

- buried in a half-space from the scattering amplitude at a fixed frequency. *Multiscale Modeling & Simulation*, 3(3): 597–628, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61085>. [AK12]
- [AJS16] Assyr Abdulle, Orane Jecker, and Alexander Shapeev. An optimization based coupling method for multiscale problems. *Multiscale Modeling & Simulation*, 14(4):1377–1416, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AK03] Habib Ammari and Hyeonbae Kang. Properties of the generalized polarization tensors. *Multiscale Modeling & Simulation*, 1(2):335–348, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40455>.
- [AK07] Bruce P. Ayati and Isaac Klapper. A multiscale model of biofilm as a senescence-structured fluid. *Multiscale Modeling & Simulation*, 6(2): 347–365, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AKH12] A. Amitai, I. Kupka, and D. Holcman. Analysis of the mean first looping time of a rod-polymer. *Multiscale Modeling & Simulation*, 10(2):612–632, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AKL06] Jorg E. Aarnes, Stein Krogstad, and Knut-Andreas Lie. A hierarchical multiscale method for two-phase flow based upon mixed finite elements and nonuniform coarse grids. *Multiscale Modeling & Simulation*, 5(2):337–363, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AKN14] Sergey Alyaev, Eirik Keilegavlen, and Jan Martin Nordbotten. Analysis of control volume heterogeneous multiscale methods for single phase flow in porous media. *Multiscale Modeling & Simulation*, 12(1):335–
- Anderson:2012:WEA**
David F. Anderson and Masanori Koyama. Weak error analysis of numerical methods for stochastic models of population processes. *Multiscale Modeling & Simulation*, 10(4):1493–1524, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Abdulle:2016:OBC**
- Amitai:2012:AMF**
- Aarnes:2006:HMM**
- Ayati:2007:MMB**
- Alyae:2014:ACV**

- 363, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AKSZ06] Habib Ammari, Hyeonbae Kang, Sofiane Soussi, and Habib Zribi. Layer potential techniques in spectral analysis. Part II: Sensitivity analysis of spectral properties of high contrast band-gap materials. *Multiscale Modeling & Simulation*, 5(2):646–663, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AL08] Marcel Arndt and Mitchell Luskin. Error estimation and atomistic-continuum adaptivity for the quasicontinuum approximation of a Frenkel–Kontorova model. *Multiscale Modeling & Simulation*, 7(1):147–170, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AL11] A. Anantharaman and C. Le Bris. A numerical approach related to defect-type theories for some weakly random problems in homogenization. *Multiscale Modeling & Simulation*, 9(2):513–544, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i2/p513_s1.
- [ALM14] Habib Ammari:2006:LPT [AL14] David Aristoff and Tony Lelièvre. Mathematical analysis of temperature accelerated dynamics. *Multiscale Modeling & Simulation*, 12(1):290–317, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ALM14] Y. Almog. The Clausius–Mossotti formula in a dilute random medium with fixed volume fraction. *Multiscale Modeling & Simulation*, 12(4):1777–1799, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ALS12] Assyr Abdulle, Ping Lin, and Alexander V. Shapeev. Numerical methods for multilattices. *Multiscale Modeling & Simulation*, 10(3):696–726, ??? 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ALT08] Zvi Artstein, Jasmine Linshiz, and Edriss S. Titi. Young measure approach to computing slowly advancing fast oscillations. *Multiscale Modeling & Simulation*, 6(4):1085–1097, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [AMK03] Sabine Attinger, Jiva Dimitrova Micha, and Wolfgang Kinzelbach. Multiscale modeling of nonlinearly adsorbing solute transport. *Multiscale Modeling & Simulation*, 1(3):408–431, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41240>.
- [AMR03] D. Armbruster, D. Marthaler, and C. Ringhofer. Kinetic and fluid model hierarchies for supply chains. *Multiscale Modeling & Simulation*, 2(1):43–61, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41961>.
- [AP06] Rémi Abgrall and Vincent Perrier. Asymptotic expansion of a multiscale numerical scheme for compressible multiphase flow. *Multiscale Modeling & Simulation*, 5(1):84–115, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AP13] G. Albi and L. Pareschi. Binary interaction algorithms for the simulation of flocking and swarming dynamics. *Multiscale Modeling & Simulation*, 11(1):1–29, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [APV12] Naoufel Ben Abdallah, Marjolaine Puel, and Michael S. Vogelius. Diffusion and homogenization limits with separate scales. *Multiscale Modeling & Simulation*, 10(4):1148–1179, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [APWY07] Todd Arbogast, Gergina Pencheva, Mary F. Wheeler, and Ivan Yotov. A multiscale mortar mixed finite element method. *Multiscale Modeling & Simulation*, 6(1):319–346, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [AR05] D. Armbruster and C. Ringhofer. Thermalized kinetic and fluid models for reentrant supply chains. *Multiscale Modeling & Simulation*, 3(4):782–800, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60163>.
- [AR14] Doghonay Arjmand and Olof Runborg. Analysis of heterogeneous multiscale methods for long time wave propagation

Attinger:2003:MMN**Abdallah:2012:DHL****Armbruster:2003:KFM****Arbogast:2007:MMM****Abgrall:2006:AEM****Armbruster:2005:TKF****Albi:2013:BIA****Arjmand:2014:AHM**

- problems. *Multiscale Modeling & Simulation*, 12(3):1135–1166, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [ARS17]
- [AR17] Doghony Arjmand and Olof Runborg. Estimates for the up-scaling error in heterogeneous multiscale methods for wave propagation problems in locally periodic media. *Multiscale Modeling & Simulation*, 15(2):948–976, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Arjmand:2017:EUE]
- [Arb11] Todd Arbogast. Homogenization-based mixed multiscale finite elements for problems with anisotropy. *Multiscale Modeling & Simulation*, 9(2):624–653, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p624_s1. [Arbogast:2011:HBM]
- [ARRV12] Sebastian Aland, Andreas Rätz, Matthias Röger, and Axel Voigt. Buckling instability of viral capsids — a continuum approach. *Multiscale Modeling & Simulation*, 10(1):82–110, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Aland:2012:BIV]
- [ARS17] Habib Ammari, Francisco Romero, and Cong Shi. A signal separation technique for sub-cellular imaging using dynamic optical coherence tomography. *Multiscale Modeling & Simulation*, 15(3):1155–1175, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Ammari:2017:SST]
- [AS05] Assyr Abdulle and Christoph Schwab. Heterogeneous multiscale FEM for diffusion problems on rough surfaces. *Multiscale Modeling & Simulation*, 3(1):195–220, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60077>. [Abdulle:2005:HMF]
- [ASST12] G. Ariel, J. M. Sanz-Serna, and R. Tsai. A multiscale technique for finding slow manifolds of stiff mechanical systems. *Multiscale Modeling & Simulation*, 10(4):1180–1203, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Ariel:2012:MTF]
- [AST06] Yves Achdou, Christophe Sabot, and Nicoletta Tchou. A multiscale numerical method for Poisson problems in some ramified domains with a fractal boundary. *Multiscale Modeling & Simulation*, 4(1):1–24, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Achdou:2006:MNM]

Simulation, 5(3):828–860, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Abdallah:2005:DAH

[AT05]

Naoufel Ben Abdallah and Mohamed Lazhar Tayeb. Diffusion approximation and homogenization of the semiconductor Boltzmann equation. *Multiscale Modeling & Simulation*, 4(3):896–914, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61122>.

Ariel:2008:ASH

[AVE08]

Gil Ariel and Eric Vandeneijnden. Accelerated simulation of a heavy particle in a gas of elastic spheres. *Multiscale Modeling & Simulation*, 7(1):349–361, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Amarala:2013:MMS

[AW13]

Swathi Amarala and Justin W. L. Wan. Multigrid methods for systems of hyperbolic conservation laws. *Multiscale Modeling & Simulation*, 11(2):586–614, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Ayati:2006:CMR

[AWA06]

Bruce P. Ayati, Glenn F. Webb, and Alexander R. A. Anderson. Computational methods and results for structured multiscale

models of tumor invasion. *Multiscale Modeling & Simulation*, 5(1):1–20, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Bal:2004:SAW

[Bal04]

Guillaume Bal. On the self-averaging of wave energy in random media. *Multiscale Modeling & Simulation*, 2(3):398–420, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42629>.

Bal:2008:CLH

[Bal08]

Guillaume Bal. Central limits and homogenization in random media. *Multiscale Modeling & Simulation*, 7(2):677–702, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Bal:2010:HLS

[Bal10]

Guillaume Bal. Homogenization with large spatial random potential. *Multiscale Modeling & Simulation*, 8(4):1484–1510, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Bao:2004:GSD

[Bao04]

Weizhu Bao. Ground states and dynamics of multicomponent Bose–Einstein condensates. *Multiscale Modeling & Simulation*, 2(2):210–236, 2004. CODEN MMSUBT.

- ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60020>.
- [BAZC10] **Badieirostami:2010:WCE**
Majid Badieirostami, Ali Adibi, Hao-Min Zhou, and Shui-Nee Chow. Wiener chaos expansion and simulation of electromagnetic wave propagation excited by a spatially incoherent source. *Multiscale Modeling & Simulation*, 8(2):591–604, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BBK07] **Barzel:2007:AMM**
Baruch Barzel, Ofer Biham, and Raz Kupferman. Analysis of the multiplane method for stochastic simulations of reaction networks with fluctuations. *Multiscale Modeling & Simulation*, 6(3):963–982, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BBK13] **Bellomo:2013:MCC**
Nicola Bellomo, Abdelghani Bellouquid, and Damian Knopoff. From the microscale to collective crowd dynamics. *Multiscale Modeling & Simulation*, 11(3):943–963, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BBPR16] **Bringedal:2016:UNR**
C. Bringedal, I. Berre, I. S. Pop, and F. A. Radu. Upscaling of nonisothermal reactive porous media flow under dominant Péclet number: The effect of changing porosity. *Multiscale Modeling & Simulation*, 14(1):502–533, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BBT10] **Babadjian:2010:EEF**
Jean-François Babadjian, Eric Bonnetier, and Faouzi Triki. Enhancement of electromagnetic fields caused by interacting subwavelength cavities. *Multiscale Modeling & Simulation*, 8(4):1383–1418, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCC⁺10] **Bresch:2010:RIE**
Didier Bresch, Catherine Choquet, Laurent Chupin, Thierry Colin, and Marguerite Gisclon. Roughness-induced effect at main order on the Reynolds approximation. *Multiscale Modeling & Simulation*, 8(3):997–1017, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCCD16] **Barbaro:2016:PTK**
Alethea B. T. Barbaro, José A. Cañizo, José A. Carrillo, and Pierre Degond. Phase transitions in a kinetic flocking model

- of Cucker–Smale type. *Multiscale Modeling & Simulation*, 14 (3):1063–1088, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCCF14] Coloma Ballester, Felipe Calderero, Vicent Caselles, and Gabriele Facciolo. Multiscale analysis of similarities between images on Riemannian manifolds. *Multiscale Modeling & Simulation*, 12 (2):616–649, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCGP10] Antonio Baeza, Vicent Caselles, Pau Gargallo, and Nicolas Papadakis. A narrow band method for the convex formulation of discrete multilabel problems. *Multiscale Modeling & Simulation*, 8(5):2048–2078, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p2048_s1.
- [BCK05] Michael Bergdorf, Georges-Henri Cottet, and Petros Koumoutsakos. Multilevel adaptive particle methods for convection-diffusion equations. *Multiscale Modeling & Simulation*, 4(1):328–357, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60288>.
- [BCM05] A. Buades, B. Coll, and J. M. Morel. A review of image denoising algorithms, with a new one. *Multiscale Modeling & Simulation*, 4(2):490–530, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61602>.
- [BCM13] Christophe Besse, Rémi Carles, and Florian Méhats. An asymptotic preserving scheme based on a new formulation for NLS in the semiclassical limit. *Multiscale Modeling & Simulation*, 11 (4):1228–1260, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCP06] Martin Burger, Vincenzo Capasso, and Livio Pizzocchero. Mesoscale averaging of nucleation and growth models. *Multiscale Modeling & Simulation*, 5 (2):564–592, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BCV03] Coloma Ballester, Vicent Caselles, and Joan Verdera. Disocclusion

- by joint interpolation of vector fields and gray levels. *Multiscale Modeling & Simulation*, 2(1):80–123, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42245>. [BDZ17]
- Borcea:2009:FDL**
- [BdCPT09] L. Borcea, F. González del Cueto, G. Papanicolaou, and C. Tsogka. Filtering deterministic layer effects in imaging. *Multiscale Modeling & Simulation*, 7(3):1267–1301, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [BE03]
- Borcea:2010:FRL**
- [BdCPT10] L. Borcea, F. González del Cueto, G. Papanicolaou, and C. Tsogka. Filtering random layering effects in imaging. *Multiscale Modeling & Simulation*, 8(3):751–781, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Bao:2010:SLK**
- [BDW10] Weizhu Bao, Xuanchun Dong, and Shu Wang. Singular limits of Klein–Gordon–Schrödinger equations to Schrödinger–Yukawa equations. *Multiscale Modeling & Simulation*, 8(5):1742–1769, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v8/i5/p1742_s1. [BEHL16]
- Barre:2017:KTP**
- Julien Barré, Pierre Degond, and Ewelina Zatorska. Kinetic theory of particle interactions mediated by dynamical networks. *Multiscale Modeling & Simulation*, 15(3):1294–1323, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Braack:2003:PCM**
- Malte Braack and Alexandre Ern. A posteriori control of modeling errors and discretization errors. *Multiscale Modeling & Simulation*, 1(2):221–238, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41048>.
- Brown:2013:EHM**
- [BEH13] Donald L. Brown, Yalchin Efendiev, and Viet Ha Hoang. An efficient hierarchical multiscale finite element method for Stokes equations in slowly varying media. *Multiscale Modeling & Simulation*, 11(1):30–58, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Blanc:2016:MMS**
- Emilie Blanc, Stefan Engblom, Andreas Hellander, and Per Lötstedt. Mesoscopic modeling of stochastic reaction-

- diffusion kinetics in the subdiffusive regime. *Multiscale Modeling & Simulation*, 14(2):668–707, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BELS15] Donald L. Brown, Yalchin Efendiev, Guanglian Li, and Viktoria Savatorova. Homogenization of high-contrast Brinkman flows. *Multiscale Modeling & Simulation*, 13(2):472–490, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Brown:2015:HHC] [BF12] Donald L. Brown, Yalchin Efendiev, Guanglian Li, and Viktoria Savatorova. Homogenization of high-contrast Brinkman flows. *Multiscale Modeling & Simulation*, 13(2):472–490, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Ber07] David Bernstein. Optimal prediction of Burgers’s equation. *Multiscale Modeling & Simulation*, 6(1):27–52, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bernstein:2007:OPB] [BF16] David Bernstein. Optimal prediction of Burgers’s equation. *Multiscale Modeling & Simulation*, 6(1):27–52, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BET10] Anne Bourlioux, Alexandre Ern, and Pascal Turbis. A posteriori error estimation for subgrid flamelet models. *Multiscale Modeling & Simulation*, 8(2):481–497, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bourlioux:2010:PEE] [BFM⁺05] Anne Bourlioux, Alexandre Ern, and Pascal Turbis. A posteriori error estimation for subgrid flamelet models. *Multiscale Modeling & Simulation*, 8(2):481–497, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Burger:2015:SOE] [BEZ15] M. Burger, T. Esposito, and C. I. Zeppieri. Second-order edge-penalization in the Ambrosio–Tortorelli functional. *Multiscale Modeling & Simulation*, 13(4):1354–1389, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bertozi:2012:DIM] [Bertozi:2012:DIM] Andrea L. Bertozzi and Arjuna Flenner. Diffuse interface models on graphs for classification of high dimensional data. *Multiscale Modeling & Simulation*, 10(3):1090–1118, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bostan:2016:EVP] [Bostan:2016:EVP] Mihai Bostan and Aurélie Finot. The effective Vlasov–Poisson system for the finite Larmor radius regime. *Multiscale Modeling & Simulation*, 14(4):1238–1275, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bhat:2005:LAC] [Bhat:2005:LAC] H. S. Bhat, R. C. Fetecau, J. E. Marsden, K. Mohseni, and M. West. Lagrangian averaging for compressible fluids. *Multiscale Modeling & Simulation*, 3(4):818–837, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60173>.
- [Braga:2003:RGA] [Braga:2003:RGA] Gastão A. Braga, Frederico Furtado, Jussara M. Moreira, and

- Leonardo T. Rolla. Renormalization group analysis of nonlinear diffusion equations with periodic coefficients. *Multiscale Modeling & Simulation*, 1(4): 630–644, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41660>. [BG08]
- [BFOS07] M. Burger, K. Frick, S. Osher, and O. Scherzer. Inverse total variation flow. *Multiscale Modeling & Simulation*, 6(2):366–395, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BFPS09] M. R. Borges, F. Furtado, F. Pereira, and H. P. Amaral Souto. Scaling analysis for the tracer flow problem in self-similar permeability fields. *Multiscale Modeling & Simulation*, 7(3):1130–1147, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BFRD13] T. Blesgen, F. Fraternali, J. R. Raney, and C. Daraio. Multi-scale mass-spring models of carbon nanotube arrays accounting for mullins-like behavior and permanent deformation. *Multiscale Modeling & Simulation*, 11(2):545–565, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BG14] L. Borcea and J. Garnier. Paraxial coupling of propagating modes in three-dimensional waveguides with random boundaries. *Multiscale Modeling & Simulation*, 12(2): 832–878, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BG17] L. Borcea and J. Garnier. Pulse reflection in a random waveguide with a turning point. *Multiscale Modeling & Simulation*, 15(4):1472–1501, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BGH11] J. Brouwer, Ingenuin Gasser, and Michael Herty. Gas pipeline models revisited: Model hierarchies, nonisothermal models, and simulations of networks. *Multiscale Modeling & Simulation*, 9(4):1472–1501, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Borges:2009:SAT] M. R. Borges, F. Furtado, F. Pereira, and H. P. Amaral Souto. Scaling analysis for the tracer flow problem in self-similar permeability fields. *Multiscale Modeling & Simulation*, 7(3):1130–1147, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Borcia:2014:PCP] L. Borcea and J. Garnier. Paraxial coupling of propagating modes in three-dimensional waveguides with random boundaries. *Multiscale Modeling & Simulation*, 12(2): 832–878, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Borcia:2017:PRR] L. Borcea and J. Garnier. Pulse reflection in a random waveguide with a turning point. *Multiscale Modeling & Simulation*, 15(4):1472–1501, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Brouwer:2011:GPM] J. Brouwer, Ingenuin Gasser, and Michael Herty. Gas pipeline models revisited: Model hierarchies, nonisothermal models, and simulations of networks. *Multiscale Modeling & Simulation*, 9(4):1472–1501, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Braides:2008:EBE] Andrea Braides and Antoine Gloria. Exact bounds on the effective behavior of a conducting discrete polycrystal. *Multiscale Modeling & Simulation*, 6(4):1198–1216, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Burger:2007:ITV] M. Burger, K. Frick, S. Osher, and O. Scherzer. Inverse total variation flow. *Multiscale Modeling & Simulation*, 6(2):366–395, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- Simulation*, 9(2):601–623, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p601_s1. [BGP16]
- [BGMO08] L. Baffico, C. Grandmont, Y. Maday, and A. Osses. Homogenization of elastic media with gaseous inclusions. *Multiscale Modeling & Simulation*, 7(1):432–465, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [BGW14]
- [BGMP03] Alain Bourgeat, Olivier Gipouloux, and Eduard Marusic-Paloka. Filtration law for polymer flow through porous media. *Multiscale Modeling & Simulation*, 1(3):432–457, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41532>. [BGZ10]
- [BGP⁺11] Rainer Backofen, Manuel Gräf, Daniel Potts, Simon Praetorius, Axel Voigt, and Thomas Witkowski. A continuous approach to discrete ordering on \mathbf{S}^2 . *Multiscale Modeling & Simulation*, 9(1):314–334, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p314_s1. [BGP16]
- [BGP16] **Braides:2016:IES**
- Andrea Braides, Adriana Garroni, and Mariapia Palombaro. Interfacial energies of systems of chiral molecules. *Multiscale Modeling & Simulation*, 14(3):1037–1062, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BGP16] **Borcea:2014:AAD**
- Liliana Borcea, Yuliya Gorb, and Yingpei Wang. Asymptotic approximation of the Dirichlet to Neumann map of high contrast conductive media. *Multiscale Modeling & Simulation*, 12(4):1494–1532, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BGP16] **Bouchitte:2010:HDP**
- Guy Bouchitté, Sébastien Guenneau, and Frédéric Zolla. Homogenization of dielectric photonic quasi crystals. *Multiscale Modeling & Simulation*, 8(5):1862–1881, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1862_s1.
- [BGP16] **Borggaard:2008:TLD**
- Jeff Borggaard, Traian Iliescu, Hyesuk Lee, John Paul Roop,
- [BIL⁺08]

- and Hyunjin Son. A two-level discretization method for the Smagorinsky model. *Multiscale Modeling & Simulation*, 7(2):599–621, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [BK07a]
- [BIT10] Liliana Borcea, Leila Issa, and Chrysoula Tsogka. Source localization in random acoustic waveguides. *Multiscale Modeling & Simulation*, 8(5):1981–2022, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1981_s1. [BK07b]
- [BJ11] Guillaume Bal and Wenjia Jing. Corrector theory for Ms-FEM and HMM in random media. *Multiscale Modeling & Simulation*, 9(4):1549–1587, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1549_s1. [BK11]
- [BK06] Michael Bergdorf and Petros Koumoutsakos. A Lagrangian particle-wavelet method. *Multiscale Modeling & Simulation*, 5(3):980–995, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [BKL⁺10]
- Babovsky:2007:DLD**
Hans Babovsky and Piotr Kowalczyk. Diffusion limits for discrete velocity models in a thin gap. *Multiscale Modeling & Simulation*, 6(2):631–655, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Bourlioux:2007:RAP**
Anne Bourlioux and Boualem Khouider. A rigorous asymptotic perspective on the large scale simulations of turbulent premixed flames. *Multiscale Modeling & Simulation*, 6(1):287–307, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Bartels:2011:EAN**
Sören Bartels and Martin Kružík. An efficient approach to the numerical solution of rate-independent problems with nonconvex energies. *Multiscale Modeling & Simulation*, 9(3):1276–1300, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1276_s1.
- Barchiesi:2010:VMI**
M. Barchiesi, S. H. Kang, T. M. Le, M. Morini, and M. Ponsiglione. A variational model for infinite perimeter segmentations based on Lipschitz level
- Borcea:2010:SLR**
- Bal:2011:CTM**
- Bergdorf:2006:LPW**

- set functions: Denoising while keeping finely oscillatory boundaries. *Multiscale Modeling & Simulation*, 8(5):1715–1741, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1715_s1. [BL11b]
- [BKN⁺17] R. Borsche, A. Klar, C. Nessler, A. Roth, and O. Tse. A retarded mean-field approach for interacting fiber structures. *Multiscale Modeling & Simulation*, 15(3):1130–1154, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BL05] Pavel Bvelík and Mitchell Luskin. Computational modeling of softening in a structural phase transformation. *Multiscale Modeling & Simulation*, 3(4):764–781, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60433>. [BL15]
- [BL11a] Ivo Babuška and Robert Lip-ton. Optimal local approximation spaces for generalized finite element methods with application to multiscale problems. *Multiscale Modeling & Simulation*, 9(1):373–406, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Borsche:2017:RMF] R. Borsche, A. Klar, C. Nessler, A. Roth, and O. Tse. A retarded mean-field approach for interacting fiber structures. *Multiscale Modeling & Simulation*, 15(3):1130–1154, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Belik:2011:AQN] Pavel Belík and Mitchell Luskin. Analysis of the quasi-nonlocal approximation of linear and circular chains in the plane. *Multiscale Modeling & Simulation*, 9(4):1495–1527, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1495_s1.
- [Bressloff:2015:ESD] Paul C. Bressloff and Sean D. Lawley. Escape from subcellular domains with randomly switching boundaries. *Multiscale Modeling & Simulation*, 13(4):1420–1445, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bertozi:2007:ATS] Andrea Bertozi, Selim Esedolu, and Alan Gillette. Analysis of a two-scale Cahn–Hilliard model for binary image inpainting. *Multiscale Modeling & Simulation*, 6(3):913–936, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [BLI07] **Breitzman:2007:LFA**
 Timothy Breitzman, Robert Lipton, and Endel Iarve. Local field assessment inside multiscale composite architectures. *Multiscale Modeling & Simulation*, 6(3):937–962, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BLK16] **Bright:2016:CSD**
 Ido Bright, Guang Lin, and J. Nathan Kutz. Classification of spatiotemporal data via asynchronous sparse sampling: Application to flow around a cylinder. *Multiscale Modeling & Simulation*, 14(2):823–838, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BLL14] **Benoit:2014:MLO**
 David Benoit, Claude Le Bris, and Tony Lelièvre. Macroscopic limit of a one-dimensional model for aging fluids. *Multiscale Modeling & Simulation*, 12(3):1335–1378, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BLO17] **Binder:2017:APC**
 Andrew J. Binder, Mitchell Luskin, and Christoph Ortner. Analysis of a predictor-corrector method for computationally efficient modeling of surface effects in 1D. *Multiscale Modeling & Simulation*, 15(2):892–919, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BLPV15] **Binder:2015:ATS**
 Andrew Binder, Mitchell Luskin, Danny Perez, and Arthur F. Voter. Analysis of transition state theory rates upon spatial coarse-graining. *Multiscale Modeling & Simulation*, 13(3):890–915, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BM04] **Bennett:2004:FMU**
 Nicholas N. Bennett and Alberto Malinverno. Fast model updates using wavelets. *Multiscale Modeling & Simulation*, 3(1):106–130, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60146>.
- [BM06] **Bhat:2006:HNE**
 Y. S. Bhat and S. Moskow. Homogenization of a nonlinear elliptic boundary value problem modeling galvanic currents. *Multiscale Modeling & Simulation*, 5(1):149–169, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BM09] **Briane:2009:GHE**
 Marc Briane and Graeme W. Milton. Giant Hall effect in composites. *Multiscale Modeling & Simulation*, 7(3):1405–1427,

- ???? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BM17] Luca Bisconti and Paolo Maria Mariano. Existence results in the linear dynamics of quasicrystals with phason diffusion and nonlinear gyroscopic effects. *Multiscale Modeling & Simulation*, 15(2):745–767, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BMP05] Alain Bourgeat and Eduard Marusic-Paloka. A homogenized model of an underground waste repository including a disturbed zone. *Multiscale Modeling & Simulation*, 3(4):918–939, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60542>.
- [BMT10] Abderrahmane Bendali, Abdelkader Makhlouf, and Sébastien Tordeux. Justification of the cavity model in the numerical simulation of patch antennas by the method of matched asymptotic expansions. *Multiscale Modeling & Simulation*, 8(5):1902–1922, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v8/i5/p1902_s1.
- [BN05] A. Bourgade and B. Nkonga. Numerical modeling of laser pulse behavior in nonlinear crystal and application to the second harmonic generation. *Multiscale Modeling & Simulation*, 4(4):1059–1090, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61612>.
- [BO16] Peter Bella and Felix Otto. Corrector estimates for elliptic systems with random periodic coefficients. *Multiscale Modeling & Simulation*, 14(4):1434–1462, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bos07] Mihai Bostan. The Vlasov–Maxwell system with strong initial magnetic field: Guiding-center approximation. *Multiscale Modeling & Simulation*, 6(3):1026–1058, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Bos10] Mihai Bostan. Gyrokinetic Vlasov equation in three dimensional setting. second order approximation. *Multiscale Mod-*

- eling & Simulation*, 8(5):1923–1957, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1923_s1.
- [Boy08] Sébastien Boyaval. Reduced-basis approach for homogenization beyond the periodic setting. *Multiscale Modeling & Simulation*, 7(1):466–494, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BP05] H. T. Banks and Gabriella A. Pinter. A probabilistic multiscale approach to hysteresis in shear wave propagation in biotissue. *Multiscale Modeling & Simulation*, 3(2):395–412, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60369>.
- [BP07] Guillaume Bal and Olivier Pinaud. Kinetic models for imaging in random media. *Multiscale Modeling & Simulation*, 6(3):792–819, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BP14] Xavier Blanc and Benjamin-Edouard Peigney. Homogenization of heat diffusion in a cracked medium. *Multiscale Modeling & Simulation*, 12(2):879–906, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BP16] Donald L. Brown and Daniel Peterseim. A multiscale method for porous microstructures. *Multiscale Modeling & Simulation*, 14(3):1123–1152, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BPB⁺08] Santiago Badia, Michael Parks, Pavel Bochev, Max Gunzburger, and Richard Lehoucq. On atomistic-to-continuum coupling by blending. *Multiscale Modeling & Simulation*, 7(1):381–406, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BPT06] Liliana Borcea, George Papanicolaou, and Chrysoula Tsogka. Coherent interferometry in finely layered random media. *Multiscale Modeling & Simulation*, 5(1):62–83, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BPW⁺16] Marya Bazzi, Mason A. Porter, Stacy Williams, Mark McDon-

Boyaval:2008:RBA**Brown:2016:MMP****Banks:2005:PMA****Badia:2008:ACC****Bal:2007:KMI****Borcea:2006:CIF****Blanc:2014:HHD****Bazzi:2016:CDT**

- ald, Daniel J. Fenn, and Sam D. Howison. Community detection in temporal multilayer networks, with an application to correlation networks. *Multiscale Modeling & Simulation*, 14(1):1–41, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BRV12] B. Bruveris, Laurent Risser, and François-Xavier Vialard. Mixture of kernels and iterated semidirect product of diffeomorphisms groups. *Multiscale Modeling & Simulation*, 10(4):1344–1368, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BR12] B. Benesová and T. Roubíček. Micro-to-meso scale limit for shape-memory-alloy models with thermal coupling. *Multiscale Modeling & Simulation*, 10(3):1059–1089, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BRDVE14] Nawaf Bou-Rabee, Aleksandar Donev, and Eric Vandenberg. Metropolis integration schemes for self-adjoint diffusions. *Multiscale Modeling & Simulation*, 12(2):781–831, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BRR13] H. Berestycki, N. Rodríguez, and L. Ryzhik. Traveling wave solutions in a reaction-diffusion model for criminal activity. *Multiscale Modeling & Simulation*, 11(4):1097–1126, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BS07] John W. Barrett and Endre Süli. Existence of global weak solutions to some regularized kinetic models for dilute polymers. *Multiscale Modeling & Simulation*, 6(2):506–546, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BS10] Guy Bouchitté and Ben Schweizer. Homogenization of Maxwell’s equations in a split ring geometry. *Multiscale Modeling & Simulation*, 8(3):717–750, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BS16] Liliana Borcea and Knut Sølna. Pulse propagation in time dependent randomly layered media. *Multiscale Modeling & Simulation*, 14(1):265–300, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [BS17] **Bao:2017:UEB**
 Weizhu Bao and Chunmei Su. Uniform error bounds of a finite difference method for the Zakharov system in the subsonic limit regime via an asymptotic consistent formulation. *Multiscale Modeling & Simulation*, 15(2):977–1002, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BSK07] **Bar:2007:CIM**
 Leah Bar, Nir Sochen, and Nahum Kiryati. Convergence of an iterative method for variational deconvolution and impulsive noise removal. *Multiscale Modeling & Simulation*, 6(3):983–994, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BSS14] **Boateng:2014:ALK**
 Henry A. Boateng, Tim P. Schulze, and Peter Smereka. Approximating off-lattice kinetic Monte Carlo. *Multiscale Modeling & Simulation*, 12(1):181–199, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BST16] **Barajas-Solano:2016:HMF**
 David A. Barajas-Solano and A. M. Tartakovsky. Hybrid multiscale finite volume method for advection-diffusion equations subject to heterogeneous reactive boundary conditions. *Multiscale Modeling & Simulation*, 14(4):1341–1376, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BT14] **Bao:2014:NSQ**
 Weizhu Bao and Qinglin Tang. Numerical study of quantized vortex interactions in the nonlinear Schrödinger equation on bounded domains. *Multiscale Modeling & Simulation*, 12(2):411–439, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [BV04] **Bal:2004:TRC**
 Guillaume Bal and Ramón Verástegui. Time reversal in changing environments. *Multiscale Modeling & Simulation*, 2(4):639–661, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60083>.
- [BV06] **Balykov:2006:DTS**
 Lev Balykov and Axel Voigt. A 2 + 1-dimensional terrace-step-kink model for epitaxial growth far from equilibrium. *Multiscale Modeling & Simulation*, 5(1):45–61, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [Cal07] **Calderon:2007:FED**
 Christopher P. Calderon. Fitting effective diffusion models to data associated with a “glassy” potential: Estimation, classical inference procedures, and some heuristics. *Multiscale Modeling & Simulation*, 6(2):656–687, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CBS04] **Cushman:2004:TRDa**
 John H. Cushman, Lynn S. Benethum, and Pawan P. Singh. Toward rational design of drug delivery substrates: I. mixture theory for two-scale biocompatible polymers. *Multiscale Modeling & Simulation*, 2(2):302–334, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60035>.
- [CC06] **Chan:2006:OBM**
 Tony F. Chan and Ke Chen. An optimization-based multi-level algorithm for total variation image denoising. *Multiscale Modeling & Simulation*, 5(2):615–645, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CC10] **Chen:2010:MSG**
 H.-S. Chen and C.-S. Chien. Multilevel spectral-Galerkin and continuation methods for nonlinear Schrödinger equations. *Multiscale Modeling & Simulation*, 8(2):370–392, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CCBL11] **Chumchob:2011:FOV**
 N. Chumchob, K. Chen, and Carlos Brito-Loeza. A fourth-order variational image registration model and its fast multigrid algorithm. *Multiscale Modeling & Simulation*, 9(1):89–128, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms-resource/1/mmsubt/v9/i1/p89_s1.
- [CCG15] **Cherednichenko:2015:SAO**
 K. D. Cherednichenko, S. Cooper, and S. Guenneau. Spectral analysis of one-dimensional high-contrast elliptic problems with periodic coefficients. *Multiscale Modeling & Simulation*, 13(1):72–98, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CCGB05] **Cances:2005:WPM**
 Eric Cancès, Isabelle Catto, Yousra Gati, and Claude Le Bris. Well-posedness of a multiscale model for concentrated suspensions. *Multiscale Modeling & Simulation*, 4(4):1041–1058, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62122>.

- Cirillo:2016:ECE**
- [CCM16] Emilio N. M. Cirillo, Matteo Colangeli, and Adrian Muntean. Effects of communication efficiency and exit capacity on fundamental diagrams for pedestrian motion in an obscure tunnel — a particle system approach. *Multiscale Modeling & Simulation*, 14(2):906–922, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Caselles:2007:DSS**
- [CCN07] Vicent Caselles, Antonin Chambolle, and Matteo Novaga. The discontinuity set of solutions of the TV denoising problem and some extensions. *Multiscale Modeling & Simulation*, 6(3):879–894, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Chinchio:2006:HMA**
- [CCOS06] M. Chinchio, C. Czaplewski, S. Odłdziej, and H. A. Scheraga. A hierarchical multiscale approach to protein structure prediction: Production of low-resolution packing arrangements of helices and refinement of the best models with a united-residue force field. *Multiscale Modeling & Simulation*, 5(4):1175–1195, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Clement:2017:DRM**
- [CCPT17] Frédérique Clément, Frédéric Coquel, Marie Postel, and Kim Long Tran. Dimensional reduction of a multiscale model based on long time asymptotics. *Multiscale Modeling & Simulation*, 15(3):1198–1241, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Chen:2008:MFE**
- [CCSY08] Zhangxin Chen, Ming Cui, Tatyana Y. Savchuk, and Xijun Yu. The multiscale finite element method with nonconforming elements for elliptic homogenization problems. *Multiscale Modeling & Simulation*, 7(2):517–538, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Charrier:2003:ATM**
- [CD03] Pierre Charrier and Bruno Dubroca. Asymptotic transport models for heat and mass transfer in reactive porous media. *Multiscale Modeling & Simulation*, 2(1):124–157, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41173>.
- Chen:2006:EIG**
- [CD06] Yuguang Chen and Louis J. Durlofsky. Efficient incorporation of global effects in upscaled

- models of two-phase flow and transport in heterogeneous formations. *Multiscale Modeling & Simulation*, 5(2):445–475, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CDV16]
- Casado-Díaz:2011:NAO**
- [CDCLLZ11] J. Casado-Díaz, C. Castro, M. Luna-Laynez, and E. Zuazua. Numerical approximation of a one-dimensional elliptic optimal design problem. *Multiscale Modeling & Simulation*, 9(3):1181–1216, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1181_s1. [CDY09]
- Candes:2006:FDC**
- [CDDY06] Emmanuel Candès, Laurent Demanet, David Donoho, and Lexing Ying. Fast discrete curvelet transforms. *Multiscale Modeling & Simulation*, 5(3):861–899, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CE10]
- Chen:2014:AFE**
- [CDG⁺14] Huajie Chen, Xiaoying Dai, Xingao Gong, Lianhua He, and Aihui Zhou. Adaptive finite element approximations for Kohn–Sham models. *Multiscale Modeling & Simulation*, 12(4):1828–1869, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CE16]
- Crouseilles:2016:MSB**
- Nicolas Crouseilles, Giacomo Dimarco, and Marie-Hélène Vignal. Multiscale schemes for the BGK–Vlasov–Poisson system in the quasi-neutral and fluid limits. stability analysis and first order schemes. *Multiscale Modeling & Simulation*, 14(1):65–95, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Candes:2009:FBA**
- Emmanuel Candès, Laurent Demanet, and Lexing Ying. A fast butterfly algorithm for the computation of Fourier integral operators. *Multiscale Modeling & Simulation*, 7(4):1727–1750, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Chung:2010:RCA**
- Eric T. Chung and Yalchin Efendiev. Reduced-contrast approximations for high-contrast multiscale flow problems. *Multiscale Modeling & Simulation*, 8(4):1128–1153, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Cherednichenko:2016:FTS**
- Kirill D. Cherednichenko and James A. Evans. Full two-scale asymptotic expansion and higher-order constitutive laws in the homogenization of the system of quasi-static Maxwell

- equations. *Multiscale Modeling & Simulation*, 14(4):1513–1539, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CEL15]
- [CEGL16] Victor M. Calo, Yalchin Efendiev, Juan Galvis, and Guanglian Li. Randomized oversampling for generalized multiscale finite element methods. *Multiscale Modeling & Simulation*, 14(1):482–501, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CEK08] Vincenzo Capasso, Heinz W. Engl, and Stefan Kindermann. Parameter identification in a random environment exemplified by a multiscale model for crystal growth. *Multiscale Modeling & Simulation*, 7(2):814–841, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CEL14] Eric T. Chung, Yalchin Efendiev, and Wing Tat Leung. Generalized multiscale finite element methods for wave propagation in heterogeneous media. *Multiscale Modeling & Simulation*, 12(4):1691–1721, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CF04]
- [Chung:2015:MGM] Eric T. Chung, Yalchin Efendiev, and Chak Shing Lee. Mixed generalized multiscale finite element methods and applications. *Multiscale Modeling & Simulation*, 13(1):338–366, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chu:2012:MMC] Jay Chu, Björn Engquist, Masa Prodanović, and Richard Tsai. A multiscale method coupling network and continuum models in porous media I: Steady-state single phase flow. *Multiscale Modeling & Simulation*, 10(2):515–549, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chen:2005:HMM] Shanqin Chen, Weinan E, and Chi-Wang Shu. The heterogeneous multiscale method based on the discontinuous Galerkin method for hyperbolic and parabolic problems. *Multiscale Modeling & Simulation*, 3(4):871–894, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sambin/dbq/article/61262>.
- [Ceniceros:2004:NSP] Hector D. Ceniceros and Glenn H. Fredrickson. Numerical solution of polymer

- self-consistent field theory. *Multiscale Modeling & Simulation*, 2(3):452–474, 2004. [CFM17] CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60133>.
- [CF10] Abhilash J. Chandy and Steven H. Frankel. The t -model as a large eddy simulation model for the Navier–Stokes equations. *Multiscale Modeling & Simulation*, 8(2):445–462, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CF15] Huajie Chen and Gero Friesecke. Pair densities in density functional theory. *Multiscale Modeling & Simulation*, 13(4):1259–1289, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CFL⁺17] C. Chalons, R. O. Fox, F. Laurent, M. Massot, and A. Vié. Multivariate Gaussian extended quadrature method of moments for turbulent disperse multiphase flow. *Multiscale Modeling & Simulation*, 15(4):1553–1583, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Cherfils:2017:CVC] Laurence Cherfils, Hussein Fakih, and Alain Miranville. A complex version of the Cahn–Hilliard equation for grayscale image inpainting. *Multiscale Modeling & Simulation*, 15(1):575–605, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chandy:2010:MLE] Abhilash J. Chandy and Steven H. Frankel. The t -model as a large eddy simulation model for the Navier–Stokes equations. *Multiscale Modeling & Simulation*, 8(2):445–462, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chen:2015:ACC] Jingrun Chen, Carlos J. García-Cervera, and Xiantao Li. An atomistic/continuum coupling method using enriched bases. *Multiscale Modeling & Simulation*, 13(3):766–789, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chen:2015:MFM] Jingrun Chen, Carlos J. García-Cervera, and Xu Yang. A mean-field model for spin dynamics in multilayered ferromagnetic media. *Multiscale Modeling & Simulation*, 13(2):551–570, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Chalons:2017:MGE] C. Chalons, R. O. Fox, F. Laurent, M. Massot, and A. Vié. Multivariate Gaussian extended quadrature method of moments for turbulent disperse multiphase flow. *Multiscale Modeling & Simulation*, 15(4):1553–1583, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Cazeaux:2015:HMP] Paul Cazeaux, Céline Grandmont, and Yvon Maday. Homogenization of a model for the propagation of sound in the lungs. *Multiscale Modeling & Simulation*, 13(1):43–71, 2015. CODEN MMSUBT.

ISSN 1540-3459 (print), 1540-3467 (electronic).

Cheong:2008:ISL

- [Che08] Ke-Shen Cheong. Identifying strain localization in heterogeneous microstructures via an information passing modeling approach. *Multiscale Modeling & Simulation*, 6(4):1371–1381, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Chorin:2003:CER

- [Cho03] Alexandre J. Chorin. Conditional expectations and renormalization. *Multiscale Modeling & Simulation*, 1(1):105–118, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40555>.

Conti:2007:CMC

- [CHO07] Sergio Conti, Patrice Hauret, and Michael Ortiz. Concurrent multiscale computing of deformation microstructure by relaxation and local enrichment with application to single-crystal plasticity. *Multiscale Modeling & Simulation*, 6(1):135–157, ??? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Cook:2017:MMF

- [CHS17] Steven C. Cook, Christel Henegger, and Tamar Shinar. A micro-macro framework for

analyzing steric and hydrodynamic interactions in gliding assays. *Multiscale Modeling & Simulation*, 15(4):1768–1796, ??? 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Chai:2015:MSM

- [CJLM15] Lihui Chai, Shi Jin, Qin Li, and Omar Morandi. A multi-band semiclassical model for surface hopping quantum dynamics. *Multiscale Modeling & Simulation*, 13(1):205–230, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Coifman:2008:DMR

- [CKL+08] R. R. Coifman, I. G. Kevrekidis, S. Lafon, M. Maggioni, and B. Nadler. Diffusion maps, reduction coordinates, and low dimensional representation of stochastic systems. *Multiscale Modeling & Simulation*, 7(2):842–864, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Calvetti:2008:SBA

- [CKS08] Daniela Calvetti, Amy Kuceyeski, and Erkki Somersalo. Sampling-based analysis of a spatially distributed model for liver metabolism at steady state. *Multiscale Modeling & Simulation*, 7(1):407–431, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [CL03a] **Caflich:2003:AID**
 Russel E. Caflich and Bo Li. Analysis of island dynamics in epitaxial growth of thin films. *Multiscale Modeling & Simulation*, 1(1):150–171, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40720>.
- [CL03b] **Chai:2003:ETV**
 Tianfeng Chai and Ching-Long Lin. Estimation of turbulent viscosity and diffusivity in adjoint recovery of atmospheric boundary layer flow structures. *Multiscale Modeling & Simulation*, 1(2):196–220, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41141>.
- [CL04] **Chertock:2004:WBN**
 Alina Chertock and Doron Levy. On wavelet-based numerical homogenization. *Multiscale Modeling & Simulation*, 3(1):65–88, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60078>.
- [CL09] **Chen:2009:LGT**
 Yuguang Chen and Yan Li. Local-global two-phase upscaling of flow and transport in heterogeneous formations. *Multiscale Modeling & Simulation*, 8(1):125–153, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CL13] **Chen:2013:DND**
 Yue Chen and Robert Lipton. Double negative dispersion relations from coated plasmonic rods. *Multiscale Modeling & Simulation*, 11(1):192–212, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CL17] **Chen:2017:EAL**
 Chuchu Chen and Di Liu. Error analysis for D -leaping scheme of chemical reaction system with delay. *Multiscale Modeling & Simulation*, 15(4):1797–1829, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CLLW15] **Cao:2015:MAH**
 Liqun Cao, Keqi Li, Jianlan Luo, and Yaushu Wong. A multiscale approach and a hybrid FE-FDTD algorithm for 3D time-dependent Maxwell’s equations in composite materials. *Multiscale Modeling & Simulation*, 13(4):1446–1477, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CLMT05] **Canic:2005:SCE**
 Suncica Canic, Daniele Lamponi, Andro Mikelic, and Josip Tambaca. Self-consistent effective equations modeling blood

- flow in medium-to-large compliant arteries. *Multiscale Modeling & Simulation*, 3(3):559–596, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60260>.
- [CLMZ17] Nicolas Crouseilles, Mohammed Lemou, Florian Méhats, and Xiaofei Zhao. Uniformly accurate forward semi-Lagrangian methods for highly oscillatory Vlasov–Poisson equations. *Multiscale Modeling & Simulation*, 15(2):723–744, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CLT17] Paul Cazeaux, Mitchell Luskin, and Ellad B. Tadmor. Analysis of rippling in incommensurate one-dimensional coupled chains. *Multiscale Modeling & Simulation*, 15(1):56–73, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CLY+11] Yang Chen, Yinsheng Li, Weimin Yu, Limin Luo, Wufan Chen, and Christine Toumoulin. Joint-MAP tomographic reconstruction with patch similarity based mixture prior model. *Multiscale Modeling & Simulation*, 9(4):1399–1419, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms-resource/1/mmsubt/v9/i4/p1399_s1.
- [CLZ16] Jingrun Chen, Jian-Guo Liu, and Zhennan Zhou. On a Schrödinger–Landau–Lifshitz system: Variational structure and numerical methods. *Multiscale Modeling & Simulation*, 14(4):1463–1487, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CM07] Hector D. Ceniceros and George O. Mohler. A practical splitting method for stiff SDEs with applications to problems with small noise. *Multiscale Modeling & Simulation*, 6(1):212–227, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CM14] Alfonso Caiazzo and Joaquín Mura. Multiscale modeling of weakly compressible elastic materials in the harmonic regime and applications to microscale structure estimation. *Multiscale Modeling & Simulation*, 12(2):514–537, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Crouseilles:2017:UAF

Chen:2016:SLL

Ceniceros:2007:PSM

Cazeaux:2017:ARI

Caiazzo:2014:MMW

Chen:2011:JMT

- Crosskey:2017:AGA**
- [CM17] Miles Crosskey and Mauro Maggioni. ATLAS: a geometric approach to learning high-dimensional stochastic systems near manifolds. *Multiscale Modeling & Simulation*, 15(1):110–156, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Calderon:2010:EPS**
- [CMCS10a] Christopher P. Calderon, Josue G. Martinez, Raymond J. Carroll, and Danny C. Sorensen. Erratum: P-splines using derivative information. *Multiscale Modeling & Simulation*, 8(5):2097, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p2097_s1. See [CMCS10b].
- Calderon:2010:PSU**
- [CMCS10b] Christopher P. Calderon, Josue G. Martinez, Raymond J. Carroll, and Danny C. Sorensen. P-splines using derivative information. *Multiscale Modeling & Simulation*, 8(4):1562–1580, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See erratum [CMCS10a].
- Ciomaga:2011:IVR**
- [CMM11] Adina Ciomaga, Pascal Monasse, and Jean-Michel Morel. Image visualization and restoration by curvature motions. *Multiscale Modeling & Simulation*, 9(2):834–871, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p834_s1.
- Clement:2013:CSC**
- [CMMS13] Frédérique Clément, Philippe Michel, Danielle Monniaux, and Thomas Stiehl. Coupled somatic Cell kinetics and germ Cell growth: Multiscale model-based insight on ovarian follicular development. *Multiscale Modeling & Simulation*, 11(3):719–746, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Chalons:2015:ELE**
- C. Chalons, M. Massot, and A. Vié. On the Eulerian large eddy simulation of disperse phase flows: an asymptotic preserving scheme for small Stokes number flows. *Multiscale Modeling & Simulation*, 13(1):291–315, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Coquel:2010:LTS**
- [CNPT10] Frédéric Coquel, Quang Long Nguyen, Marie Postel, and Quang Huy Tran. Local time stepping applied to implicit-explicit methods for hyperbolic systems. *Multiscale Modeling & Simulation*, 8(2):540–570,

- ???? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CO16] **Chen:2016:QMM** [CP06] Huajie Chen and Christoph Ortner. QM/MM methods for crystalline defects. Part 1: Locality of the tight binding model. *Multiscale Modeling & Simulation*, 14(1):232–264, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CO17] **Chen:2017:QMM** [CPT11] Huajie Chen and Christoph Ortner. QM/MM methods for crystalline defects. Part 2: Consistent energy and force-mixing. *Multiscale Modeling & Simulation*, 15(1):184–214, ??? 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Coh10] **Cohen:2010:SAC** Albert Cohen. A stochastic approach to coarsening of cellular networks. *Multiscale Modeling & Simulation*, 8(2):463–480, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [COS10] **Cai:2010:SBM** Jian-Feng Cai, Stanley Osher, and Zuowei Shen. Split Bregman methods and frame based image restoration. *Multiscale Modeling & Simulation*, 8(2): 337–369, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CR06] **Cioranescu:2006:HPM** Doina Cioranescu and Andrey Piatnitski. Homogenization of a porous medium with randomly pulsating microstructure. *Multiscale Modeling & Simulation*, 5(1):170–183, ??? 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CR11] **Cristiani:2011:MMG** Emiliano Cristiani, Benedetto Piccoli, and Andrea Tosin. Multiscale modeling of granular flows with application to crowd dynamics. *Multiscale Modeling & Simulation*, 9(1):155–182, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i1/p155_s1.
- [CR06] **Cotter:2006:SPM** Colin J. Cotter and Sebastian Reich. Semigeostrophic particle motion and exponentially accurate normal forms. *Multiscale Modeling & Simulation*, 5(2):476–496, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CR11] **Cipcigan:2011:UCI** Ioana Cipcigan and Muruhan Rathinam. Uniform convergence of interlaced Euler

- method for stiff stochastic differential equations. *Multiscale Modeling & Simulation*, 9(3):1217–1252, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1217_s1. [CSB04]
- [CRK05] Robert Clewley, Horacio G. Rotstein, and Nancy Kopell. A computational tool for the reduction of nonlinear ODE systems possessing multiple scales. *Multiscale Modeling & Simulation*, 4(3):732–759, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61553>. [CSB08]
- [CS06] Daniela Calvetti and Erkki Somersalo. Large-scale statistical parameter estimation in complex systems with an application to metabolic models. *Multiscale Modeling & Simulation*, 5(4):1333–1366, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [CS14] Durga Prasad Challa and Mourad Sini. On the justification of the Foldy–Lax approximation for the acoustic scattering by small rigid bodies of arbitrary shapes. *Multiscale Modeling & Simulation*, 12(1):55–108, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Cushman:2004:TRDb**
- John H. Cushman, Pawan P. Singh, and Lynn S. Bennethum. Toward rational design of drug delivery substrates: II. mixture theory for three-scale biocompatible polymers and a computational example. *Multiscale Modeling & Simulation*, 2(2):335–357, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60036>.
- Chandran:2008:MBM**
- Preethi L. Chandran, Triantafyllos Stylianopoulos, and Victor H. Barocas. Microstructure-based, multiscale modeling for the mechanical behavior of hydrated fiber networks. *Multiscale Modeling & Simulation*, 7(1):22–43, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Chodera:2006:LTP**
- [CSPD06] John D. Chodera, William C. Swope, Jed W. Pitera, and Ken A. Dill. Long-time protein folding dynamics from short-time molecular dynamics simulations. *Multiscale Modeling & Simulation*, 5(4):1214–1226, January 2006. CODEN MM-
- Calvetti:2006:LSS**
- Clewley:2005:CTR**
- Challa:2014:JFL**

SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Caselles:2004:MDM

- [CSSB04] Vicent Caselles, Guillermo Sapiro, Andrés Solé, and Coloma Ballester. Morse description and morphological encoding of continuous data. *Multiscale Modeling & Simulation*, 2(2):179–209, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41655>. [CVE09]

Cui:2006:LRM

- [CTHC06] Qizhi Cui, Robert K.-Z. Tan, Stephen C. Harvey, and David A. Case. Low-resolution molecular dynamics simulations of the 30S ribosomal subunit. *Multiscale Modeling & Simulation*, 5(4):1248–1263, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CVE11]

Cao:2016:ACM

- [CTL16] Youfang Cao, Anna Terebus, and Jie Liang. Accurate chemical master equation solution using multi-finite buffers. *Multiscale Modeling & Simulation*, 14(2):923–963, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [CW05]

Carr:2013:DSM

- [CTP13] E. J. Carr, I. W. Turner, and P. Perré. A dual-scale modeling

approach for drying hygroscopic porous media. *Multiscale Modeling & Simulation*, 11(1):362–384, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Crommelin:2009:DBI

Daan Crommelin and Eric Vanden-Eijnden. Data-based inference of generators for Markov jump processes using convex optimization. *Multiscale Modeling & Simulation*, 7(4):1751–1778, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Crommelin:2011:DEM

Daan Crommelin and Eric Vanden-Eijnden. Diffusion estimation from multiscale data by operator eigenpairs. *Multiscale Modeling & Simulation*, 9(4):1588–1623, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1588_s1.

Combettes:2005:SRP

Patrick L. Combettes and Valérie R. Wajs. Signal recovery by proximal forward-backward splitting. *Multiscale Modeling & Simulation*, 4(4):1168–1200, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62609>.

Caffisch:2008:HMA

- [CWD⁺08] Russel Caffisch, Chiaming Wang, Giacomo Dimarco, Bruce Cohen, and Andris Dimits. A hybrid method for accelerated simulation of Coulomb collisions in a plasma. *Multiscale Modeling & Simulation*, 7(2):865–887, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Cheviakov:2010:AAM

- [CWS10] Alexei F. Cheviakov, Michael J. Ward, and Ronny Straube. An asymptotic analysis of the mean first passage time for narrow escape problems: Part II: The sphere. *Multiscale Modeling & Simulation*, 8(3):836–870, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Conrad:2016:FDS

- [CWS16] Natasa Djurdjevac Conrad, Marcus Weber, and Christof Schütte. Finding dominant structures of nonreversible Markov processes. *Multiscale Modeling & Simulation*, 14(4):1319–1340, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Chen:2003:NHW

- [CY03] Zhiming Chen and Xinye Yue. Numerical homogenization of well singularities in the flow transport through heterogeneous porous media. *Multiscale*

Modeling & Simulation, 1(2):260–303, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41332>.

Carrillo:2013:APS

- [CY13] José A. Carrillo and Bokai Yan. An asymptotic preserving scheme for the diffusive limit of kinetic systems for chemotaxis. *Multiscale Modeling & Simulation*, 11(1):336–361, ??? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Duval:2009:TMG

- [DAG09] Vincent Duval, Jean-François Aujol, and Yann Gousseau. The TVL1 model: a geometric point of view. *Multiscale Modeling & Simulation*, 8(1):154–189, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Donev:2010:HPC

- [DBG10] Aleksandar Donev, John B. Bell, Alejandro L. Garcia, and Berni J. Alder. A hybrid particle-continuum method for hydrodynamics of complex fluids. *Multiscale Modeling & Simulation*, 8(3):871–911, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Silva:2008:MFM

- [DBGS08] David Da Silva, Frédéric Boudon, Christophe Godin, and

- Hervé Sinoquet. Multiscale framework for modeling and analyzing light interception by trees. *Multiscale Modeling & Simulation*, 7(2):910–933, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DD13] Tomás Dohnal and Willy Dörfler. Coupled mode equation modeling for out-of-plane gap solitons in 2D photonic crystals. *Multiscale Modeling & Simulation*, 11(1):162–191, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DDN10] Pierre Degond, Fabrice Deluzet, and Claudia Negulescu. An asymptotic preserving scheme for strongly anisotropic elliptic problems. *Multiscale Modeling & Simulation*, 8(2):645–666, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DDNP17] Alexandra De Cecco, Fabrice Deluzet, Claudia Negulescu, and Stefan Possanner. Asymptotic transition from kinetic to adiabatic electrons along magnetic field lines. *Multiscale Modeling & Simulation*, 15(1):309–338, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DFL10] Svetlana Dubinkina, Jason Frank, and Ben Leimkuhler. Simplified modelling of a thermal bath, with application to a fluid vortex system. *Multiscale Modeling & Simulation*, 8(5):1882–1901, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v8/i5/p1882_s1.
- [DG09] Sonjoy Das and Roger Ghanem. A bounded random matrix approach for stochastic upscaling. *Multiscale Modeling & Simulation*, 8(1):296–325, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DGHK07] P. Degond, S. Göttlich, M. Herty, and A. Klar. A network model for supply chains with multiple policies. *Multiscale Modeling & Simulation*, 6(3):820–837, 2007.

- ???? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DGM07] P. Degond, S. Gallego, and F. Méhats. Isothermal quantum hydrodynamics: Derivation, asymptotic analysis, and simulation. *Multiscale Modeling & Simulation*, 6(1):246–272, ????. 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DGN⁺08] Kristen DeVault, Pierre A. Gremaud, Vera Novak, Mette S. Olufsen, Guillaume Vernières, and Peng Zhao. Blood flow in the circle of willis: Modeling and calibration. *Multiscale Modeling & Simulation*, 7(2):888–909, ????. 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DGY⁺11] Xiaoying Dai, Xingao Gong, Zhang Yang, Dier Zhang, and Aihui Zhou. Finite volume discretizations for eigenvalue problems with applications to electronic structure calculations. *Multiscale Modeling & Simulation*, 9(1):208–240, ????. 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p208_s1.
- [DHL14] Pierre Degond, Michael Herty, and Jian-Guo Liu. Flow on sweeping networks. *Multiscale Modeling & Simulation*, 12(2):538–565, ????. 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [dHUVW13] Maarten V. de Hoop, Gunther Uhlmann, András Vasy, and Herwig Wendt. Multiscale discrete approximations of Fourier integral operators associated with canonical transformations and caustics. *Multiscale Modeling & Simulation*, 11(2):566–585, ????. 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DJS17] Bin Dong, Qingtang Jiang, and Zuowei Shen. Image restoration: Wavelet frame shrinkage, nonlinear evolution PDEs, and beyond. *Multiscale Modeling & Simulation*, 15(1):606–660, ????. 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DK14] Mingge Deng and George Em Karniadakis. Coarse-grained modeling of protein unfolding dynamics. *Multiscale Modeling & Simulation*, 12(1):109–118, ????. 2014. CODEN MM-

Degond:2014:FSN**Degond:2007:IQH****DeVault:2008:BFC****Dai:2011:FVD****deHoop:2013:MDA****Dong:2017:IRW****Deng:2014:CGM**

SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

DeSimone:2003:RIN

- [DKMO03] Antonio DeSimone, Robert V. Kohn, Stefan Müller, and Felix Otto. Repulsive interaction of Néel walls, and the internal length scale of the cross-tie wall. *Multiscale Modeling & Simulation*, 1(1):57–104, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40273>.

Dziwnik:2014:SAU

- [DKMW14] Marion Dziwnik, Maciek Korzec, Andreas Münch, and Barbara Wagner. Stability analysis of unsteady, nonuniform base states in thin film equations. *Multiscale Modeling & Simulation*, 12(2):755–780, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Day:2009:VHC

- [DKW09] Sarah Day, William D. Kalies, and Thomas Wanner. Verified homology computations for nodal domains. *Multiscale Modeling & Simulation*, 7(4):1695–1726, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Degond:2006:MFM

- [DLM06] Pierre Degond, Jian-Guo Liu, and Luc Mieussens. Macroscopic fluid models with local-

ized kinetic upscaling effects. *Multiscale Modeling & Simulation*, 5(3):940–979, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Dobson:2010:SSE

- [DLO10] M. Dobson, M. Luskin, and C. Ortner. Sharp stability estimates for the force-based quasi-continuum approximation of homogeneous tensile deformation. *Multiscale Modeling & Simulation*, 8(3):782–802, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Dupuis:2012:ISL

- [DLPD12] Paul Dupuis, Yufei Liu, Nuria Plattner, and J. D. Doll. On the infinite swapping limit for parallel tempering. *Multiscale Modeling & Simulation*, 10(3):986–1022, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Dohnal:2014:BWH

- [DLS14] T. Dohnal, A. Lamacz, and B. Schweizer. Bloch-wave homogenization on large time scales and dispersive effective wave equations. *Multiscale Modeling & Simulation*, 12(2):488–513, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Du:2005:FDM

- [DLY05] Qiang Du, Chun Liu, and Peng Yu. FENE dumbbell

- model and its several linear and nonlinear closure approximations. *Multiscale Modeling & Simulation*, 4(3):709–731, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61203>. [DOS12]
- [DM10] Rui Du and Pingbing Ming. Convergence of the heterogeneous multiscale finite element method for elliptic problems with nonsmooth microstructures. *Multiscale Modeling & Simulation*, 8(5):1770–1783, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1770_s1. [DP08]
- [DMZ17] Vladimir Druskin, Alexander V. Mamonov, and Mikhail Zaslavsky. Multiscale S -fraction reduced-order models for massive wavefield simulations. *Multiscale Modeling & Simulation*, 15(1):445–475, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [DP09]
- [DN07] Sylvain Durand and Mila Nikolova. Denoising of frame coefficients using ℓ^1 data-fidelity term and edge-preserving regularization. *Multiscale Modeling & Simulation*, 6(2):547–576, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [DPV03]
- [Dobson:2012:SFB] M. Dobson, C. Ortner, and A. V. Shapeev. The spectrum of the force-based quasicontinuum operator for a homogeneous periodic chain. *Multiscale Modeling & Simulation*, 10(3):744–765, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Dimarco:2008:HMM] Giacomo Dimarco and Lorenzo Pareschi. Hybrid multiscale methods II. kinetic equations. *Multiscale Modeling & Simulation*, 6(4):1169–1197, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Deriaz:2009:DNS] Erwan Deriaz and Valérie Perrier. Direct numerical simulation of turbulence using divergence-free wavelets. *Multiscale Modeling & Simulation*, 7(3):1101–1129, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Degond:2003:PEV] Pierre Degond, Céline Parzani, and Marie-Hélène Vignal. Plasma expansion in vacuum: Modeling the breakdown of quasi neutrality. *Multiscale Modeling & Simulation*, 2(1):158–

- 178, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60033>. [DRLS04]
- Degond:2006:BMT**
- [DPV06] Pierre Degond, Céline Parzani, and Marie-Hélène Vignal. A Boltzmann model for trapped particles in a surface potential. *Multiscale Modeling & Simulation*, 5(2):364–392, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [DRZ07]
- Dobramysl:2016:PBM**
- [DRE16] Ulrich Dobramysl, Sten Rüdiger, and Radek Erban. Particle-based multiscale modeling of calcium puff dynamics. *Multiscale Modeling & Simulation*, 14(3):997–1016, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [DSH16]
- Degenhard:2005:CPO**
- [DRL05] Andreas Degenhard and Javier Rodríguez-Laguna. Construction of projection operators for nonlinear evolutionary dynamics. *Multiscale Modeling & Simulation*, 4(2):641–663, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60315>. [DSS05]
- Degenhard:2004:DMR**
- Andreas Degenhard, Javier Rodríguez-Laguna, and Silvia N. Santalla. Density matrix renormalization group approach to nonequilibrium phenomena. *Multiscale Modeling & Simulation*, 3(1):89–105, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60322>.
- Daubechies:2007:SSM**
- Ingrid Daubechies, Olof Runborg, and Jing Zou. A sparse spectral method for homogenization multiscale problems. *Multiscale Modeling & Simulation*, 6(3):711–740, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Duc:2016:OSP**
- K. Dao Duc, Z. Schuss, and D. Holcman. Oscillatory survival probability: Analytical and numerical study of a non-Poissonian exit time. *Multiscale Modeling & Simulation*, 14(2):772–798, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Doering:2005:ETB**
- Charles R. Doering, Khachik V. Sargsyan, and Leonard M. Sander. Extinction times for birth-death processes: Ex-

- act results, continuum asymptotics, and the failure of the Fokker–Planck approximation. *Multiscale Modeling & Simulation*, 3(2):283–299, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60280>.
- [DSS12] Natasa Djurdjevac, Marco Sarich, and Christof Schütte. Estimating the eigenvalue error of Markov state models. *Multiscale Modeling & Simulation*, 10(1):61–81, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DSW12] Paul Dupuis, Konstantinos Spiliopoulos, and Hui Wang. Importance sampling for multiscale diffusions. *Multiscale Modeling & Simulation*, 10(1):1–27, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v10/i1/p1_s1.
- [Dun15] Andrew B. Duncan. Homogenization of lateral diffusion on a random surface. *Multiscale Modeling & Simulation*, 13(4):1478–1506, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Dur09] Sylvain Durand. On the construction of discrete directional wavelets: HDWT, space-frequency localization, and redundancy factor. *Multiscale Modeling & Simulation*, 7(3):1325–1347, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DW11] Vincent Duchêne and Michael I. Weinstein. Scattering, homogenization, and interface effects for oscillatory potentials with strong singularities. *Multiscale Modeling & Simulation*, 9(3):1017–1063, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1017_s1.
- [DW14] Weibing Deng and Haijun Wu. A combined finite element and multiscale finite element method for the multiscale elliptic problems. *Multiscale Modeling & Simulation*, 12(4):1424–1457, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [DWC15] M. I. Delgado, M. J. Ward, and D. Coombs. Conditional mean

- first passage times to small traps in a 3-D domain with a sticky boundary: Applications to t cell searching behavior in lymph nodes. *Multiscale Modeling & Simulation*, 13(4):1224–1258, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [EAC09]
- [dWMH13] Jana de Wiljes, Andrew Majda, and Illia Horenko. An adaptive Markov chain Monte Carlo approach to time series clustering of processes with regime transition behavior. *Multiscale Modeling & Simulation*, 11(2):415–441, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [EAW04]
- [DYOD08] Bin Dong, Jian Ye, Stanley Osher, and Ivo Dinov. Level set based nonlocal surface restoration. *Multiscale Modeling & Simulation*, 7(2):589–598, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Ebe05]
- [EA08] Raymond El Hajj and Naoufel Ben Abdallah. High density limit of the stationary one dimensional Schrödinger–Poisson system. *Multiscale Modeling & Simulation*, 7(1):124–146, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Eck04a]
- [El-Azab:2009:SSM] Anter El-Azab and Russel Caflisch. Special section on multiscale materials modeling. *Multiscale Modeling & Simulation*, 8(1):191–192, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Eberhard:2004:CGU] Jens Eberhard, Sabine Attinger, and Gabriel Wittum. Coarse graining for upscaling of flow in heterogeneous porous media. *Multiscale Modeling & Simulation*, 2(2):269–301, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60049>.
- [Eberhard:2005:UST] Jens Eberhard. Upscaling for stationary transport in heterogeneous porous media. *Multiscale Modeling & Simulation*, 3(4):957–976, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60415>.
- [Eck:2004:ATS] Christof Eck. Analysis of a two-scale phase field model for liquid-solid phase transitions with equiaxed dendritic microstructure. *Multiscale Modeling & Simulation*, 3(1):28–49, 2004. CODEN MMSUBT.

ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42518>.

Eck:2004:HPF

[Eck04b] Christof Eck. Homogenization of a phase field model for binary mixtures. *Multiscale Modeling & Simulation*, 3(1):1–27, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42517>.

Eck:2007:EEF

[Eck07] Christof Eck. Error estimates for a finite element discretization of a two-scale phase field model. *Multiscale Modeling & Simulation*, 6(1):1–26, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Echenim:2007:MMF

[ECS07] Nki Echenim, Frederique Clément, and Michel Sorine. Multiscale modeling of follicular ovulation as a reachability problem. *Multiscale Modeling & Simulation*, 6(3):895–912, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Efendiev:2003:GCD

[ED03] Y. Efendiev and L. J. Durlofsky. A generalized convection-diffusion model for subgrid transport in porous media.

Multiscale Modeling & Simulation, 1(3):504–526, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41369>.

Engquist:2014:NSM

[EF14] Björn Engquist and Christina Frederick. Nonuniform sampling and multiscale computation. *Multiscale Modeling & Simulation*, 12(4):1890–1901, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Evans:2012:STS

[EFM12] Jonathan D. Evans, Andrea Fernández, and Adrian Muntean. Single and two-scale sharp-interface models for concrete carbonation — asymptotics and numerical approximation. *Multiscale Modeling & Simulation*, 10(3):874–905, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Ehler:2014:QLC

[EFS14] Martin Ehler, Massimo Fornasier, and Juliane Sigl. Quasilinear compressed sensing. *Multiscale Modeling & Simulation*, 12(2):725–754, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- Elfverson:2013:ADG**
- [EGM13] Daniel Elfverson, Emmanuil H. Georgoulis, and Axel Målqvist. An adaptive discontinuous Galerkin multiscale method for elliptic problems. *Multiscale Modeling & Simulation*, 11(3):747–765, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Etter:2015:FFF**
- [EGO15] S. Etter, P. Grohs, and A. Obermeier. FFRT: a fast finite ridgelet transform for radiative transport. *Multiscale Modeling & Simulation*, 13(1):1–42, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Efendiev:2012:SCS**
- [EGT12] Yalchin Efendiev, Juan Galvis, and Florian Thomines. A systematic coarse-scale model reduction technique for parameter-dependent flows in highly heterogeneous media and its applications. *Multiscale Modeling & Simulation*, 10(4):1317–1343, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Espanol:2013:CAQ**
- [EKCO13] Malena I. Espanol, Dennis M. Kochmann, Sergio Conti, and Michael Ortiz. A Γ -convergence analysis of the quasicontinuum method. *Multiscale Modeling & Simulation*, 11(3):766–794, 2013. CODEN MMSUBT.
- Ellero:2006:MMV**
- [EKH06] Marco Ellero, Martin Kröger, and Siegfried Hess. Multiscale modeling of viscoelastic materials containing rigid nonrotating inclusions. *Multiscale Modeling & Simulation*, 5(3):759–785, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Efendiev:2015:MMC**
- [EKL15] Yalchin Efendiev, Cornelia Kronsbain, and Frédéric Legoll. Multilevel Monte Carlo approaches for numerical homogenization. *Multiscale Modeling & Simulation*, 13(4):1107–1135, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Elsey:2009:ATV**
- [El09] Matthew Elsey and Selim Esedoğlu. Analogue of the total variation denoising model in the context of geometry processing. *Multiscale Modeling & Simulation*, 7(4):1549–1573, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Engblom:2009:PTS**
- [Eng09] Stefan Engblom. Parallel in time simulation of multiscale stochastic chemical kinetics. *Multiscale Modeling & Simulation*, 8(1):46–68, 2009.

- CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [EP10] **Ossmani:2010:EMH**
M. El Ossmani and P. Poncet. Efficiency of multiscale hybrid grid-particle vortex methods. *Multiscale Modeling & Simulation*, 8(5):1671–1690, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1671_s1.
- [EO05] **Erbani:2005:STS**
Radek Erban and Hans G. Othmer. From signal transduction to spatial pattern formation in *E. coli*: a paradigm for multiscale modeling in biology. *Multiscale Modeling & Simulation*, 3(2):362–394, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60356>.
- [EP03] **Efendiev:2003:NHM**
Yalchin Efendiev and Alexander Pankov. Numerical homogenization of monotone elliptic operators. *Multiscale Modeling & Simulation*, 2(1):62–79, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42161>.
- [EP04] **Efendiev:2004:NHN**
Y. Efendiev and A. Pankov. Numerical homogenization of nonlinear random parabolic operators. *Multiscale Modeling & Simulation*, 2(2):237–268, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60026>.
- [EW14] **Elsey:2014:FAD**
Matt Elsey and Benedikt Wirth. Fast automated detection of crystal distortion and crystal defects in polycrystal images. *Multiscale Modeling & Simulation*, 12(1):1–24, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [EY11] **Engquist:2011:SPH**
Björn Engquist and Lexing Ying. Sweeping preconditioner for the Helmholtz equation: Moving perfectly matched layers. *Multiscale Modeling & Simulation*, 9(2):686–710, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p686_s1.
- [FAAC09] **Facciolo:2009:IRS**
Gabriele Facciolo, Andrés Almansa, Jean-François Aujol, and Vicent Caselles. Irregular to regular sampling, denoising,

- and deconvolution. *Multiscale Modeling & Simulation*, 7(4):1574–1608, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [FG08]
- [Fan09] Jinghong Fan. Multiscale analysis across atoms/continuum by a generalized particle dynamics method. *Multiscale Modeling & Simulation*, 8(1):228–253, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Fan:2009:MAA**
- [FDJ11] A. Fiori, G. Dagan, and I. Jankovic. Upscaling of steady flow in three-dimensional highly heterogeneous formations. *Multiscale Modeling & Simulation*, 9(3):1162–1180, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1162_s1. **Fiori:2011:USF**
- [FFJD09] G. Firmani, A. Fiori, I. Jankovic, and G. Dagan. Effective conductivity of random multiphase 2D media with polydisperse circular inclusions. *Multiscale Modeling & Simulation*, 7(4):1979–2001, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Firmani:2009:ECR**
- [Focardi:2008:MPF] Matteo Focardi and Adriana Garroni. A 1D macroscopic phase field model for dislocations and a second order Γ -limit. *Multiscale Modeling & Simulation*, 6(4):1098–1124, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Frieesecke:2009:ABC] Gero Friesecke and Benjamin D. Goddard. Asymptotics-based CI models for atoms: Properties, exact solution of a minimal model for Li to Ne, and application to atomic spectra. *Multiscale Modeling & Simulation*, 7(4):1876–1897, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Fornasier:2011:PSK] M. Fornasier, J. Haskovec, and J. Vybíral. Particle systems and kinetic equations modeling interacting agents in high dimension. *Multiscale Modeling & Simulation*, 9(4):1727–1764, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1727_s1. **Fornasier:2011:PSK**
- [Filliger:2004:DDR] Roger Filliger. Discrete derivation of Ruijgrok and Wu’s nonlinear two-velocity Boltzmann model with an appli- [Fil04]

- cation to traffic-flow modelling. *Multiscale Modeling & Simulation*, 2(3):440–451, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60041>.
- [Fil12] Francis Filbet. On deterministic approximation of the Boltzmann equation in a bounded domain. *Multiscale Modeling & Simulation*, 10(3):792–817, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [FJK09] Gero Friesecke, Oliver Junge, and Péter Koltai. Mean field approximation in conformation dynamics. *Multiscale Modeling & Simulation*, 8(1):254–268, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [FKH07] Csaba Fazekas, György Kozmann, and Katalin M. Hangos. Multiscale modeling and time-scale analysis of a human limb. *Multiscale Modeling & Simulation*, 6(3):761–791, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [FKKL11] Konstantin Fackeldey, Dorian Krause, Rolf Krause, and Christoph Lenzen. Coupling molecular dynamics and continua with weak constraints. *Multiscale Modeling & Simulation*, 9(4):1459–1494, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1459_s1.
- [FKMW05] P. Fife, J. Klewicki, P. McCormury, and T. Wei. Multiscale in the presence of indeterminacy: Wall-induced turbulence. *Multiscale Modeling & Simulation*, 4(3):936–959, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61117>.
- [FLR11] Klaus Frick, Dirk A. Lorenz, and Elena Resmerita. Morozov’s Principle for the augmented Lagrangian method applied to linear inverse problems. *Multiscale Modeling & Simulation*, 9(4):1528–1548, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1528_s1.
- [FM03] Stathis Filippas and George N. Makrakis. Semiclassical Wigner

- function and geometrical optics. *Multiscale Modeling & Simulation*, 1(4):674–710, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40979>.
- [FMKS06] Maria G. Fyta, Simone Melchionna, Efthimios Kaxiras, and Sauro Succi. Multiscale coupling of molecular dynamics and hydrodynamics: Application to DNA translocation through a nanopore. *Multiscale Modeling & Simulation*, 5(4):1156–1173, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [FMQ05] Miguel Ángel Fernández, Vuk Milisic, and Alfio Quarteroni. Analysis of a geometrical multiscale blood flow model based on the coupling of ODEs and hyperbolic PDEs. *Multiscale Modeling & Simulation*, 4(1):215–236, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60201>.
- [FMTV05] Leopoldo P. Franca, Alexandre L. Madureira, Lutz Tobiska, and Frédéric Valentin. Convergence analysis of a multiscale finite element method for singularly perturbed problems. *Multiscale Modeling & Simulation*, 4(3):839–866, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60849>.
- [FN03] Jean-Pierre Fouque and André Nachbin. Time-reversed refocusing of surface water waves. *Multiscale Modeling & Simulation*, 1(4):609–629, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41211>.
- [FPSS03] Jean-Pierre Fouque, George Papanicolaou, Ronnie Sircar, and Knut Solna. Multiscale stochastic volatility asymptotics. *Multiscale Modeling & Simulation*, 2(1):22–42, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60029>.
- [FS03] J.-P. Fouque and K. Solna. Time-reversal aperture enhancement. *Multiscale Modeling & Simulation*, 1(2):239–259, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41444>.

- Fannjiang:2005:PTR**
- [FS05] Albert C. Fannjiang and Knut Solna. Propagation and time reversal of wave beams in atmospheric turbulence. *Multiscale Modeling & Simulation*, 3(3):522–558, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60159>.
- Fouque:2009:MMD**
- [FSS09] Jean-Pierre Fouque, Ronnie Sircar, and Knut Solna. Multi-name and multiscale default modeling. *Multiscale Modeling & Simulation*, 7(4):1956–1978, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Fitzpatrick:2011:RWS**
- [FYW11] Ben G. Fitzpatrick, G. Yin, and Le Yi Wang. Robustness, weak stability, and stability in distribution of adaptive filtering algorithms under model mismatch. *Multiscale Modeling & Simulation*, 9(1):183–207, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsub/v9/i1/p183-207>.
- Forest:2005:KSS**
- [FZW05] M. Gregory Forest, Ruhai Zhou, and Qi Wang. Kinetic structure simulations of nematic polymers in plane Couette cells. II: In-plane structure transitions. *Multiscale Modeling & Simulation*, 4(4):1280–1304, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61818>.
- Forest:2007:MMS**
- [FZW07] M. Gregory Forest, Ruhai Zhou, and Qi Wang. Microscopic-macroscopic simulations of rigid-rod polymer hydrodynamics: Heterogeneity and rheochaos. *Multiscale Modeling & Simulation*, 6(3):858–878, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Guisset:2017:AMM**
- [GABD17] S. Guisset, D. Aregba, S. Brull, and B. Dubroca. The M_1 angular moments model in a velocity-adaptive frame for rarefied gas dynamics applications. *Multiscale Modeling & Simulation*, 15(4):1719–1747, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Ganguly:2015:JDA**
- [GAK15] Arnab Ganguly, Derya Altintan, and Heinz Koepl. Jump-diffusion approximation of stochastic reaction dynamics: Error bounds and algorithms. *Multiscale Modeling & Simulation*, 13(4):1390–1419, 2015. CODEN MMSUBT.

ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2005:IRL

- [Gar05] Josselin Garnier. Imaging in randomly layered media by cross-correlating noisy signals. *Multiscale Modeling & Simulation*, 4(2):610–640, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61322>.

Granero-Belinchon:2017:MRT

- [GBS17] Rafael Granero-Belinchón and Steve Shkoller. A model for Rayleigh–Taylor mixing and interface turnover. *Multiscale Modeling & Simulation*, 15(1):274–308, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Galvis:2010:DDPa

- [GE10a] Juan Galvis and Yalchin Efendiev. Domain decomposition preconditioners for multiscale flows in high-contrast media. *Multiscale Modeling & Simulation*, 8(4):1461–1483, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Galvis:2010:DDPb

- [GE10b] Juan Galvis and Yalchin Efendiev. Domain decomposition preconditioners for multiscale flows in high contrast media: Reduced dimension coarse

spaces. *Multiscale Modeling & Simulation*, 8(5):1621–1644, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1621_s1.

Gammack:2005:UIR

- [GGM⁺05] David Gammack, Suman Ganguli, Simeone Marino, Jose Segovia-Juarez, and Denise E. Kirschner. Understanding the immune response in tuberculosis using different mathematical models and biological scales. *Multiscale Modeling & Simulation*, 3(2):312–345, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60312>.

Garnier:2007:EBS

- [GGN07] Josselin Garnier, Juan Carlos Muñoz Grajales, and André Nachbin. Effective behavior of solitary waves over random topography. *Multiscale Modeling & Simulation*, 6(3):995–1025, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Grasedyck:2012:ABS

- [GGS12] L. Grasedyck, I. Greff, and S. Sauter. The AL basis for the solution of elliptic problems in heterogeneous media. *Multiscale Modeling & Simulation*, 10(1):245–258, 2012. CO-

DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Grafke:2014:APH

- [GGSVE14] T. Grafke, R. Grauer, T. Schäfer, and E. Vanden-Eijnden. Arclength parametrized Hamilton's equations for the calculation of instantons. *Multiscale Modeling & Simulation*, 12(2):566–580, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Glantz:2011:CDT

- [GH11] Roland Glantz and Markus Hilpert. Capillary displacement in totally wetting and infinitely long right prisms. *Multiscale Modeling & Simulation*, 9(4):1765–1800, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1765_s1.

Guerrier:2015:STS

- [GH15] C. Guerrier and D. Holcman. Search time for a small ribbon and application to vesicular release at neuronal synapses. *Multiscale Modeling & Simulation*, 13(4):1173–1193, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Gilles:2012:MTS

- [Gil12] Jérôme Gilles. Multiscale texture separation. *Multiscale*

Modeling & Simulation, 10(4):1409–1427, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Givon:2007:SCR

- [Giv07] Dror Givon. Strong convergence rate for two-time-scale jump-diffusion stochastic differential systems. *Multiscale Modeling & Simulation*, 6(2):577–594, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Glimm:2003:TPN

- [GJL+03] James Glimm., Hyeonseong Jin, Marc Laforest, Folkert Tangerman, and Yongmin Zhang. A two pressure numerical model of two fluid mixing. *Multiscale Modeling & Simulation*, 1(3):458–484, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40846>.

Givon:2008:MIS

[GK08] Dror Givon and Ioannis G. Kevrekidis. Multiscale integration schemes for jump-diffusion systems. *Multiscale Modeling & Simulation*, 7(2):495–516, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Griebel:2010:HNS

[GK10] M. Griebel and M. Klitz. Homogenization and numerical

- simulation of flow in geometries with textile microstructures. *Multiscale Modeling & Simulation*, 8(4):1439–1460, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GKP⁺14] Benjamin Ganis, Kundan Kumar, Gergina Pencheva, Mary F. Wheeler, and Ivan Yotov. A global Jacobian method for mortar discretizations of a fully implicit two-phase flow model. *Multiscale Modeling & Simulation*, 12(4):1401–1423, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GLM13] **Ganis:2014:GJM** Benjamin Ganis, Kundan Kumar, Gergina Pencheva, Mary F. Wheeler, and Ivan Yotov. A global Jacobian method for mortar discretizations of a fully implicit two-phase flow model. *Multiscale Modeling & Simulation*, 11(3):925–942, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GLM15] **Gunzburger:2010:NVC** Max Gunzburger and R. B. Lehoucq. A nonlocal vector calculus with application to nonlocal boundary value problems. *Multiscale Modeling & Simulation*, 8(5):1581–1598, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1581_s1.
- [GLG05] **Godillon-Lafitte:2005:CMR** Pauline Godillon-Lafitte and Thierry Goudon. A coupled model for radiative transfer: Doppler effects, equilibrium, and nonequilibrium diffusion asymptotics. *Multiscale Modeling & Simulation*, 4(4):1245–1279, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms-bin/dbq/article/62104>.
- [Glo06] **Glosser:2013:VTF** Ingenuin Gasser, Corrado Lattanzio, and Amelio Maurizi. Vehicular traffic flow dynamics on a bus route. *Multiscale Modeling & Simulation*, 11(3):925–942, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Glo08] **Grooms:2015:NSS** Ian Grooms, Yoonsang Lee, and Andrew J. Majda. Numerical schemes for stochastic backscatter in the inverse cascade of quasigeostrophic turbulence. *Multiscale Modeling & Simulation*, 13(3):1001–1021, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Glo08] **Gloria:2006:AFN** Antoine Gloria. An analytical framework for the numerical homogenization of monotone elliptic operators and quasiconvex energies. *Multiscale Modeling & Simulation*, 5(3):996–1043, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Glo08] **Gloria:2008:AFN** Antoine Gloria. An analytical framework for numerical homogenization. Part II: Window-

- ing and oversampling. *Multiscale Modeling & Simulation*, 7(1):274–293, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gu:2016:SLF**
- [GM16] Yu Gu and Jean-Christophe Mourrat. Scaling limit of fluctuations in stochastic homogenization. *Multiscale Modeling & Simulation*, 14(1):452–481, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gottwald:2017:OBA**
- [GMO17] Georg A. Gottwald, Haidar Mohamad, and Marcel Oliver. Optimal balance via adiabatic invariance of approximate slow manifolds. *Multiscale Modeling & Simulation*, 15(4):1404–1422, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Ginting:2010:NMS**
- [GMP10] Victor Ginting, Axel Målqvist, and Michael Presho. A novel method for solving multiscale elliptic problems with randomly perturbed data. *Multiscale Modeling & Simulation*, 8(3):977–996, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gaison:2014:APF**
- [GMWZ14] Jeremy Gaison, Shari Moskow, J. Douglas Wright, and Qimin Zhang. Approximation of polyatomic FPU lattices by KdV equations. *Multiscale Modeling & Simulation*, 12(3):953–995, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Grajales:2005:SMF**
- [GN05] Juan Carlos Muñoz Grajales and André Nachbin. Stiff microscale forcing and solitary wave refocusing. *Multiscale Modeling & Simulation*, 3(3):680–705, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60269>.
- Goussis:2006:MRP**
- [GN06] Dimitris A. Goussis and Habib N. Najm. Model reduction and physical understanding of slowly oscillating processes: The circadian cycle. *Multiscale Modeling & Simulation*, 5(4):1297–1332, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gorb:2012:BSL**
- [GN12] Yuliya Gorb and Alexei Novikov. Blow-up of solutions to a p -Laplace equation. *Multiscale Modeling & Simulation*, 10(3):727–743, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [GO07] **Gilboa:2007:NLI**
 Guy Gilboa and Stanley Osher. Nonlocal linear image regularization and supervised segmentation. *Multiscale Modeling & Simulation*, 6(2):595–630, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GO09] **Gilboa:2009:NOA**
 Guy Gilboa and Stanley Osher. Nonlocal operators with applications to image processing. *Multiscale Modeling & Simulation*, 7(3):1005–1028, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Gom09] **Gomez:2009:TRS**
 Christophe Gomez. Time-reversal superresolution in random waveguides. *Multiscale Modeling & Simulation*, 7(3):1348–1386, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Gor15] **Gorb:2015:SBE**
 Yuliya Gorb. Singular behavior of electric field of high-contrast concentrated composites. *Multiscale Modeling & Simulation*, 13(4):1312–1326, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Gos14] **Gosse:2014:RPN**
 Laurent Gosse. Redheffer products and numerical approximation of currents in one-dimensional semiconductor kinetic models. *Multiscale Modeling & Simulation*, 12(4):1533–1560, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GP11] **Goudon:2011:SHR**
 Thierry Goudon and Martin Parisot. On the Spitzer–Härm regime and nonlocal approximations: Modeling, analysis, and numerical simulations. *Multiscale Modeling & Simulation*, 9(2):568–600, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p568_s1.
- [GP17] **Gallistl:2017:CQL**
 D. Gallistl and D. Peterseim. Computation of quasi-local effective diffusion tensors and connections to the mathematical theory of homogenization. *Multiscale Modeling & Simulation*, 15(4):1530–1552, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [GPK12] **Goddard:2012:OLD**
 B. D. Goddard, G. A. Pavliotis, and S. Kalliadasis. The overdamped limit of dynamic density functional theory: Rigorous results. *Multiscale Modeling & Simulation*, 10(2):633–663, 2012. CODEN MM-

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gonzalez:2017:AVR**
- [GPP⁺17] O. Gonzalez, M. Pasi, D. Petkeviciute, J. Glowacki, and J. H. Maddocks. Absolute versus relative entropy parameter estimation in a coarse-grain model of DNA. *Multiscale Modeling & Simulation*, 15(3):1073–1107, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GR07]
- Gomez:2017:RTL**
- [GPR17] Christophe Gomez, Olivier Pinard, and Lenya Ryzhik. Radiative transfer with long-range interactions: Regularity and asymptotics. *Multiscale Modeling & Simulation*, 15(2):1048–1072, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GR16]
- Ganis:2012:FJM**
- [GPW⁺12] Benjamin Ganis, Gergina Pencheva, Mary F. Wheeler, Tim Wildey, and Ivan Yotov. A frozen Jacobian multiscale mortar preconditioner for nonlinear interface operators. *Multiscale Modeling & Simulation*, 10(3):853–873, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GR17]
- Garnier:2013:ASD**
- [GPY13] Josselin Garnier, George Panicolaou, and Tzu-Wei Yang. Anomalous shock displacement probabilities for a perturbed scalar conservation law. *Multiscale Modeling & Simulation*, 11(4):1000–1032, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gousseau:2007:MOS**
- Yann Gousseau and François Roueff. Modeling occlusion and scaling in natural images. *Multiscale Modeling & Simulation*, 6(1):105–134, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gu:2016:RSE**
- Yu Gu and Lenya Ryzhik. The random Schrödinger equation: Homogenization in time-dependent potentials. *Multiscale Modeling & Simulation*, 14(1):323–363, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Gardner:2017:FIM**
- David J. Gardner and Daniel R. Reynolds. Filters for improvement of multiscale data from atomistic simulations. *Multiscale Modeling & Simulation*, 15(1):1–28, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Garnier:2009:PCE**
- [GS09a] Josselin Garnier and Knut Sølna. Paraxial coupling of

electromagnetic waves in random media. *Multiscale Modeling & Simulation*, 7(4):1928–1955, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2009:PPR

[GS09b] Josselin Garnier and Knut Sølna. Pulse propagation in random media with long-range correlation. *Multiscale Modeling & Simulation*, 7(3):1302–1324, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2010:WTT

[GS10] Josselin Garnier and Knut Sølna. Wave transmission through random layering with pressure release boundary conditions. *Multiscale Modeling & Simulation*, 8(3):912–943, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2012:CWW

[GS12] Josselin Garnier and Knut Sølna. Coupled wideangle wave approximations. *Multiscale Modeling & Simulation*, 10(1):217–244, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Guilleminot:2013:SMG

[GS13] J. Guilleminot and C. Soize. Stochastic model and generator for random fields with symmetry properties: Application to the mesoscopic modeling of

elastic random media. *Multiscale Modeling & Simulation*, 11(3):840–870, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2014:WBP

[GS14] Josselin Garnier and Knut Sølna. Wave backscattering by point scatterers in the random paraxial regime. *Multiscale Modeling & Simulation*, 12(3):1309–1334, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Garnier:2015:WNP

[GS15] Josselin Garnier and Knut Sølna. White-noise paraxial approximation for a general random hyperbolic system. *Multiscale Modeling & Simulation*, 13(3):1022–1060, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Gudiño:2017:MBC

[GS17] Elías Gudiño and Adélia Sequeira. Multiscale boundary conditions for drug dissolution applied to coronary stents. *Multiscale Modeling & Simulation*, 15(4):1748–1767, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Goel:2006:HCC

[GSF06] Pranay Goel, James Sneyd, and Avner Friedman. Ho-

- mogenization of the cell cytoplasm: The calcium bidomain equations. *Multiscale Modeling & Simulation*, 5(4):1045–1062, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GW05]
- [GSF09] Pranay Goel, Arthur Sherman, and Avner Friedman. Multiscale modeling of electrical and intracellular activity in the pancreas: The islet tridomain equations. *Multiscale Modeling & Simulation*, 7(4):1609–1642, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GZ06]
- [GST14] Zheng Gong, Zuwei Shen, and Kim-Chuan Toh. Image restoration with mixed or unknown noises. *Multiscale Modeling & Simulation*, 12(2):458–487, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [GZ10]
- [GT17] Pavel Gurevich and Sergey Tikhomirov. Rattling in spatially discrete diffusion equations with hysteresis. *Multiscale Modeling & Simulation*, 15(3):1176–1197, ??? 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Had07]
- [Golowich:2005:SRM] S. E. Golowich and M. I. Weinstein. Scattering resonances of microstructures and homogenization theory. *Multiscale Modeling & Simulation*, 3(3):477–521, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60085>.
- [Gu:2006:CMM] Y. T. Gu and L. C. Zhang. A concurrent multiscale method based on the meshfree method and molecular dynamics analysis. *Multiscale Modeling & Simulation*, 5(4):1128–1155, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Gunzburger:2010:QRT] Max Gunzburger and Yanzhi Zhang. A quadrature-rule type approximation to the quasi-continuum method. *Multiscale Modeling & Simulation*, 8(2):571–590, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Haddad:2007:TSM] A. Haddad. Texture separation $BV - G$ and $BV - L^1$ models. *Multiscale Modeling & Simulation*, 6(1):273–286, ??? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [HB05] **Hassen:2005:AFV**
M. F. Ben Hassen and E. Bonnetier. Asymptotic formulas for the voltage potential in a composite medium containing close or touching disks of small diameter. *Multiscale Modeling & Simulation*, 4(1):250–277, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60208>.
- [HDL08] **Huang:2014:GRM**
Jizu Huang and Liqun Cao. Global regularity and multiscale approach for thermal radiation heat transfer. *Multiscale Modeling & Simulation*, 12(2):694–724, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HCY12] **Huang:2012:MDC**
Jizu Huang, Liqun Cao, and Sam Yang. A molecular dynamics-continuum coupled model for heat transfer in composite materials. *Multiscale Modeling & Simulation*, 10(4):1292–1316, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HDFS06] **Horenko:2006:AMR**
Illia Horenko, Evelyn Dittmer, Alexander Fischer, and Christof Schütte. Automated model reduction for complex systems exhibiting metastability. *Multiscale Modeling & Simulation*, 5(3):802–827, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HDL08] **Hyon:2008:EMC**
YunKyong Hyon, Qiang Du, and Chun Liu. An enhanced macroscopic closure approximation to the micro-macro FENE model for polymeric materials. *Multiscale Modeling & Simulation*, 7(2):978–1002, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HFOC05] **Hayes:2005:PDN**
Robin L. Hayes, Matt Fago, Michael Ortiz, and Emily A. Carter. Prediction of dislocation nucleation during nanoindentation by the orbital-free density functional theory local quasi-continuum method. *Multiscale Modeling & Simulation*, 4(2):359–389, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61586>. See erratum [HFOC08].
- [HFOC08] **Hayes:2008:EPD**
Robin L. Hayes, Matthew Fago, Michael Ortiz, and Emily A. Carter. Erratum: Prediction of dislocation nucleation during nanoindentation by the orbital-free density functional theory local quasi-continuum method. *Multiscale Modeling & Simulation*, 7(2):1003, 2008. CO-

DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See [HFOC05].

Helmert:2013:IDD

[HH13] Michael Helmers and Michael Herrmann. Interface dynamics in discrete forward-backward diffusion equations. *Multiscale Modeling & Simulation*, 11(4): 1261–1297, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hellander:2012:CMM

[HHL12] Andreas Hellander, Stefan Hellander, and Per Lötstedt. Coupled mesoscopic and microscopic simulation of stochastic reaction-diffusion processes in mixed dimensions. *Multiscale Modeling & Simulation*, 10(2): 585–611, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hofer:2012:DSD

[HI12] M. A. Hofer and B. Ilan. Dark solitons, dispersive shock waves, and transverse instabilities. *Multiscale Modeling & Simulation*, 10(2):306–341, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Huang:2008:NSN

[HJMS08] Zhongyi Huang, Shi Jin, Peter A. Markowich, and Christof Sparber. Numerical simulation of the nonlinear Schrödinger

equation with multidimensional periodic potentials. *Multiscale Modeling & Simulation*, 7(2): 539–564, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hausser:2007:SFM

[HJV07] Frank Hauser, Michel E. Jabbour, and Axel Voigt. A step-flow model for the heteroepitaxial growth of strained, substitutional, binary alloy films with phase segregation: I. Theory. *Multiscale Modeling & Simulation*, 6(1):158–189, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hou:2005:SSM

[HK05] Thomas Hou and Petros Koumoutsakos. Special section on multiscale modeling in materials and life sciences. *Multiscale Modeling & Simulation*, 4(1): 213–214, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/97418>.

Horenko:2008:AGR

[HKDS08] Illia Horenko, Rupert Klein, Stamen Dolapchiev, and Christof Schütte. Automated generation of reduced stochastic weather models I: Simultaneous dimension and model reduction for time series analysis. *Multiscale Modeling & Simulation*, 6(4): 1125–1145, 2008. CO-

- DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [HL10a]
- Hamzi:2005:CCD**
- [HKK05] Boumediene Hamzi, Wei Kang, and Arthur J. Krener. The controlled center dynamics. *Multiscale Modeling & Simulation*, 3(4):838–852, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60313>.
- Henshaw:2003:NEI**
- [HKY03] William D. Henshaw, Heinz-Otto Kreiss, and Jacob Yström. Numerical experiments on the interaction between the large- and small-scale motions of the Navier–Stokes equations. *Multiscale Modeling & Simulation*, 1(1):119–149, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40624>. [HL17]
- Hauck:2009:TRE**
- [HL09] Cory D. Hauck and Robert B. Lowrie. Temporal regularization of the P_N equations. *Multiscale Modeling & Simulation*, 7(4):1497–1524, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Hellander:2010:IAT**
- Andreas Hellander and Per Lötstedt. Incorporating active transport of cellular cargo in stochastic mesoscopic models of living cells. *Multiscale Modeling & Simulation*, 8(5):1691–1714, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1691_s1.
- Huang:2010:TSM**
- [HL10b] Kai Huang and Peijun Li. A two-scale multiple scattering problem. *Multiscale Modeling & Simulation*, 8(4):1511–1534, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Hu:2017:EMP**
- Qiya Hu and Xuan Li. Efficient multilevel preconditioners for three-dimensional plane wave Helmholtz systems with large wave numbers. *Multiscale Modeling & Simulation*, 15(3):1242–1266, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Hou:2017:ELL**
- [HLZ17a] Thomas Y. Hou, Qin Li, and Pengchuan Zhang. Exploring the locally low dimensional structure in solving random elliptic PDEs. *Multiscale Modeling & Simulation*, 15(2):661–695, 2017. CODEN MM-

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HLZ17b] Thomas Y. Hou, Qin Li, and Pengchuan Zhang. A sparse decomposition of low rank symmetric positive semidefinite matrices. *Multiscale Modeling & Simulation*, 15(1):410–444, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HMP17] Matthew Hirn, Stéphane Mallat, and Nicolas Poilvert. Wavelet scattering regression of quantum chemical energies. *Multiscale Modeling & Simulation*, 15(2):827–863, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HM13a] John Harlim and Andrew J. Majda. Test models for filtering with superparameterization. *Multiscale Modeling & Simulation*, 11(1):282–308, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HMS14] Guanghui Hu, Andrea Mantile, and Mourad Sini. Direct and inverse acoustic scattering by a collection of extended and point-like scatterers. *Multiscale Modeling & Simulation*, 12(3):996–1027, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HM13b] Cory D. Hauck and Ryan G. McClarren. A collision-based hybrid method for time-dependent, linear, kinetic transport equations. *Multiscale Modeling & Simulation*, 11(4):1197–1227, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HMT08] Marc A. Hesse, Bradley T. Mallison, and Hamdi A. Tchelepi. Compact multiscale finite volume method for heterogeneous anisotropic elliptic equations. *Multiscale Modeling & Simulation*, 7(2):934–962, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HM17] Fredrik Hellman and Axel Målqvist. Contrast independent localization of multiscale problems. *Multiscale Modeling & Simulation*, 15(4):1325–1355, 2017. CODEN MMSUBT.
- [HNV12] Michael Herrmann, Barbara Niethammer, and Juan J. L. Velázquez. Kramers and non-Kramers phase transitions in

- many-particle systems with dynamical constraint. *Multiscale Modeling & Simulation*, 10(3):818–852, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HNW08] Yumei Huang, Michael K. Ng, and You-Wei Wen. A fast total variation minimization method for image restoration. *Multiscale Modeling & Simulation*, 7(2):774–795, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HOS14] **Huang:2008:FTV**
Patrick Henning, Mario Ohlberger, and Ben Schweizer. An adaptive multiscale finite element method. *Multiscale Modeling & Simulation*, 12(3):1078–1107, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HP13] **Henning:2013:OMF**
Patrick Henning and Daniel Peterseim. Oversampling for the multiscale finite element method. *Multiscale Modeling & Simulation*, 11(4):1149–1175, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Hoang09] **Hoang:2009:SFE**
Viet Ha Hoang. Sparse finite element method for periodic multiscale nonlinear monotone problems. *Multiscale Modeling & Simulation*, 7(3):1042–1072, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HP15] **Harouna:2015:DFW**
Souleymane Kadri Harouna and Valérie Perrier. Divergence-free wavelet projection method for incompressible viscous flow on the square. *Multiscale Modeling & Simulation*, 13(1):399–422, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Hor11] **Horenko:2011:ANC**
Illia Horenko. On analysis of nonstationary categorical data time series: Dynamical dimension reduction, model selection, and applications to computational sociology. *Multiscale Modeling & Simulation*, 9(4):1700–1726, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i4/p1700_s1.
- [HPČ⁺09] **Hao:2009:FCI**
Jian Hao, Tsorng-Whay Pan, Sunčica Čanić, Roland Glowinski, and Doreen Rosenstrauch. A fluid-cell interaction and adhesion algorithm for tissue coating of cardiovascular implants. *Multiscale Modeling & Simulation*, 7(4):1669–1694, 2009.

2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [HS10]
- [HPV15] Christopher Harder, Diego Paredes, and Frédéric Valentin. On a multiscale hybrid-mixed method for advective-reactive dominated problems with heterogeneous coefficients. *Multiscale Modeling & Simulation*, 13(2):491–518, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [HS05] Viet Ha Hoang and Christoph Schwab. High-dimensional finite elements for elliptic problems with multiple scales. *Multiscale Modeling & Simulation*, 3(1):168–194, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60107>. [HS14]
- [HS08] Illia Horenko and Christof Schütte. Likelihood-based estimation of multidimensional Langevin models and its application to biomolecular dynamics. *Multiscale Modeling & Simulation*, 7(2):731–773, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [HT17]
- [Horenko:2010:MCA] Illia Horenko and Christof Schütte. On metastable conformational analysis of nonequilibrium biomolecular time series. *Multiscale Modeling & Simulation*, 8(2):701–716, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Holcman:2012:BMD] D. Holcman and Z. Schuss. Brownian motion in dire straits. *Multiscale Modeling & Simulation*, 10(4):1204–1231, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Holcman:2014:OSP] D. Holcman and Z. Schuss. Oscillatory survival probability and eigenvalues of the non-self-adjoint Fokker–Planck operator. *Multiscale Modeling & Simulation*, 12(3):1294–1308, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Helzel:2017:KMS] Christiane Helzel and Athanasios E. Tzavaras. A kinetic model for the sedimentation of rod-like particles. *Multiscale Modeling & Simulation*, 15(1):500–536, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hutter:2003:SCS

- [Hüt03] Markus Hütter. Solidification in closed systems: Cluster size distribution and its driving force. *Multiscale Modeling & Simulation*, 1(3):371–390, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41610>.

Hartmann:2010:BTL

- [HVS10] Carsten Hartmann, Valentina-Mira Vulcanov, and Christof Schütte. Balanced truncation of linear second-order systems: a Hamiltonian approach. *Multiscale Modeling & Simulation*, 8(4):1348–1367, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Henn:2005:IRB

- [HW05] Stefan Henn and Kristian Witsch. Image registration based on multiscale energy information. *Multiscale Modeling & Simulation*, 4(2):584–609, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60419>.

Hu:2013:CPA

- [HWW⁺13] Xiaozhe Hu, Shuhong Wu, Xiao-Hui Wu, Jinchao Xu, Chen-Song Zhang, Shiquan Zhang, and Ludmil Zikatanov. Combined preconditioning with

applications in reservoir simulation. *Multiscale Modeling & Simulation*, 11(2):507–521, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hou:2006:FMS

- [HWY06] Thomas Y. Hou, Andrew Westhead, and Danping Yang. A framework for modeling subgrid effects for two-phase flows in porous media. *Multiscale Modeling & Simulation*, 5(4):1087–1127, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hou:2008:MAC

- [HYR08] Thomas Y. Hou, Danping Yang, and Hongyu Ran. Multiscale analysis and computation for the three-dimensional incompressible Navier–Stokes equations. *Multiscale Modeling & Simulation*, 6(4):1317–1346, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Hesthaven:2014:HOM

- [HZZ14] Jan S. Hesthaven, Shun Zhang, and Xueyu Zhu. High-order multiscale finite element method for elliptic problems. *Multiscale Modeling & Simulation*, 12(2):650–666, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [HZZ15] **Hesthaven:2015:RBM**
 Jan S. Hesthaven, Shun Zhang, and Xueyu Zhu. Reduced basis multiscale finite element methods for elliptic problems. *Multiscale Modeling & Simulation*, 13(1):316–337, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [IHM09] **Intep:2009:SDM**
 Somkid Intep, Desmond J. Higham, and Xuerong Mao. Switching and diffusion models for gene regulation networks. *Multiscale Modeling & Simulation*, 8(1):30–45, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ILW11] **Iliev:2011:VMF**
 O. Iliev, R. Lazarov, and J. Willems. Variational multiscale finite element method for flows in highly porous media. *Multiscale Modeling & Simulation*, 9(4):1350–1372, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1350_s1.
- [IMP08] **Iliev:2008:UCF**
 Oleg Iliev, Andro Mikelić, and Peter Popov. On upscaling certain flows in deformable porous media. *Multiscale Modeling & Simulation*, 7(1):93–123, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [IW10] **Ilan:2010:BES**
 B. Ilan and M. I. Weinstein. Band-edge solitons, nonlinear Schrödinger/Gross–Pitaevskii equations, and effective media. *Multiscale Modeling & Simulation*, 8(4):1055–1101, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [IZ12] **Iyer:2012:NSH**
 Gautam Iyer and Konstantinos C. Zygalakis. Numerical studies of homogenization under a fast cellular flow. *Multiscale Modeling & Simulation*, 10(3):1046–1058, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Jah11] **Jahnke:2011:RMC**
 Tobias Jahnke. On reduced models for the chemical master equation. *Multiscale Modeling & Simulation*, 9(4):1646–1676, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1646_s1.
- [JC13] **Joseph:2013:ARB**
 L. M. Joseph and R. V. Craster. Asymptotics for Rayleigh–Bloch waves along lattice line defects. *Multiscale Modeling & Simulation*, 11(3):871–889,

- ???? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jiang:2012:EMM**
- [JCM12] L. Jiang, D. Copeland, and J. D. Moulton. Expanded mixed multiscale finite element methods and their applications for flows in porous media. *Multiscale Modeling & Simulation*, 10(2):418–450, ??? 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jankovic:2003:ECI**
- [JFD03] Igor Jankovic, Aldo Fiori, and Gedeon Dagan. Effective conductivity of an isotropic heterogeneous medium of lognormal conductivity distribution. *Multiscale Modeling & Simulation*, 1(1):40–56, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40963>.
- Jefferis:2015:GBM**
- [JJ15] Leland Jefferis and Shi Jin. A Gaussian beam method for high frequency solution of symmetric hyperbolic systems with polarized waves. *Multiscale Modeling & Simulation*, 13(3):733–765, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jahnke:2012:EBP**
- [JK12] Tobias Jahnke and Michael Kreim. Error bound for piecewise deterministic processes modeling stochastic reaction systems. *Multiscale Modeling & Simulation*, 10(4):1119–1147, ??? 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jia:2005:PTD**
- [JL05a] Zhidong Jia and Benedict J. Leimkuhler. A projective thermostating dynamics technique. *Multiscale Modeling & Simulation*, 4(2):563–583, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60386>.
- Jonsson:2005:ESM**
- [JL05b] Henrik Jönsson and Andre Levchenko. An explicit spatial model of yeast microcolony growth. *Multiscale Modeling & Simulation*, 3(2):346–361, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60325>.
- Jin:2017:APS**
- [JL17] Shi Jin and Liu Liu. An asymptotic-preserving stochastic Galerkin method for the semiconductor Boltzmann equation with random inputs and diffusive scalings. *Multiscale Modeling & Simulation*, 15(1):157–183, ??? 2017. CODEN MMSUBT. ISSN 1540-

- 3459 (print), 1540-3467 (electronic).
- Jenny:2004:AMF**
- [JLT04] P. Jenny, S. H. Lee, and H. A. Tchelepi. Adaptive multiscale finite-volume method for multiphase flow and transport in porous media. *Multiscale Modeling & Simulation*, 3(1):50–64, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60079>.
- Jiang:2016:SOT**
- [JLW16] Yuchen Jiang, Ruo Li, and Shuonan Wu. A second order time homogenized model for sediment transport. *Multiscale Modeling & Simulation*, 14(3):965–996, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jiang:2014:HHM**
- [JMW14] Lijian Jiang, J. David Moulton, and Jia Wei. A hybrid HDMR for mixed multiscale finite element methods with application to flows in random porous media. *Multiscale Modeling & Simulation*, 12(1):119–151, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jin:2006:STM**
- [JN06] Shi Jin and Kyle A. Novak. A semiclassical transport model for thin quantum barriers. *Multiscale Modeling & Simulation*, 5(4):1063–1086, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jiang:2012:RST**
- [JP12] L. Jiang and M. Presho. A resourceful splitting technique with applications to deterministic and stochastic multiscale finite element methods. *Multiscale Modeling & Simulation*, 10(3):954–985, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jin:2011:ESH**
- [JQZ11] Shi Jin, Peng Qi, and Zhiwen Zhang. An Eulerian surface hopping method for the Schrödinger equation with conical crossings. *Multiscale Modeling & Simulation*, 9(1):258–281, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p258_s1.
- Jarman:2003:EME**
- [JR03] Kenneth D. Jarman and Thomas F. Russell. Eulerian moment equations for 2-D stochastic immiscible flow. *Multiscale Modeling & Simulation*, 1(4):598–608, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41317>.

- Jiang:2017:EHO**
- [JRX17] Shidong Jiang, Manas Rachh, and Yang Xiang. An efficient high order method for dislocation climb in two dimensions. *Multiscale Modeling & Simulation*, 15(1):235–253, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jabin:2010:CBN**
- [JS10] Pierre-Emmanuel Jabin and Juan Soler. A coupled Boltzmann and Navier–Stokes fragmentation model induced by a fluid-particle-spring interaction. *Multiscale Modeling & Simulation*, 8(4):1244–1268, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Joubaud:2012:NSV**
- [JS12] Rémi Joubaud and Gabriel Stoltz. Nonequilibrium shear viscosity computations with Langevin dynamics. *Multiscale Modeling & Simulation*, 10(1):191–216, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See erratum [JS13].
- Joubaud:2013:ENS**
- [JS13] Rémi Joubaud and Gabriel Stoltz. Erratum: Nonequilibrium shear viscosity computations with Langevin dynamics. *Multiscale Modeling & Simulation*, 11(1):411–414, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See [JS12].
- Joly:2006:MAE**
- [JT06] Patrick Joly and Sébastien Tordeux. Matching of asymptotic expansions for wave propagation in media with thin slots I: The asymptotic expansion. *Multiscale Modeling & Simulation*, 5(1):304–336, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jiang:2014:HQS**
- [JZ14] Xue Jiang and Weiyang Zheng. Homogenization of quasi-static Maxwell’s equations. *Multiscale Modeling & Simulation*, 12(1):152–180, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Jia:2011:RMI**
- [JZZ11] Rong-Qing Jia, Hanqing Zhao, and Wei Zhao. Relaxation methods for image denoising based on difference schemes. *Multiscale Modeling & Simulation*, 9(1):355–372, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i1/p355_s1.
- Karagiannis:2005:NSS**
- [KAO05] D. Karagiannis, A. Astolfi, and R. Ortega. Nonlinear stabilization via system immersion

- and manifold invariance: Survey and new results. *Multiscale Modeling & Simulation*, 3(4): 801–817, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60318>.
- [KB11] **Koutsourelakis:2011:SBR** [KC15] Phaedon-Stelios Koutsourelakis and Elias Bilonis. Scalable Bayesian reduced-order models for simulating high-dimensional multiscale dynamical systems. *Multiscale Modeling & Simulation*, 9(1):449–485, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p449_s1. [KCH03]
- [KB16] **Korneev:2016:SHR** Svyatoslav Korneev and Ilenia Battiato. Sequential homogenization of reactive transport in polydisperse porous media. *Multiscale Modeling & Simulation*, 14(4):1301–1318, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [KD05]
- [KBP⁺11] **Kervrann:2011:MND** Charles Kervrann, Jérôme Boulanger, Thierry Pécot, Patrick Pérez, and Jean Salamero. Multiscale neighborhoodwise decision fusion for redundancy detection in image pairs. *Multiscale Modeling & Simulation*, 9(4):1829–1865, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1829_s1.
- Kim:2015:BAE** Hyea Hyun Kim and Eric T. Chung. A BDDC algorithm with enriched coarse spaces for two-dimensional elliptic problems with oscillatory and high contrast coefficients. *Multiscale Modeling & Simulation*, 13(2): 571–593, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Koren:2003:DHG** Yehuda Koren, Liran Carmel, and David Harel. Drawing huge graphs by algebraic multigrid optimization. *Multiscale Modeling & Simulation*, 1(4): 645–673, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41370>.
- Kazantzis:2005:SCI** Nikolaos Kazantzis and Michael A. Demetriou. Singular control-invariance PDEs for nonlinear systems. *Multiscale Modeling & Simulation*, 3(4):731–748, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60321>.

- [KdL15] **Ketcheson:2015:DSW** David I. Ketcheson and Manuel Quezada **[KK05]** de Luna. Diffractons: Solitary waves created by diffraction in periodic media. *Multiscale Modeling & Simulation*, 13(1):440–458, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [KG13] **Kalmoun:2013:TRV** El Mostafa Kalmoun and Luis Garrido. Trust region versus line search for computing the optical flow. *Multiscale Modeling & Simulation*, 11(3):890–906, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [KIH15] **Kaiser:2015:SRA** Olga Kaiser, Dimitri Igdalov, and Illia Horenko. Statistical regression analysis of threshold excesses with systematically missing covariates. *Multiscale Modeling & Simulation*, 13(2):594–613, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [KJ16] **Karvounis:2016:AHF** D. C. Karvounis and P. Jenny. Adaptive hierarchical fracture model for enhanced geothermal systems. *Multiscale Modeling & Simulation*, 14(1):207–231, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Klosek:2005:MAS** M. M. Klosek and R. Kuske. Multiscale analysis of stochastic delay differential equations. *Multiscale Modeling & Simulation*, 3(3):706–729, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60137>.
- Kim:2014:TCF** Changho Kim and George Em Karniadakis. Time correlation functions of Brownian motion and evaluation of friction coefficient in the near-Brownian-limit regime. *Multiscale Modeling & Simulation*, 12(1):225–248, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Kim:2011:DPL** Arnold D. Kim and Miguel Moscoso. Diffusion of polarized light. *Multiscale Modeling & Simulation*, 9(4):1624–1645, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1624_s1.
- Knight:2006:IPH** Marina I. Knight and Guy P. Nason. Improving prediction of hydrophobic segments along a transmembrane protein sequence using adaptive multiscale lifting. *Multiscale Model-*
- [KK05]
- [KM11]
- [KN06]

- ing & Simulation*, 5(1):116–129, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [KR15]
- [KNR14] Tomasz Komorowski, Alexei Novikov, and Lenya Ryzhik. Homogenization driven by a fractional Brownian motion: The shear layer case. *Multiscale Modeling & Simulation*, 12(2):440–457, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [KRK17]
- [KJ05] Stefan Kindermann, Stanley Osher, and Peter W. Jones. Deblurring and denoising of images by nonlocal functionals. *Multiscale Modeling & Simulation*, 4(4):1091–1115, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62224>. [KS08a]
- [KPK13] S. Krumscheid, G. A. Pavliotis, and S. Kalliadasis. Semiparametric drift and diffusion estimation for multiscale diffusions. *Multiscale Modeling & Simulation*, 11(2):442–473, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [KS08b]
- [Kissling:2015:CNS] Frederike Kissling and Christian Rohde. The computation of nonclassical shock waves in porous media with a heterogeneous multiscale method: The multidimensional case. *Multiscale Modeling & Simulation*, 13(4):1507–1541, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Kim:2017:RSB] Jae Kyoung Kim, Grzegorz A. Rempala, and Hye-Won Kang. Reduction for stochastic biochemical reaction networks with multiscale conservations. *Multiscale Modeling & Simulation*, 15(4):1376–1403, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Kohn:2008:MHM] Robert V. Kohn and Stephen P. Shipman. Magnetism and homogenization of microresonators. *Multiscale Modeling & Simulation*, 7(1):62–92, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Kupferman:2008:OCC] Raz Kupferman and Yossi Shamai. Optimal choices of correlation operators in Brownian simulation methods. *Multiscale Modeling & Simulation*, 7(1):321–348, ????. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Kroger:2003:TMM**
- [KSH03] Martin Kröger, Igor Stankovic, and Siegfried Hess. Towards multiscale modeling of metals via embedded particle computer simulation. *Multiscale Modeling & Simulation*, 1(1):25–39, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40847>.
- Klar:2014:MMM**
- [KT14] A. Klar and S. Tiwari. A multiscale meshfree method for macroscopic approximations of interacting particle systems. *Multiscale Modeling & Simulation*, 12(3):1167–1192, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Krishnamurthy:2009:CFT**
- [KTY09] Vikram Krishnamurthy, Kevin Topley, and George Yin. Consensus formation in a two-time-scale Markovian system. *Multiscale Modeling & Simulation*, 7(4):1898–1927, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Kumar:2011:EDE**
- [KvNP11] K. Kumar, T. L. van Noorden, and I. S. Pop. Effective dispersion equations for reactive flows involving free boundaries at the microscale. *Multiscale Modeling & Simulation*, 9(1):29–58, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms-resource/1/mmsubt/v9/i1/p29_s1.
- Kim:2005:TDN**
- [KX05] Yongsam Kim and Jack Xin. A two-dimensional nonlinear nonlocal feed-forward cochlear model and time domain computation of multitone interactions. *Multiscale Modeling & Simulation*, 4(2):664–690, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61246>.
- Kornhuber:2016:NHE**
- [KY16] Ralf Kornhuber and Harry Yserentant. Numerical homogenization of elliptic multiscale problems by subspace decomposition. *Multiscale Modeling & Simulation*, 14(3):1017–1036, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Kim:2016:MCH**
- [KZ16] Seong Jun Kim and Haomin Zhou. A multiscale computation for highly oscillatory dynamical systems using Empirical Mode Decomposition (EMD)-type methods. *Multiscale Modeling & Simulation*, 14(1):534–

- 557, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LA07] X. San Liang and Donald G. M. Anderson. Multiscale window transform. *Multiscale Modeling & Simulation*, 6(2):437–467, ??? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LAG09] Bin Luo, Jean-François Aujol, and Yann Gousseau. Local scale measure from the topographic map and application to remote sensing images. *Multiscale Modeling & Simulation*, 8(1):1–29, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LB16] Ethan Levien and Paul C. Bressloff. A stochastic hybrid framework for obtaining statistics of many random walkers in a switching environment. *Multiscale Modeling & Simulation*, 14(4):1417–1433, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LBB11] Jorge S. Leiva, Pablo J. Blanco, and Gustavo C. Buscaglia. Partitioned analysis for dimensionally-heterogeneous hydraulic networks. *Multiscale Modeling & Simulation*, 9(2):872–903, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i2/p872_s1.
- [LBM05] Martha Lien, Inga Berre, and Trond Mannseth. Combined adaptive multiscale and level-set parameter estimation. *Multiscale Modeling & Simulation*, 4(4):1349–1372, ??? 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LBW17] Alan E. Lindsay, Andrew J. Bernoff, and Michael J. Ward. First passage statistics for the capture of a Brownian particle by a structured spherical target with multiple surface traps. *Multiscale Modeling & Simulation*, 15(1):74–109, ??? 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LE05a] Maozhi Li and J. W. Evans. Modeling of island formation during submonolayer deposition: a stochastic geometry-based simulation approach. *Multiscale Modeling & Simulation*, 3(3):629–657, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60656>.

- [LE05b] **Liu:2005:ASO**
 Da-Jiang Liu and J. W. Evans. From atomic scale ordering to mesoscale spatial patterns in surface reactions: a heterogeneous coupled lattice-gas simulation approach. *Multiscale Modeling & Simulation*, 4(2):424–446, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60640>.
- [LF06] **Lotstedt:2006:DRF**
 Per Lötstedt and Lars Ferm. Dimensional reduction of the Fokker–Planck equation for stochastic chemical reactions. *Multiscale Modeling & Simulation*, 5(2):593–614, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LH06] **Locker:2006:MVG**
 C. Rebecca Locker and Stephen C. Harvey. A model for viral genome packing. *Multiscale Modeling & Simulation*, 5(4):1264–1279, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LH11] **Lorenz:2011:HMS**
 Eric Lorenz and Alfons G. Hoekstra. Heterogeneous multiscale simulations of suspension flow. *Multiscale Modeling & Simulation*, 9(4):1301–1326, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1301_s1.
- [LH14] **Luo:2014:TFT**
 Guo Luo and Thomas Y. Hou. Toward the finite-time blowup of the 3D axisymmetric Euler equations: a numerical investigation. *Multiscale Modeling & Simulation*, 12(4):1722–1776, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Li07] **Li:2007:AET**
 Tiejun Li. Analysis of explicit tau-leaping schemes for simulating chemically reacting systems. *Multiscale Modeling & Simulation*, 6(2):417–436, ??? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Liu10] **Liu:2010:AMM**
 Di Liu. Analysis of multiscale methods for stochastic dynamical systems with multiple time scales. *Multiscale Modeling & Simulation*, 8(3):944–964, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LJ07] **Lunati:2007:THA**
 Ivan Lunati and Patrick Jenny. Treating highly anisotropic subsurface flow with the multiscale finite-volume method. *Multiscale Modeling & Simulation*, 6

- (1):308–318, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LJ17] Robert Lipton and Robert Vitor Jr. Creating band gaps in periodic media. *Multiscale Modeling & Simulation*, 15(4):1612–1650, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LKGK03] Ju Li, Panayotis G. Kevrekidis, C. William Gear, and Ioannis G. Kevrekidis. Deciding the nature of the coarse equation through microscopic simulations: The baby-bathwater scheme. *Multiscale Modeling & Simulation*, 1(3):391–407, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41916>.
- [LL09] Ivan Lunati and Seong H. Lee. An operator formulation of the multiscale finite-volume method with correction function. *Multiscale Modeling & Simulation*, 8(1):96–109, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LL17] Qin Li and Jianfeng Lu. An asymptotic preserving method for transport equations with oscillatory scattering coefficients. *Multiscale Modeling & Simulation*, 15(4):1694–1718, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LLZ14] Claude Le Bris, Frédéric Legoll, and Alexei Lozinski. An Ms-FEM type approach for perforated domains. *Multiscale Modeling & Simulation*, 12(3):1046–1077, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LLO12] Xingjie Helen Li, Mitchell Luskin, and Christoph Ortner. Positive definiteness of the blended force-based quasi-continuum method. *Multiscale Modeling & Simulation*, 10(3):1023–1045, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LLZ14] Jingzhi Li, Hongyu Liu, and Jun Zou. Locating multiple multiscale acoustic scatterers. *Multiscale Modeling & Simulation*, 12(3):927–952, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LLZ16] Tiejun Li, Xiaoguang Li, and Xiang Zhou. Finding transition

Lipton:2017:CBG**Bris:2014:MTA****Li:2003:DNC****Li:2012:PDB****Lunati:2009:OFM****Li:2014:LMM****Li:2017:APM****Li:2016:FTP**

- pathways on manifolds. *Multiscale Modeling & Simulation*, 14(1):173–206, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Lee:2015:MMD**
- [LM04] Michel Lenczner and Denis Mercier. Homogenization of periodic electrical networks including voltage to current amplifiers. *Multiscale Modeling & Simulation*, 2(3):359–397, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42391>. **Lenczner:2004:HPE**
- [LM05] E. Le Pennec and S. Mallat. Bandelet image approximation and compression. *Multiscale Modeling & Simulation*, 4(3):992–1039, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61945>. **LePennec:2005:BIA**
- [LM14] Xiantao Li and Pingbing Ming. A study on the quasi-continuum approximations of a one-dimensional fracture model. *Multiscale Modeling & Simulation*, 12(3):1379–1400, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Li:2014:SQC**
- [LM15a] Yoonsang Lee and Andrew J. Majda. Multiscale methods for data assimilation in turbulent systems. *Multiscale Modeling & Simulation*, 13(2):691–713, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Legoll:2015:CVA**
- [LM15b] Frédéric Legoll and William Minvielle. A control variate approach based on a defect-type theory for variance reduction in stochastic homogenization. *Multiscale Modeling & Simulation*, 13(2):519–550, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Lennon:2008:NSC**
- [LMC⁺08] Erin M. Lennon, George O. Mohler, Hector D. Ceniceros, Carlos J. García-Cervera, and Glenn H. Fredrickson. Numerical solutions of the complex Langevin equations in polymer field theory. *Multiscale Modeling & Simulation*, 6(4):1347–1370, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Lisani:2003:TPS**
- [LMMM03] J. L. Lisani, L. Moisan, P. Monasse, and J. M. Morel. On the theory of planar shape. *Multiscale Modeling & Simulation*, 1(1):1–24, 2003. CODEN MMSUBT.

- ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41084>. [LMT12]
- Lee:2017:SSM**
- [LMQ17] Yoonsang Lee, Andrew J. Majda, and Di Qi. Stochastic superparameterization and multiscale filtering of turbulent tracers. *Multiscale Modeling & Simulation*, 15(1):215–234, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lipnikov:2011:ASM**
- [LMS11] K. Lipnikov, J. D. Moulton, and D. Svyatskiy. Adaptive strategies in the Multilevel Multiscale Mimetic (M^3) method for two-phase flows in porous media. *Multiscale Modeling & Simulation*, 9(3):991–1016, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p991_s1. [LOS13]
- Lejon:2017:VRS**
- [LMS17] Annelies Lejon, Bert Mortier, and Giovanni Samaey. Variance-reduced simulation of multiscale tumor growth modeling. *Multiscale Modeling & Simulation*, 15(1):388–409, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Li:2012:EHO**
- Ruo Li, Pingbing Ming, and Fengyang Tang. An efficient high order heterogeneous multiscale method for elliptic problems. *Multiscale Modeling & Simulation*, 10(1):259–283, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lam:2017:MRD**
- [LNL17] Ka Chun Lam, Tsz Ching Ng, and Lok Ming Lui. Multiscale representation of deformation via Beltrami coefficients. *Multiscale Modeling & Simulation*, 15(2):864–891, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Langwallner:2013:ACC**
- [LOS13] B. Langwallner, C. Ortner, and E. Süli. Atomistic-to-continuum coupling approximation of a one-dimensional toy model for density functional theory. *Multiscale Modeling & Simulation*, 11(1):59–91, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Luna-Ortiz:2005:IOM**
- [LOT05] Eduardo Luna-Ortiz and Constantinos Theodoropoulos. An input/output model reduction-based optimization scheme for large-scale systems. *Multiscale Modeling & Simulation*, 4(2):691–708, 2005. CODEN MMSUBT. ISSN 1540-3459 (print),

- 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60471>.
- Lu:2016:BLA**
- [LQB16] Wangtao Lu, Jianliang Qian, and Robert Burridge. Babich-like ansatz for three-dimensional point-source Maxwell's equations in an inhomogeneous medium at high frequencies. *Multiscale Modeling & Simulation*, 14(3):1089–1122, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lucas:2008:NDC**
- [LR08] C. Lucas and A. Rousseau. New developments and cosine effect in the viscous shallow water and quasi-geostrophic equations. *Multiscale Modeling & Simulation*, 7(2):796–813, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Liu:2010:RHFa**
- [LR10a] Hailiang Liu and James Ralston. Recovery of high frequency wave fields for the acoustic wave equation. *Multiscale Modeling & Simulation*, 8(2):428–444, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Liu:2010:RHFb**
- [LR10b] Hailiang Liu and James Ralston. Recovery of high frequency wave fields from phase space-based measurements. *Multiscale Modeling & Simulation*, 8(2):622–644, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lee:2010:RFL**
- [LRZ10] C. Y. Lee, B. L. Rozovskii, and H. M. Zhou. Randomization of forcing in large systems of PDEs for improvement of energy estimates. *Multiscale Modeling & Simulation*, 8(4):1419–1438, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Li:2016:CPI**
- [LS16a] Zhen Li and Zuoqiang Shi. A convergent point integral method for isotropic elliptic equations on a point cloud. *Multiscale Modeling & Simulation*, 14(2):874–905, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lopez:2016:NMP**
- [LS16b] José Luis López and Juan Soler. A non-Markovian phase space approach to Schrödinger dynamics: The space-time Wigner transform. *Multiscale Modeling & Simulation*, 14(1):430–451, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Liu:2015:UST**
- [LSH15] Chunguang Liu, Zuoqiang Shi, and Thomas Y. Hou. On

- the uniqueness of sparse time-frequency representation of multiscale data. *Multiscale Modeling & Simulation*, 13(3):790–811, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [LXQ09]
- Lindsay:2017:OFP**
- [LTK17] A. E. Lindsay, J. C. Tzou, and T. Kolokolnikov. Optimization of first passage times by multiple cooperating mobile traps. *Multiscale Modeling & Simulation*, 15(2):920–947, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [LXY16]
- Le:2005:IDU**
- [LV05] Triet M. Le and Luminita A. Vese. Image decomposition using total variation and $\text{div}(BMO)$. *Multiscale Modeling & Simulation*, 4(2):390–423, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61005>. [LXY17]
- Lubich:2014:NIM**
- [LW14] Christian Lubich and Daniel Weiss. Numerical integrators for motion under a strong constraining force. *Multiscale Modeling & Simulation*, 12(4):1592–1606, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [LY12]
- Liu:2009:SCD**
- Jie Liu, Jack Xin, and Yingyong Qi. A soft-constrained dynamic iterative method of blind source separation. *Multiscale Modeling & Simulation*, 7(4):1795–1810, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Luo:2016:ESA**
- Tao Luo, Yang Xiang, and Nung Kwan Yip. Energy scaling and asymptotic properties of step bunching in epitaxial growth with elasticity effects. *Multiscale Modeling & Simulation*, 14(2):737–771, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lin:2017:ACP**
- Lin Lin, Ze Xu, and Lexing Ying. Adaptively compressed polarizability operator for accelerating large scale *Ab Initio* phonon calculations. *Multiscale Modeling & Simulation*, 15(1):29–55, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Lu:2012:FGA**
- Jianfeng Lu and Xu Yang. Frozen Gaussian approximation for general linear strictly hyperbolic systems: Formulation and Eulerian methods. *Multiscale Modeling & Simulation*, 10(2):451–472, 2012. CO-

- DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LY16] Fei Liu and Lexing Ying. Additive sweeping preconditioner for the Helmholtz equation. *Multiscale Modeling & Simulation*, 14(2):799–822, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LY17] Jianfeng Lu and Haizhao Yang. Preconditioning orbital minimization method for planewave discretization. *Multiscale Modeling & Simulation*, 15(1):254–273, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LYM⁺15] Yingzhou Li, Haizhao Yang, Eileen R. Martin, Kenneth L. Ho, and Lexing Ying. Butterfly factorization. *Multiscale Modeling & Simulation*, 13(2):714–732, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LYTP13] Nam H. Lee, Jordan Yoder, Minh Tang, and Carey E. Priebe. On latent position inference from doubly stochastic messaging activities. *Multiscale Modeling & Simulation*, 11(3):683–718, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LYY15] Yingzhou Li, Haizhao Yang, and Lexing Ying. A multiscale butterfly algorithm for multidimensional Fourier integral operators. *Multiscale Modeling & Simulation*, 13(2):614–631, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LYZ11] Songting Luo, Yifeng Yu, and Hongkai Zhao. A new approximation for effective Hamiltonians for homogenization of a class of Hamilton–Jacobi equations. *Multiscale Modeling & Simulation*, 9(2):711–734, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i2/p711_s1.
- [LYZ⁺15] H. Lei, X. Yang, B. Zheng, G. Lin, and N. A. Baker. Constructing surrogate models of complex systems with enhanced sparsity: Quantifying the influence of conformational uncertainty in biomolecular solvation. *Multiscale Modeling & Simulation*, 13(4):1327–1353, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Liu:2016:ASP**Li:2015:MBA****Lu:2017:POM****Luo:2011:NAE****Li:2015:BF****Lei:2015:CSM****Lee:2013:LPI**

- [LZ06] Li:2006:CAB Tiejun Li and Pingwen Zhang. Convergence analysis of BCF method for Hookean dumbbell model with finite difference scheme. *Multiscale Modeling & Simulation*, 5(1):205–234, ??? 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LZ07] Lu:2007:SSF Zhiming Lu and Dongxiao Zhang. Stochastic simulations for flow in nonstationary randomly heterogeneous porous media using a KL -based moment-equation approach. *Multiscale Modeling & Simulation*, 6(1):228–245, ??? 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [LZZ13] Li:2013:NRC Tiejun Li, Pingwen Zhang, and Wei Zhang. Nucleation rate calculation for the phase transition of diblock copolymers under stochastic Cahn–Hilliard dynamics. *Multiscale Modeling & Simulation*, 11(1):385–409, ??? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Mai16] Mailybaev:2016:SSV Alexei A. Mailybaev. Spontaneous stochasticity of velocity in turbulence models. *Multiscale Modeling & Simulation*, 14(1):96–112, ??? 2016. CO-
- DEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Mål11] Maalqvist:2011:MME Axel Målqvist. Multiscale methods for elliptic problems. *Multiscale Modeling & Simulation*, 9(3):1064–1086, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsub/v9/i3/p1064_s1.
- [Man06] Mannseth:2006:PIP Trond Mannseth. Permeability identification from pressure observations: Some foundations for multiscale regularization. *Multiscale Modeling & Simulation*, 5(1):21–44, ??? 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Mar12] Margetis:2012:BE Dionisios Margetis. Bose–Einstein condensation beyond mean field: Many-body bound state of periodic microstructure. *Multiscale Modeling & Simulation*, 10(2):383–417, ??? 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See erratum [Mar13].
- [Mar13] Margetis:2013:EBE Dionisios Margetis. Erratum: Bose–Einstein condensation beyond mean field: Many-body

- bound state of periodic microstructure. *Multiscale Modeling & Simulation*, 11(1):410, ??? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See [Mar12].
- [MBS08] **MacNamara:2010:SMN**
Shev MacNamara and Kevin Burrage. Stochastic modeling of naïve T cell homeostasis for competing clonotypes via the master equation. *Multiscale Modeling & Simulation*, 8(4):1325–1347, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MB10] **MacNamara:2008:MMC**
Shev MacNamara, Kevin Burrage, and Roger B. Sidje. Multiscale modeling of chemical kinetics via the master equation. *Multiscale Modeling & Simulation*, 6(4):1146–1168, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MBC⁺13] **Mehmani:2014:BPC**
Yashar Mehmani and Matthew T. Balhoff. Bridging from pore to continuum: a hybrid mortar domain decomposition framework for subsurface flow and transport. *Multiscale Modeling & Simulation*, 12(2):667–693, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MCM12] **Margolis:2008:ASS**
Dionisios Margetis and Russel E. Caflisch. Anisotropic step stiffness from a kinetic model of epitaxial growth. *Multiscale Modeling & Simulation*, 7(1):242–273, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MCC05] **McCormick:2005:PMM**
Stephen F. McCormick. Projection multilevel methods for quasi-linear PDEs: V-cycle theory. *Multiscale Modeling & Simulation*, 4(4):1339–1348, ??? 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MBC⁺13] **Malossi:2013:ICO**
A. Cristiano I. Malossi, Pablo J. Blanco, Paolo Crosetto, Simone Deparis, and Alfio Quarteroni. Implicit coupling of one-dimensional and three-dimensional blood flow models with compliant vessels. *Multiscale Modeling & Simulation*, 11(2):474–506, ??? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MCM12] **Marciniak-Czochra:2012:EPI**
Anna Marciniak-Czochra and Andro Mikelić. Effective pressure interface law for transport phenomena between an unconfined fluid and a porous medium using homogenization. *Multiscale Modeling & Simulation*, 10

(2):285–305, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Minden:2016:TUH

- [MDHY16] Victor Minden, Anil Damle, Kenneth L. Ho, and Lexing Ying. A technique for updating hierarchical skeletonization-based factorizations of integral operators. *Multiscale Modeling & Simulation*, 14(1):42–64, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Minden:2017:FSG

- [MDHY17] Victor Minden, Anil Damle, Kenneth L. Ho, and Lexing Ying. Fast spatial Gaussian process maximum likelihood estimation via skeletonization factorizations. *Multiscale Modeling & Simulation*, 15(4):1584–1611, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Mao:2010:NPB

- [MDO10] Yu Mao, Bin Dong, and Stanley Osher. A nonlinear PDE-based method for sparse deconvolution. *Multiscale Modeling & Simulation*, 8(3):965–976, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Medjo:2005:BBT

- [Med05] T. Tachim Medjo. Barotropic-baroclinic time splitting for the primitive equations of the

ocean. *Multiscale Modeling & Simulation*, 4(1):194–212, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60928>.

Minden:2017:RSF

- [MHDY17] Victor Minden, Kenneth L. Ho, Anil Damle, and Lexing Ying. A recursive skeletonization factorization based on strong admissibility. *Multiscale Modeling & Simulation*, 15(2):768–796, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Michelotti:2013:BES

- [MHW13] M. D. Michelotti, M. T. Heath, and M. West. Binning for efficient stochastic multiscale particle simulations. *Multiscale Modeling & Simulation*, 11(4):1071–1096, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Ma:2003:TMI

- [MI03] Qun Ma and Jesús A. Izaguirre. Targeted mollified impulse: a multiscale stochastic integrator for long molecular dynamics simulations. *Multiscale Modeling & Simulation*, 2(1):1–21, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42356>.

- [Mic11] **Michel:2011:MMF**
 Philippe Michel. Multiscale modeling of follicular ovulation as a mass and maturity dynamical system. *Multiscale Modeling & Simulation*, 9(1):282–313, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p282_s1.
- [Mil05] **Milton:2005:OPH**
 G. W. Milton. On optimizing the properties of hierarchical laminates using Pontryagin’s maximum principle. *Multiscale Modeling & Simulation*, 3(3):658–679, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60236>.
- [MK06] **Margetis:2006:CRI**
 Dionisios Margetis and Robert V. Kohn. Continuum relaxation of interacting steps on crystal surfaces in 2+1 dimensions. *Multiscale Modeling & Simulation*, 5(3):729–758, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MLO17] **Massatt:2017:EDS**
 Daniel Massatt, Mitchell Luskin, and Christoph Ortner. Electronic density of states for incommensurate layers. *Multiscale Modeling & Simulation*, 15(1):476–499, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MLS12] **Meerbach:2012:SCP**
 Eike Meerbach, Juan C. Latorre, and Christof Schütte. Sequential change point detection in molecular dynamics trajectories. *Multiscale Modeling & Simulation*, 10(4):1263–1291, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MLSH12] **Menz:2012:HSD**
 Stephan Menz, Juan C. Latorre, Christof Schütte, and Wilhelm Huisinga. Hybrid Stochastic–Deterministic solution of the chemical master equation. *Multiscale Modeling & Simulation*, 10(4):1232–1262, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MMB12] **Mishuris:2012:DFS**
 G. S. Mishuris, A. B. Movchan, and D. Bigoni. Dynamics of a fault steadily propagating within a structural interface. *Multiscale Modeling & Simulation*, 10(3):936–953, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MMN11] **Mazya:2011:MAA**
 V. Maz’ya, A. Movchan, and M. Nieves. Mesoscale asymptotic approximations to solu-

- tions of mixed boundary value problems in perforated domains. *Multiscale Modeling & Simulation*, 9(1):424–448, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p424_s1. [MN11]
- [MMN16] V. G. Maz'ya, A. B. Movchan, and M. J. Nieves. Mesoscale models and approximate solutions for solids containing clouds of voids. *Multiscale Modeling & Simulation*, 14(1):138–172, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Mazya:2016:MMA]
- [MMN17] V. G. Maz'ya, A. B. Movchan, and M. J. Nieves. Eigenvalue problem in a solid with many inclusions: Asymptotic analysis. *Multiscale Modeling & Simulation*, 15(2):1003–1047, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Mazya:2017:EPS]
- [MMPS17] E. Mainini, H. Murakawa, P. Piovano, and U. Stefanelli. Carbon-nanotube geometries as optimal configurations. *Multiscale Modeling & Simulation*, 15(4):1448–1471, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Mainini:2017:CNG]
- [Motsch:2011:NSN] Sebastien Motsch and Laurent Navoret. Numerical simulations of a nonconservative hyperbolic system with geometric constraints describing swarming behavior. *Multiscale Modeling & Simulation*, 9(3):1253–1275, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1253_s1.
- [MNL15] B. P. Muljadi, J. Narski, A. Lozinski, and P. Degond. Nonconforming multiscale finite element method for Stokes flows in heterogeneous media. Part I: Methodologies and numerical experiments. *Multiscale Modeling & Simulation*, 13(4):1146–1172, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Muljadi:2015:NMF]
- [MO06] Atsushi Matsumoto and Wilma K. Olson. Predicted effects of local conformational coupling and external restraints on the torsional properties of single DNA molecules. *Multiscale Modeling & Simulation*, 5(4):1227–1247, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Matsumoto:2006:PEL]
- [Mom13] Mario S. Mommer. Numerical upscaling of subdiffusive trans-

- port through disordered media with finite correlation length. *Multiscale Modeling & Simulation*, 11(3):795–812, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MRTV14] **Moraes:2014:MMW**
Alvaro Moraes, Fabrizio Ruggeri, Raúl Tempone, and Pedro Vilanova. Multiscale modeling of wear degradation in cylinder liners. *Multiscale Modeling & Simulation*, 12(1):396–409, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MP05] **Murray:2005:HIV**
John M. Murray and Alan S. Perelson. Human immunodeficiency virus: Quasi-species and drug resistance. *Multiscale Modeling & Simulation*, 3(2):300–311, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60302>.
- [MS04] **Magan:2004:MLA**
Rahul V. Magan and Radhakrishna Sureshkumar. A multiscale-linking algorithm for the simulation of irreversible deposition. *Multiscale Modeling & Simulation*, 2(3):475–500, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60073>.
- [MR03] **Mielke:2003:RIM**
Alexander Mielke and Tomáš Roubíček. A rate-independent model for inelastic behavior of shape-memory alloys. *Multiscale Modeling & Simulation*, 1(4):571–597, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42286>.
- [MS08] **Muratov:2008:BHP**
Cyrill B. Muratov and Stanislav Y. Shvartsman. Boundary homogenization for periodic arrays of absorbers. *Multiscale Modeling & Simulation*, 7(1):44–61, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MR12] **Mityushev:2012:ODN**
Vladimir Mityushev and Natalia Rylko. Optimal distribution of the nonoverlapping conducting disks. *Multiscale Modeling & Simulation*, 10(1):180–190, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MSAW10] **Muha:2010:CGA**
Ivo Muha, Sabine Stichel, Sabine Attinger, and Gabriel Wittum. Coarse graining on arbitrary grids. *Multiscale Modeling & Simulation*, 8(4):1368–1382, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [MSE08] **Mairal:2008:LMS** Julien Mairal, Guillermo Sapiro, and Michael Elad. Learning multiscale sparse representations for image and video restoration. *Multiscale Modeling & Simulation*, 7(1):214–241, ??? 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MSO14] **Mackey:2014:CSM** Alan Mackey, Hayden Schaeffer, and Stanley Osher. On the compressive spectral method. *Multiscale Modeling & Simulation*, 12(4):1800–1827, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MSVE09] **Metzner:2009:TP T** Philipp Metzner, Christof Schütte, and Eric VandenEijnden. Transition path theory for Markov jump processes. *Multiscale Modeling & Simulation*, 7(3):1192–1219, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MT09] **Margetis:2009:KHM** Dionisios Margetis and Athanasios E. Tzavaras. Kinetic hierarchies and macroscopic limits for crystalline steps in 1 + 1 dimensions. *Multiscale Modeling & Simulation*, 7(3):1428–1454, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MT16] **Mikelić:2016:DPF** Andro Mikelić and Josip Tambaca. Derivation of a poroelastic flexural shell model. *Multiscale Modeling & Simulation*, 14(1):364–397, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MTV14] **Moraes:2014:HCT** Alvaro Moraes, Raul Tempone, and Pedro Vilanova. Hybrid Chernoff Tau-leap. *Multiscale Modeling & Simulation*, 12(2):581–615, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MTW16] **Markowich:2016:PFB** Peter Markowich, Josef Teichmann, and Marie-Therese Wolfram. Parabolic free boundary price formation models under market size fluctuations. *Multiscale Modeling & Simulation*, 14(4):1211–1237, ??? 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MWW15] **Mikelić:2015:PFM** Andro Mikelić, Mary F. Wheeler, and Thomas Wick. A phase-field method for propagating fluid-filled fractures coupled to a surrounding porous medium. *Multiscale Modeling & Simulation*, 13(1):367–398, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [MX16] **Ming:2016:MFE** Pingbing Ming and Xianmin Xu. A multiscale finite element method for oscillating Neumann problem on rough domain. *Multiscale Modeling & Simulation*, 14(4):1276–1300, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MY09] **Ming:2009:AOD** Pingbing Ming and Jerry Zhijian Yang. Analysis of a one-dimensional nonlocal quasi-continuum method. *Multiscale Modeling & Simulation*, 7(4):1838–1875, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MZ15] **Mei:2015:MBQ** Song Mei and Pingwen Zhang. On a molecular based q-tensor model for liquid crystals with density variations. *Multiscale Modeling & Simulation*, 13(3):977–1000, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [MZCJ16] **Morale:2016:SMS** D. Morale, M. Zanella, V. Capasso, and W. Jäger. Stochastic modeling and simulation of ion transport through channels. *Multiscale Modeling & Simulation*, 14(1):113–137, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [NDEG11] **Nathan:2011:SBE** Lyubima B. Simeonova Nathan, David C. Dobson, Olakunle Eso, and Kenneth M. Golden. Spatial bounds on the effective complex permittivity for time-harmonic waves in random media. *Multiscale Modeling & Simulation*, 9(3):1113–1143, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1113_s1.
- [Nik05] **Nikolova:2005:ARE** Mila Nikolova. Analysis of the recovery of edges in images and signals by minimizing nonconvex regularized least-squares. *Multiscale Modeling & Simulation*, 4(3):960–991, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61958>.
- [NK11] **Newby:2011:AAS** Jay M. Newby and James P. Keener. An asymptotic analysis of the spatially inhomogeneous velocity-jump process. *Multiscale Modeling & Simulation*, 9(2):735–765, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p735_s1.

- Norgard:2009:CCF**
- [NM09] Greg Norgard and Kamran Mohseni. On the convergence of the convectively filtered Burgers equation to the entropy solution of the inviscid Burgers equation. *Multiscale Modeling & Simulation*, 7(4):1811–1837, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [NN13]
- Norgard:2010:NPR**
- [NM10] Greg Norgard and Kamran Mohseni. A new potential regularization of the one-dimensional Euler and homentropic Euler equations. *Multiscale Modeling & Simulation*, 8(4):1212–1243, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Nøe13]
- Nakamura:2013:DCR**
- [NM13] Kanna Nakamura and Dionisios Margetis. Discrete and continuum relaxation dynamics of faceted crystal surface in evaporation models. *Multiscale Modeling & Simulation*, 11(1):244–281, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [NOR+06]
- Nieves:2011:AAW**
- [NMJ11] M. J. Nieves, A. B. Movchan, and I. S. Jones. Asymptotic approximation for the weight function in a solid with a surface-breaking crack and small voids. *Multiscale Modeling & Simulation*, 9(4):1444–1458, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1444_s1. [Noe:2013:VAM]
- Frank Noé and Feliks Nüske. A variational approach to modeling slow processes in stochastic dynamical systems. *Multiscale Modeling & Simulation*, 11(2):635–655, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Noeting:2013:EFC]
- B. Nøetinger. An explicit formula for computing the sensitivity of the effective conductivity of heterogeneous composite materials to local inclusion transport properties and geometry. *Multiscale Modeling & Simulation*, 11(3):907–924, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Noe:2006:CBT]
- Frank Noé, Marcus Oswald, Gerhard Reinelt, Stefan Fischer, and Jeremy C. Smith. Computing best transition pathways in high-dimensional dynamical systems: Application to the α L \leftrightarrow beta \leftrightarrow α R transitions in octaalanine. *Multiscale Modeling & Simulation*, 5(2):393–419, January 2006. CODEN MMSUBT.

ISSN 1540-3459 (print), 1540-3467 (electronic).

Nordbotten:2009:AVM

[Nor09]

Jan M. Nordbotten. Adaptive variational multiscale methods for multiphase flow in porous media. *Multiscale Modeling & Simulation*, 7(3):1455–1473, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Negulescu:2016:CSM

[NP16]

Claudia Negulescu and Stefan Possanner. Closure of the strongly magnetized electron fluid equations in the adiabatic regime. *Multiscale Modeling & Simulation*, 14(2):839–873, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Nolen:2008:FAM

[NPP08]

James Nolen, George Papanicolaou, and Olivier Pironneau. A framework for adaptive multiscale methods for elliptic problems. *Multiscale Modeling & Simulation*, 7(1):171–196, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Nimsaila:2010:MCS

[NT10]

K. Nimsaila and I. Timofeyev. Markov chain stochastic parametrizations of essential variables. *Multiscale Modeling & Simulation*, 8(5):2079–2096, 2010. CODEN MMSUBT. ISSN 1540-3459 (print),

1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p2079_s1.

Nolen:2003:RDF

[NX03]

Jim Nolen and Jack Xin. Reaction-diffusion front speeds in spatially-temporally periodic shear flows. *Multiscale Modeling & Simulation*, 1(4):554–570, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42023>.

Nava-Yazdani:2011:DLE

[NYY11]

Esfandiar Nava-Yazdani and Thomas P. Y. Yu. On Donoho’s log-exp subdivision scheme: Choice of retraction and time-symmetry. *Multiscale Modeling & Simulation*, 9(4):1801–1828, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1801_s1.

Osher:2005:IRM

[OBG⁺05]

Stanley Osher, Martin Burger, Donald Goldfarb, Jinjun Xu, and Wotao Yin. An iterative regularization method for total variation-based image restoration. *Multiscale Modeling & Simulation*, 4(2):460–489, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60541>.

- [Ohl05] **Ohlberger:2005:PEE**
 Mario Ohlberger. A posteriori error estimates for the heterogeneous multiscale finite element method for elliptic homogenization problems. *Multiscale Modeling & Simulation*, 4(1):88–114, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60522>.
- [OPS16] **Orlik:2016:OTL**
 Julia Orlik, Grigory Panasenko, and Vladimir Shiryayev. Optimization of textile-like materials via homogenization and beam approximations. *Multiscale Modeling & Simulation*, 14(2):637–667, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ÖS07] **Ottinger:2007:MPC**
 Hans Christian Öttinger and Henning Struchtrup. The mathematical procedure of coarse graining: From Grad’s ten-moment equations to hydrodynamics. *Multiscale Modeling & Simulation*, 6(1):53–69, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OSAND13] **Ollila:2013:HRP**
 Santtu T. T. Ollila, Christopher J. Smith, Tapio Alnissila, and Colin Denniston. The hydrodynamic radius of particles in the hybrid lattice Boltzmann–Molecular dynamics method. *Multiscale Modeling & Simulation*, 11(1):213–243, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OSP10] **Olhede:2010:FDE**
 S. C. Olhede, A. M. Sykulski, and G. A. Pavliotis. Frequency domain estimation of integrated volatility for Itô processes in the presence of market-microstructure noise. *Multiscale Modeling & Simulation*, 8(2):393–427, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OSV03] **Osher:2003:IDR**
 Stanley Osher, Andrés Solé, and Luminita Vese. Image decomposition and restoration using total variation minimization and the H^1 . *Multiscale Modeling & Simulation*, 1(3):349–370, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41624>.
- [OSZ14] **Ortner:2014:SSQ**
 Christoph Ortner, Alexander V. Shapeev, and Lei Zhang. (in-)stability and stabilization of QNL-type atomistic-to-continuum coupling methods. *Multiscale Modeling & Simulation*, 12(3):1258–1293,

- ???? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OTV09] Adam M. Oberman, Ryo Takei, and Alexander Vladimirovsky. Homogenization of metric Hamilton-Jacobi equations. *Multiscale Modeling & Simulation*, 8(1):269–295, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OW11] Braxton Osting and Michael I. Weinstein. Emergence of periodic structure from maximizing the lifetime of a bound state coupled to radiation. *Multiscale Modeling & Simulation*, 9(2):654–685, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p654_s1.
- [Owh15] Houman Owhadi. Bayesian numerical homogenization. *Multiscale Modeling & Simulation*, 13(3):812–828, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [OYS⁺11] Naoya Okamoto, Katsunori Yoshimatsu, Kai Schneider, Marie Farge, and Yukio Kaneda. Coherent vorticity simulation of three-dimensional forced homogeneous isotropic turbulence. *Multiscale Modeling & Simulation*, 9(3):1144–1161, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p1144_s1.
- [OZ05] Rafael Orive and Enrique Zuazua. Finite difference approximation of homogenization problems for elliptic equations. *Multiscale Modeling & Simulation*, 4(1):36–87, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60631>.
- [OZ11] Houman Owhadi and Lei Zhang. Localized bases for finite-dimensional homogenization approximations with non-separated scales and high contrast. *Multiscale Modeling & Simulation*, 9(4):1373–1398, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1373_s1.
- [PA06] Sergey Plyasunov and Adam P. Arkin. Averaging methods for stochastic dynamics of complex reaction networks: Description

- of multiscale couplings. *Multiscale Modeling & Simulation*, 5(2):497–513, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Pap12] Andrew Papanicolaou. Nonlinear filters for hidden Markov models of regime change with fast mean-reverting states. *Multiscale Modeling & Simulation*, 10(3):906–935, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Peter:2009:MMC] Malte A. Peter and M. Böhm. Multiscale modelling of chemical degradation mechanisms in porous media with evolving microstructure. *Multiscale Modeling & Simulation*, 7(4):1643–1668, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Parks:2008:CAC] Michael L. Parks, Pavel B. Bochev, and Richard B. Lehoucq. Connecting atomistic-to-continuum coupling and domain decomposition. *Multiscale Modeling & Simulation*, 7(1):362–380, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Park:2015:UIN] Moongyu Park and John H. Cushman. Upscaling interpretation of nonlocal fields, gradients, and divergences. *Multiscale Modeling & Simulation*, 13(4):1136–1145, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Parramore:2016:MFV] Elliot Parramore, Michael G. Edwards, Mayur Pal, and Sadok Lamine. Multiscale finite-volume CVD–MPFA formulations on structured and unstructured grids. *Multiscale Modeling & Simulation*, 14(2):559–594, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Peurichard:2016:MMC] D. Peurichard. Macroscopic model for cross-linked fibers with alignment interactions: Existence theory and numerical simulations. *Multiscale Modeling & Simulation*, 14(4):1175–1210, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Perotto:2010:HLM] Simona Perotto, Alexandre Ern, and Alessandro Veneziani. Hierarchical local model reduction for elliptic problems: a domain decomposition approach. *Multiscale Modeling & Simulation*, 8(4):1102–1127, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [Pey08] **Peyre:2008:IPN** Gabriel Peyré. Image processing with nonlocal spectral bases. *Multiscale Modeling & Simulation*, 7(2):703–730, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [PHSN11] **Prinz:2011:ECS** Jan-Hendrik Prinz, Martin Held, Jeremy C. Smith, and Frank Noé. Efficient computation, sensitivity, and error analysis of committor probabilities for complex dynamical processes. *Multiscale Modeling & Simulation*, 9(2):545–567, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p545-s1>. [Plo09]
- [PK07] **Papavasiliou:2007:VRE** Anastasia Papavasiliou and Ioannis G. Kevrekidis. Variance reduction for the equation-free simulation of multiscale stochastic systems. *Multiscale Modeling & Simulation*, 6(1):70–89, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [PP17]
- [PKC05] **Park:2005:SLF** Moongyu Park, Natalie Kleinfelder, and John H. Cushman. Scaling laws and Fokker–Planck equations for 3-dimensional porous media with fractal mesoscale. *Multiscale Modeling & Simulation*, 4(4):1233–1244, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62173>. **Plonka:2009:EPW**
- Gerlind Plonka. The easy path wavelet transform: a new adaptive wavelet transform for sparse representation of two-dimensional data. *Multiscale Modeling & Simulation*, 7(3):1474–1496, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Patrone:2014:CKM**
- Paul N. Patrone and Dionisios Margetis. Connection of kinetic Monte Carlo model for surfaces to one-step flow theory in 1 + 1 dimensions. *Multiscale Modeling & Simulation*, 12(1):364–395, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Piatnitski:2017:HBM**
- Andrey Piatnitski and Mariya Ptashnyk. Homogenization of biomechanical models for plant tissues. *Multiscale Modeling & Simulation*, 15(1):339–387, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [PR10] **Plechac:2010:IMM**
 Petr Plecháč and Mathias Rousset. Implicit mass-matrix penalization of Hamiltonian dynamics with application to exact sampling of stiff systems. *Multiscale Modeling & Simulation*, 8(2):498–539, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [PRS07] **Papanicolaou:2007:SAL**
 George Papanicolaou, Lenya Ryzhik, and Knut Sølna. Self-averaging from lateral diversity in the Itô–Schrödinger equation. *Multiscale Modeling & Simulation*, 6(2):468–492, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [PS03] **Pavliotis:2003:WNL**
 G. A. Pavliotis and A. M. Stuart. White noise limits for inertial particles in a random field. *Multiscale Modeling & Simulation*, 1(4):527–553, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/42107>.
- [PS05] **Pavliotis:2005:AWN**
 G. A. Pavliotis and A. M. Stuart. Analysis of white noise limits for stochastic systems with two fast relaxation times. *Multiscale Modeling & Simulation*, 4(1):1–35, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61050>.
- [PS12] **Peterseim:2012:FEE**
 D. Peterseim and S. Sauter. Finite elements for elliptic problems with highly varying, non-periodic diffusion matrix. *Multiscale Modeling & Simulation*, 10(3):665–695, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [PS14] **Papanicolaou:2014:FML**
 Andrew Papanicolaou and Konstantinos Spiliopoulos. Filtering the maximum likelihood for multiscale problems. *Multiscale Modeling & Simulation*, 12(3):1193–1229, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [PSVE09] **Pokern:2009:RDE**
 Yvo Pokern, Andrew M. Stuart, and Eric Vanden-Eijnden. Remarks on drift estimation for diffusion processes. *Multiscale Modeling & Simulation*, 8(1):69–95, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Pta13] **Ptashnyk:2013:TSC**
 Mariya Ptashnyk. Two-scale convergence for locally periodic microstructures and homogenization of plywood structures. *Multiscale Modeling & Simulation*, 11(1):92–117, 2013.

CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Ptashnyk:2015:LPU

- [Pta15] Mariya Ptashnyk. Locally periodic unfolding method and two-scale convergence on surfaces of locally periodic microstructures. *Multiscale Modeling & Simulation*, 13(3):1061–1105, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Pillay:2010:AAM

- [PWPK10] S. Pillay, M. J. Ward, A. Peirce, and T. Kolokolnikov. An asymptotic analysis of the mean first passage time for narrow escape problems: Part I: Two-dimensional domains. *Multiscale Modeling & Simulation*, 8(3):803–835, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Quang:2013:MHE

- [QHL13] H. Le Quang, Q.-C. He, and H.-T. Le. Multiscale homogenization of elastic layered composites with unidirectionally periodic rough interfaces. *Multiscale Modeling & Simulation*, 11(4):1127–1148, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Qian:2016:EGO

- [QLY⁺16] Jianliang Qian, Wangtao Lu, Lijun Yuan, Songting Luo,

and Robert Burridge. Eulerian geometrical optics and fast Huygens sweeping methods for three-dimensional time-harmonic high-frequency Maxwell's equations in inhomogeneous media. *Multiscale Modeling & Simulation*, 14(2):595–636, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Quah:2010:EMR

- [QM10] John Quah and Dionisios Margetis. Electromigration in macroscopic relaxation of stepped surfaces. *Multiscale Modeling & Simulation*, 8(2):667–700, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Quarteroni:2003:AGM

- [QV03] Alfio Quarteroni and Alessandro Veneziani. Analysis of a geometrical multiscale model based on the coupling of ODE and PDE for blood flow simulations. *Multiscale Modeling & Simulation*, 1(2):173–195, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/40848>.

Qian:2005:DCF

- [QW05] Tiezheng Qian and Xiao-Ping Wang. Driven cavity flow: From molecular dynamics to continuum hydrodynamics. *Multiscale Modeling & Simulation*, 3(4):749–763, 2005. CODEN MM-

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60486>. [RDS⁺05]
- [QY10] Jianliang Qian and Lexing Ying. Fast multiscale Gaussian wavepacket transforms and multiscale Gaussian beams for the wave equation. *Multiscale Modeling & Simulation*, 8(5):1803–1837, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1803_s1. [Rey14]
- [RBHK13] S. D. Ryan, L. Berlyand, B. M. Haines, and D. A. Karpeev. A kinetic model for semidilute bacterial suspensions. *Multiscale Modeling & Simulation*, 11(4):1176–1196, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [RH11]
- [RCMD09] Jamila Rahmoun, Fahmi Chaari, Eric Markiewicz, and Pascal Drazetic. Micromechanical modeling of the anisotropy of elastic biological composites. *Multiscale Modeling & Simulation*, 8(1):326–336, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [RJM05]
- [Rahman:2005:MRM] Inam Ur Rahman, Iddo Drori, Victoria C. Stodden, David L. Donoho, and Peter Schröder. Multiscale representations for manifold-valued data. *Multiscale Modeling & Simulation*, 4(4):1201–1232, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62272>.
- [Reyes:2014:FKM] Kristofer Reyes. Fast kinetic Monte Carlo simulations using hash table based caching with applications to nanowire growth and sintering. *Multiscale Modeling & Simulation*, 12(1):200–224, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Reingruber:2011:NEP] Jürgen Reingruber and David Holcman. The narrow escape problem in a flat cylindrical microdomain with application to diffusion in the synaptic cleft. *Multiscale Modeling & Simulation*, 9(2):793–816, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i2/p793_s1.
- [Rubinstein:2005:MTD] B. Rubinstein, K. Jacobson, and A. Mogilner. Multiscale

- two-dimensional modeling of a motile simple-shaped cell. *Multiscale Modeling & Simulation*, 3(2):413–439, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60370>.
- [RK17] Shelley B. Rohde and Arnold D. Kim. Backscattering of continuous and pulsed beams. *Multiscale Modeling & Simulation*, 15(4):1356–1375, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [RKM13] Natalia Rylko, Beata Krzaczek, and Vladimir Mityushev. Conductivity of fibre composites with fractures on the boundary of inclusions. *Multiscale Modeling & Simulation*, 11(1):152–161, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [RND⁺12a] F. Rizzi, H. N. Najm, B. J. Debuschere, K. Sargsyan, M. Salloum, H. Adalsteinsson, and O. M. Knio. Uncertainty quantification in MD simulations. Part I: Forward propagation. *Multiscale Modeling & Simulation*, 10(4):1428–1459, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [RND⁺12b] F. Rizzi, H. N. Najm, B. J. Debuschere, K. Sargsyan, M. Salloum, H. Adalsteinsson, and O. M. Knio. Uncertainty quantification in MD simulations. Part II: Bayesian inference of force-field parameters. *Multiscale Modeling & Simulation*, 10(4):1460–1492, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Rob09] A. J. Roberts. Model dynamics across multiple length and time scales on a spatial multigrid. *Multiscale Modeling & Simulation*, 7(4):1525–1548, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [RPCG05] Muruhan Rathinam, Linda R. Petzold, Yang Cao, and Daniel T. Gillespie. Consistency and stability of tau-leaping schemes for chemical reaction systems. *Multiscale Modeling & Simulation*, 4(3):867–895, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60320>.
- [RS06] Giovanni Russo and Peter Smereka. A multigrid-Fourier method for the computation of

- elastic fields with application to heteroepitaxy. *Multiscale Modeling & Simulation*, 5(1):130–148, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [RSB10] Dorit Ron, Ilya Safro, and Achi Brandt. A fast multigrid algorithm for energy minimization under planar density constraints. *Multiscale Modeling & Simulation*, 8(5):1599–1620, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1599_s1. **Ron:2010:FMA** [RTE17]
- [RSB11] Dorit Ron, Ilya Safro, and Achi Brandt. Relaxation-based coarsening and multiscale graph organization. *Multiscale Modeling & Simulation*, 9(1):407–423, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p407_s1. **Ron:2011:RBC** [RTW⁺06]
- [RSM⁺11] F. Rizzi, M. Salloum, Y. M. Marzouk, R.-G. Xu, M. L. Falk, T. P. Weihs, G. Fritz, and O. M. Knio. Bayesian inference of atomic diffusivity in a binary Ni/Al system based on molecular dynamics. *Multiscale Modeling & Simulation*, 9(1):486–512, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p486_s1. **Rizzi:2011:BIA** [RV15]
- Rolls:2017:VRR**
Edward Rolls, Yuichi Togashi, and Radek Erban. Varying the resolution of the Rouse model on temporal and spatial scales: Application to multiscale modeling of DNA dynamics. *Multiscale Modeling & Simulation*, 15(4):1672–1693, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Ramirez:2006:GTA**
Jorge M. Ramirez, Enrique A. Thomann, Edward C. Waymire, Roy Haggerty, and Brian Wood. A generalized Taylor–Aris formula and skew diffusion. *Multiscale Modeling & Simulation*, 5(3):786–801, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Reuther:2015:ICV**
S. Reuther and A. Voigt. The interplay of curvature and vortices in flow on curved surfaces. *Multiscale Modeling & Simulation*, 13(2):632–643, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Strong:2006:SRR**
David M. Strong, Jean-François

- Aujol, and Tony F. Chan. Scale recognition, regularization parameter selection, and Meyer's G norm in total variation regularization. *Multiscale Modeling & Simulation*, 5(1):273–303, 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Sch14]
- Giancarlo Sangalli. Capturing small scales in elliptic problems using a residual-free bubbles finite element method. *Multiscale Modeling & Simulation*, 1(3):485–503, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/41140>. [San03]
- Yi Sun, Russel Caflisch, and Bjorn Engquist. A multiscale method for epitaxial growth. *Multiscale Modeling & Simulation*, 9(1):335–354, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p335_s1. [SCE11]
- Bernd Schmidt. A derivation of continuum nonlinear plate theory from atomistic models. *Multiscale Modeling & Simulation*, 5(2):664–694, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Sch06]
- Bernd Schmidt. On the infinite particle limit in Lagrangian dynamics and convergence of optimal transportation meshfree methods. *Multiscale Modeling & Simulation*, 12(1):265–289, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Schmidt:2014:IPL]
- Tamar Schlick and Ken Dill. Special section on multiscale modeling in biology. *Multiscale Modeling & Simulation*, 5(4):1174, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Schlick:2006:SSM]
- Yi Sun and Bjorn Engquist. Heterogeneous multiscale methods for interface tracking of combustion fronts. *Multiscale Modeling & Simulation*, 5(2):532–563, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Sun:2006:HMM]
- T. J. Stasevich and T. L. Einstein. Analytic formulas for the orientation dependence of step stiffness and line tension: Key ingredients for numerical modeling. *Multiscale Modeling & Simulation*, 6(1):90–104, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Stasevich:2007:AFO]

- [SEK⁺05] **Sjoberg:2005:FBD** Daniel Sjöberg, Christian Engström, Gerhard Kristensson, David J. N. Wall, and Niklas Wellander. A Floquet–Bloch decomposition of Maxwell’s equations applied to homogenization. *Multiscale Modeling & Simulation*, 4(1):149–171, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60703>.
- [SFL11] **Schafer:2011:DCA** Matthias Schäfer, Martin Frank, and C. David Levermore. Diffusive corrections to P_N approximations. *Multiscale Modeling & Simulation*, 9(1):1–28, ??? 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p1_s1.
- [SFO09] **Schmidt:2009:EEA** Bernd Schmidt, Fernando Fraternali, and Michael Ortiz. Eigenfracture: An eigendeformation approach to variational fracture. *Multiscale Modeling & Simulation*, 7(3):1237–1266, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SG09] **Stern:2009:IEV** Ari Stern and Eitan Grinspun. Implicit-explicit variational integration of highly oscillatory problems. *Multiscale Modeling & Simulation*, 7(4):1779–1794, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SGOK05] **Setayeshgar:2005:ACI** S. Setayeshgar, C. W. Gear, H. G. Othmer, and I. G. Kevrekidis. Application of coarse integration to bacterial chemotaxis. *Multiscale Modeling & Simulation*, 4(1):307–327, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60087>.
- [SH10] **Szpruch:2010:CHT** Lukasz Szpruch and Desmond J. Higham. Comparing hitting time behavior of Markov jump processes and their diffusion approximations. *Multiscale Modeling & Simulation*, 8(2):605–621, ??? 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Sha04] **Shardlow:2004:NWE** Tony Shardlow. Nucleation of waves in excitable media by noise. *Multiscale Modeling & Simulation*, 3(1):151–167, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60214>.

- [Sha11] **Shapeev:2011:CEB**
 Alexander V. Shapeev. Consistent energy-based atomistic/continuum coupling for two-body potentials in one and two dimensions. *Multiscale Modeling & Simulation*, 9(3):905–932, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p905_s1.
- [Sha16] **Shapeev:2016:MTP** [Sjö05]
 Alexander V. Shapeev. Moment tensor potentials: a class of systematically improvable interatomic potentials. *Multiscale Modeling & Simulation*, 14(3):1153–1173, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SHB⁺14] **Stenzel:2014:GFC** [SL17]
 Ole Stenzel, Christian Hirsch, Tim Brereton, Bjoern Baumeier, Denis Andrienko, Dirk Kroese, and Volker Schmidt. A general framework for consistent estimation of charge transport properties via random walks in random environments. *Multiscale Modeling & Simulation*, 12(3):1108–1134, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SJF⁺11] **Suribhatla:2011:ECA**
 R. Suribhatla, I. Jankovic, A. Fiori, A. Zarlenga, and G. Dagan. Effective conductivity of an anisotropic heterogeneous medium of random conductivity distribution. *Multiscale Modeling & Simulation*, 9(3):933–954, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p933_s1.
- Sjoberg:2005:HDM**
 Daniel Sjöberg. Homogenization of dispersive material parameters for Maxwell’s equations using a singular value decomposition. *Multiscale Modeling & Simulation*, 4(3):760–789, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61415>.
- Shapeev:2017:ACD**
 Alexander V. Shapeev and Mitchell Luskin. Approximation of crystalline defects at finite temperature. *Multiscale Modeling & Simulation*, 15(4):1830–1864, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Sarich:2010:AQM** [SNS10]
 Marco Sarich, Frank Noé, and Christof Schütte. On the approximation quality of Markov state models. *Multiscale Modeling & Simulation*, 8(4):1154–1177, 2010. CODEN MM-

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Sou05] Sofiane Soussi. Second-harmonic generation in the undepleted-pump approximation. *Multiscale Modeling & Simulation*, 4(1):115–148, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60879>.
- [SRK05] Giovanni Samaey, Dirk Roose, and Ioannis G. Kevrekidis. The gap-tooth scheme for homogenization problems. *Multiscale Modeling & Simulation*, 4(1):278–306, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60204>.
- [SP12] M. Scianna and L. Preziosi. Multiscale developments of the cellular Potts model. *Multiscale Modeling & Simulation*, 10(2):342–382, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SS15] Mathias Schäffner and Anja Schlömerkemper. On a Γ -convergence analysis of a quasicontinuum method. *Multiscale Modeling & Simulation*, 13(1):132–172, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SPGL09] Pablo Seleson, Michael L. Parks, Max Gunzburger, and Richard B. Lehoucq. Peridynamics as an upscaling of molecular dynamics. *Multiscale Modeling & Simulation*, 8(1):204–227, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Spi15] Konstantinos Spiliopoulos. Rare event simulation for multiscale diffusions in random environments. *Multiscale Modeling & Simulation*, 13(4):1290–1311, 2015. CODEN MMSUBT.
- [SSJ+12] Maher Salloum, Khachik Sargsyan, Reese Jones, Bert Debusschere, Habib N. Najm, and Helgi Adalsteinsson. A stochastic multiscale coupling scheme to account for sampling noise in atomistic-to-continuum simulations. *Multiscale Modeling & Simulation*, 10(2):550–584, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SSJ+15] Maher Salloum, Khachik Sargsyan, Reese Jones, Habib N. Najm,

Soussi:2005:SHG**Samaey:2005:GTS****Scianna:2012:MDC****Schaffner:2015:CAQ****Seleson:2009:PUM****Salloum:2012:SMC****Spiliopoulos:2015:RES****Salloum:2015:QSN**

- and Bert Debuschere. Quantifying sampling noise and parametric uncertainty in atomistic-to-continuum simulations using surrogate models. *Multiscale Modeling & Simulation*, 13(3):953–976, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [SSVE10] Marco Sarich, Christof Schütte, and Eric Vanden-Eijnden. Optimal fuzzy aggregation of networks. *Multiscale Modeling & Simulation*, 8(4):1535–1561, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [ST17] Weiran Sun and Min Tang. Macroscopic limits of pathway-based kinetic models for E. coli chemotaxis in large gradient environments. *Multiscale Modeling & Simulation*, 15(2):797–826, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Sti04] Panagiotis Stinis. Stochastic optimal prediction for the Kuramoto–Sivashinsky equation. *Multiscale Modeling & Simulation*, 2(4):580–612, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60042>.
- [Sti07] Panagiotis Stinis. Higher order Mori–Zwanzig models for the Euler equations. *Multiscale Modeling & Simulation*, 6(3):741–760, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Sti12] Panos Stinis. Numerical computation of solutions of the critical nonlinear Schrödinger equation after the singularity. *Multiscale Modeling & Simulation*, 10(1):48–60, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Sto08] Vesselin Stoilov. A multiscale model of first and second order phase transformations with application to SMA single crystals. *Multiscale Modeling & Simulation*, 7(1):197–213, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Str05] Henning Struchtrup. Derivation of 13 moment equations for rarefied gas flow to second order accuracy for arbitrary interaction potentials. *Multiscale Modeling & Simulation*, 3(1):221–243, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL
- Stinis:2007:HOM**
- Sarich:2010:OFA**
- Stinis:2012:NCS**
- Sun:2017:MLP**
- Stoilov:2008:MMF**
- Struchtrup:2005:DME**

- <http://epubs.siam.org/sam-bin/dbq/article/60311>.
- [STY14] Guangwei Si, Min Tang, and Xu Yang. A pathway-based mean-field model for *E. coli* chemotaxis: Mathematical derivation and its hyperbolic and parabolic limits. *Multiscale Modeling & Simulation*, 12(2):907–926, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Si:2014:PBM**
- [SVZ11] Robert Scheichl, Panayot S. Vassilevski, and Ludmil T. Zikatanov. Weak approximation properties of elliptic projections with functional constraints. *Multiscale Modeling & Simulation*, 9(4):1677–1699, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1677-s1>. **Scheichl:2011:WAP**
- [SW11] G. Simpson and M. I. Weinstein. Coherent structures and carrier shocks in the nonlinear periodic Maxwell equations. *Multiscale Modeling & Simulation*, 9(3):955–990, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsubt/v9/i3/p955-s1>. **Simpson:2011:CSC**
- [SWF⁺14] Feng Shi, Simi Wang, M. Gregory Forest, Peter J. Mucha, and Ruhai Zhou. Network-based assessments of percolation-induced current distributions in sheared rod macromolecular dispersions. *Multiscale Modeling & Simulation*, 12(1):249–264, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Shi:2014:NBA**
- [SWFM13] Feng Shi, Simi Wang, M. Gregory Forest, and Peter J. Mucha. Percolation-induced exponential scaling in the large current tails of random resistor networks. *Multiscale Modeling & Simulation*, 11(4):1298–1310, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). **Shi:2013:PIE**
- [SWHH04] Christof Schütte, Jessika Walter, Carsten Hartmann, and Wilhelm Huisinga. An averaging principle for fast degrees of freedom exhibiting long-term correlations. *Multiscale Modeling & Simulation*, 2(3):501–526, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60030>. **Schutte:2004:APF**
- [Sun:2005:MAM] Shuyu Sun, Mary F. Wheeler, Mandri Obeyesekere, and Charles Patrick

- Jr. Multiscale angiogenesis modeling using mixed finite element methods. *Multiscale Modeling & Simulation*, 4(4):1137–1167, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62444>. [TK15]
- [SXZ09] Lihua Shen, Jack Xin, and Aihui Zhou. Finite element computations of Kolmogorov–Petrovsky–Piskunov front speeds in random shear flows in cylinders. *Multiscale Modeling & Simulation*, 7(3):1029–1041, ??? 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [TKM15]
- [TASY⁺05] K. Tsaneva-Atanasova, T. J. Shuttleworth, D. I. Yule, J. L. Thompson, and J. Sneyd. Calcium oscillations and membrane transport: The importance of two time scales. *Multiscale Modeling & Simulation*, 3(2):245–264, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60247>. [TLCW13]
- [THS14] Peyman Tavallali, Thomas Y. Hou, and Zuoqiang Shi. Extraction of intrawave signals using the sparse time-frequency representation method. *Multiscale Modeling & Simulation*, 12(4):1458–1493, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Tzou:2015:MFP]
- J. C. Tzou and T. Kolokolnikov. Mean first passage time for a small rotating trap inside a reflective disk. *Multiscale Modeling & Simulation*, 13(1):231–255, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Thompson:2015:SAD]
- W. F. Thompson, R. A. Kuske, and A. H. Monahan. Stochastic averaging of dynamical systems with multiple time scales forced with α -stable noise. *Multiscale Modeling & Simulation*, 13(4):1194–1223, ??? 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Trucu:2013:MMB]
- Dumitru Trucu, Ping Lin, Mark A. J. Chaplain, and Yangfan Wang. A multiscale moving boundary model arising in cancer invasion. *Multiscale Modeling & Simulation*, 11(1):309–335, ??? 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [Taylor:2017:EBC]
- Dane Taylor, Sean A. Myers, Aaron Clauset, Mason A. Porter, and Peter J. Mucha. Eigenvector-based centrality

- measures for temporal networks. *Multiscale Modeling & Simulation*, 15(1):537–574, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [TPC09]
- Tadmor:2004:MIR**
- [TNV04] Eitan Tadmor, Suzanne Nezzar, and Luminita Vese. A multiscale image representation using hierarchical (BV, L^2) decompositions. *Multiscale Modeling & Simulation*, 2(4):554–579, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60044>.
- Tao:2010:NSP**
- [TOM10] Molei Tao, Houman Owhadi, and Jerrold E. Marsden. Non-intrusive and structure preserving multiscale integration of stiff ODEs, SDEs, and Hamiltonian systems with hidden slow dynamics via flow averaging. *Multiscale Modeling & Simulation*, 8(4):1269–1324, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Torrilhon:2006:TDB**
- [Tor06] Manuel Torrilhon. Two-dimensional bulk microflow simulations based on regularized Grad’s 13-moment equations. *Multiscale Modeling & Simulation*, 5(3):695–728, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Turco:2009:TPF**
- A. Turco, D. Passerone, and F. Cardin. Tonelli principle: Finite reduction and fixed energy molecular dynamics trajectories. *Multiscale Modeling & Simulation*, 7(3):1171–1191, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Tanushev:2007:MWG**
- [TQR07] Nicolay M. Tanushev, Jianliang Qian, and James V. Ralston. Mountain waves and Gaussian beams. *Multiscale Modeling & Simulation*, 6(2):688–709, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Templeton:2006:TWN**
- [TS06] Jeremy A. Templeton and Mohammad Shoeybi. Towards wall-normal filtering for large-eddy simulation. *Multiscale Modeling & Simulation*, 5(2):420–444, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- tenTusscher:2005:WPE**
- [tTP05] K. H. W. J. ten Tusscher and A. V. Panfilov. Wave propagation in excitable media with randomly distributed obstacles. *Multiscale Modeling & Simulation*, 3(2):265–282, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60265>.
- Tafti:2010:FBV**
- [TU10] Pouya Dehghani Tafti and Michael Unser. Fractional Brownian vector fields. *Multiscale Modeling & Simulation*, 8(5):1645–1670, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1645_s1.
- Tanskanen:2006:ISD**
- [TW06] Antti J. Tanskanen and Raymond L. Winslow. Integrative structurally detailed model of calcium dynamics in the cardiac diad. *Multiscale Modeling & Simulation*, 5(4):1280–1296, January 2006. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Tran:2017:ERC**
- [TW17] Giang Tran and Rachel Ward. Exact recovery of chaotic systems from highly corrupted data. *Multiscale Modeling & Simulation*, 15(3):1108–1129, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Tao:2015:OSU**
- [TWZ15] Ran Tao, Zhen Wu, and Qing Zhang. Optimal switching under a regime-switching model with two-time-scale Markov chains. *Multiscale Modeling & Simulation*, 13(1):99–131, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Usabiaga:2012:SSF**
- [UBDB⁺12] Florencio Balboa Usabiaga, John B. Bell, Rafael Delgado-Buscalioni, Aleksandar Donev, Thomas G. Fai, Boyce E. Griffith, and Charles S. Peskin. Staggered schemes for fluctuating hydrodynamics. *Multiscale Modeling & Simulation*, 10(4):1369–1408, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Villa:2004:MMS**
- [VBMS04] Elizabeth Villa, Alexander Balaeff, L. Mahadevan, and Klaus Schulten. Multiscale method for simulating protein-DNA complexes. *Multiscale Modeling & Simulation*, 2(4):527–553, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60478>.
- Vanderlei:2011:CMC**
- [VFEK11] Ben Vanderlei, James J. Feng, and Leah Edelstein-Keshet. A computational model of cell polarization and motility coupling mechanics and biochemistry. *Multiscale Modeling & Simulation*, 9(4):1420–1443, 2011. CODEN MM-

- SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1420_s1.
- [VHPT17] **Visconti:2017:MFD**
Giuseppe Visconti, Michael Herty, Gabriella Puppo, and Andrea Tosin. Multivalued fundamental diagrams of traffic flow in the kinetic Fokker–Planck limit. *Multiscale Modeling & Simulation*, 15(3):1267–1293, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [VK10] **Vladimirov:2010:TDP**
Igor G. Vladimirov and A. Y. Klimenko. Tracing diffusion in porous media with fractal properties. *Multiscale Modeling & Simulation*, 8(4):1178–1211, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [VMK05] **Vdovina:2005:OUA**
Tetyana Vdovina, Susan E. Minkoff, and Oksana Korostyshenskaya. Operator upscaling for the acoustic wave equation. *Multiscale Modeling & Simulation*, 4(4):1305–1338, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/62214>.
- [VMM11] **Vellender:2011:WFB**
A. Vellender, G. S. Mishuris, and A. B. Movchan. Weight function in a bimaterial strip containing an interfacial crack and an imperfect interface. application to Bloch–Floquet analysis in a thin inhomogeneous structure with cracks. *Multiscale Modeling & Simulation*, 9(4):1327–1349, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i4/p1327_s1.
- [vN09] **vanNoorden:2009:CPD**
T. L. van Noorden. Crystal precipitation and dissolution in a porous medium: Effective equations and numerical experiments. *Multiscale Modeling & Simulation*, 7(3):1220–1236, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [VO13] **VanKoten:2013:SLS**
Brian Van Koten and Christoph Ortner. Symmetries of 2-lattices and second order accuracy of the Cauchy–Born model. *Multiscale Modeling & Simulation*, 11(2):615–634, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [VS11] **Voss:2011:SPS**
T. Voss and J. M. A. Scherpen. Structure preserving spatial discretization of a 1-D piezoelectric Timoshenko beam. *Multiscale Modeling*

- Simulation*, 9(1):129–154, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v9/i1/p129_s1. [VVVR07]
- Vanderhoydonc:2012:NEM**
- [VV12] Ynte Vanderhoydonc and Wim Vanroose. Numerical extraction of a macroscopic PDE and a lifting operator from a lattice Boltzmann model. *Multiscale Modeling & Simulation*, 10(3):766–791, 2012. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [VZ08]
- Vanderhoydonc:2016:CRA**
- [VV16] Ynte Vanderhoydonc and Wim Vanroose. Constrained runs algorithm as a lifting operator for the one-dimensional in space Boltzmann equation with BGK collision term. *Multiscale Modeling & Simulation*, 14(4):1488–1512, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [WBG08]
- VanLeemput:2008:MAE**
- [VVR08] Pieter Van Leemput, Wim Vanroose, and Dirk Roose. Mesoscale analysis of the equation-free constrained runs initialization scheme. *Multiscale Modeling & Simulation*, 6(4):1234–1255, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [WCW15]
- VanLeemput:2007: AHL**
- Pieter Van Leemput, Christophe Vandekerckhove, Wim Vanroose, and Dirk Roose. Accuracy of hybrid lattice Boltzmann/finite difference schemes for reaction-diffusion systems. *Multiscale Modeling & Simulation*, 6(3):838–857, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Vergara:2008: MBC**
- Christian Vergara and Paolo Zunino. Multiscale boundary conditions for drug release from cardiovascular stents. *Multiscale Modeling & Simulation*, 7(2):565–588, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Williams:2008: ARF**
- Sarah A. Williams, John B. Bell, and Alejandro L. Garcia. Algorithm refinement for fluctuating hydrodynamics. *Multiscale Modeling & Simulation*, 6(4):1256–1280, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Wang:2015: MCC**
- Xin Wang, Liquan Cao, and Yaoshu Wong. Multiscale computation and convergence for coupled thermoelastic system in composite materials. *Multiscale Modeling & Simulation*, 13(2):

- 661–690, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WF08] **Wang:2008:ADN**
Wei-Wei Wang and Xiang-Chu Feng. Anisotropic diffusion with nonlinear structure tensor. *Multiscale Modeling & Simulation*, 7(2):963–977, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WF14] **Weber:2014:CMR**
M. Weber and K. Fackeldey. Computing the minimal rebinding effect included in a given kinetics. *Multiscale Modeling & Simulation*, 12(1):318–334, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WGM10] **Walter:2010:SMR**
J. Walter, O. Gonzalez, and J. H. Maddocks. On the stochastic modeling of rigid body systems with application to polymer dynamics. *Multiscale Modeling & Simulation*, 8(3):1018–1053, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Washio:2013:MHS] **Washio:2013:MHS**
Takumi Washio, Jun ichi Okada, Akihito Takahashi, Kazunori Yoneda, Yoshimasa Kadooka, Seiryu Sugiura, and Toshiaki Hisada. Multiscale heart simulation with cooperative stochastic cross-bridge dynamics and cellular structures. *Multiscale Modeling & Simulation*, 11(4):965–999, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WKS07] **Weber:2007:SCP**
Marcus Weber, Susanna Kube, Lionel Walter, and Peter Deuffhard. Stable computation of probability densities for metastable dynamical systems. *Multiscale Modeling & Simulation*, 6(2):396–416, 2007. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WLS08] **Wang:2008:DGM**
Wei Wang, Xiantao Li, and Chi-Wang Shu. The discontinuous Galerkin method for the multiscale modeling of dynamics of crystalline solids. *Multiscale Modeling & Simulation*, 7(1):294–320, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [WLT06] **Wolfsteiner:2006:WMM**
Christian Wolfsteiner, Seong H. Lee, and Hamdi A. Tchelepi. Well modeling in the multiscale finite volume method for subsurface flow simulation. *Multiscale Modeling & Simulation*, 5(3):900–917, January 2006. CODEN MMSUBT. ISSN 1540-

- 3459 (print), 1540-3467 (electronic).
- Wu:2010:PDB**
- [WN10] Hao Wu and Frank Noé. Probability distance based compression of hidden Markov models. *Multiscale Modeling & Simulation*, 8(5):1838–1861, 2010. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1838-1861>.
- Wu:2014:OEF**
- [WN14] Hao Wu and Frank Noé. Optimal estimation of free energies and stationary densities from multiple biased simulations. *Multiscale Modeling & Simulation*, 12(1):25–54, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Williams:2013:EHR**
- [WSK13a] Matthew O. Williams, Peter J. Schmid, and J. Nathan Kutz. Erratum: Hybrid Reduced-Order Integration with Proper Orthogonal Decomposition and Dynamic Mode Decomposition. *Multiscale Modeling & Simulation*, 11(4):1311, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See [WSK13b].
- Williams:2013:HRO**
- [WSK13b] Matthew O. Williams, Peter J. Schmid, and J. Nathan Kutz. Hybrid reduced-order integration with proper orthogonal decomposition and dynamic mode decomposition. *Multiscale Modeling & Simulation*, 11(2):522–544, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). See erratum [WSK13a].
- Wang:2013:CSB**
- [WTJT13] P. Wang, D. M. Tartakovsky, K. D. Jarman, Jr. , and A. M. Tartakovsky. CDF solutions of Buckley–Leverett equation with uncertain parameters. *Multiscale Modeling & Simulation*, 11(1):118–133, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- Wessel:2005:RAS**
- [WTT05] S. Wessel, S. Trebst, and M. Troyer. A renormalization approach to simulations of quantum effects in nanoscale magnetic systems. *Multiscale Modeling & Simulation*, 4(1):237–249, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60206>.
- Wallner:2007:SPL**
- [WYG07] J. Wallner, E. Nava Yazdani, and P. Grohs. Smoothness properties of Lie group subdivision schemes. *Multiscale Modeling & Simulation*, 6(2):493–505, 2007. CODEN MMSUBT.

ISSN 1540-3459 (print), 1540-3467 (electronic).

Xiong:2009:SCM

- [XEMK09] Ruichang Xiong, Rebecca L. Empting, Ian C. Morris, and David J. Keffer. Self-consistent multiscale modeling in the presence of inhomogeneous fields. *Multiscale Modeling & Simulation*, 8(1):193–203, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Xu:2016:MIB

- [XGBD16] Feifei Xu, Max Gunzburger, John Burkardt, and Qiang Du. A multiscale implementation based on adaptive mesh refinement for the nonlocal peridynamics model in one dimension. *Multiscale Modeling & Simulation*, 14(1):398–429, 2016. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Xia:2014:HDF

- [XH14] Bingxing Xia and Viet Ha Hoang. High dimensional finite elements for multiscale wave equations. *Multiscale Modeling & Simulation*, 12(4):1622–1666, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Xiu:2005:EFM

- [XK05] Dongbin Xiu and Ioannis G. Kevrekidis. Equation-free, multiscale computation for unsteady random diffusion.

Multiscale Modeling & Simulation, 4(3):915–935, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/61500>.

Xiu:2004:TSN

- [XT04] Dongbin Xiu and Daniel M. Tartakovsky. A two-scale non-perturbative approach to uncertainty analysis of diffusion in random composites. *Multiscale Modeling & Simulation*, 2(4):662–674, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60268>.

Xie:2014:MCD

- [XX14] Hui Xie and Xuejun Xu. Mass conservative domain decomposition preconditioners for multiscale finite volume method. *Multiscale Modeling & Simulation*, 12(4):1667–1690, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Xie:2009:SEP

- [XY09] Gang Xie and Thomas P.-Y. Yu. Smoothness equivalence properties of general manifold-valued data subdivision schemes. *Multiscale Modeling & Simulation*, 7(3):1073–1100, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- [YCF⁺08] **Yang:2008:DRI** Xiaofeng Yang, Zhenlu Cui, M. Gregory Forest, Qi Wang, and Jie Shen. Dimensional robustness and instability of sheared, semidilute, nanorod dispersions. *Multiscale Modeling & Simulation*, 7(2):622–654, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YDL05] **Yu:2005:MMD** Peng Yu, Qiang Du, and Chun Liu. From micro to macro dynamics via a new closure approximation to the FENE model of polymeric fluids. *Multiscale Modeling & Simulation*, 3(4):895–917, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60279>.
- [YF09] **Ying:2009:FCP** Lexing Ying and Sergey Fomel. Fast computation of partial Fourier transforms. *Multiscale Modeling & Simulation*, 8(1):110–124, 2009. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YGO07] **Yin:2007:TVR** Wotao Yin, Donald Goldfarb, and Stanley Osher. The total variation regularized L^1 model for multiscale decomposition. *Multiscale Modeling & Simulation*, 6(1):190–211, 2007.
- [Yin15a] **Ying:2015:DPH** Lexing Ying. Directional preconditioner for 2D high frequency obstacle scattering. *Multiscale Modeling & Simulation*, 13(3):829–846, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Yin15b] **Ying:2015:FDC** Lexing Ying. Fast directional computation of high frequency boundary integrals via local FFTs. *Multiscale Modeling & Simulation*, 13(1):423–439, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Yin15c] **Ying:2015:SPP** Lexing Ying. Sparsifying preconditioner for pseudospectral approximations of indefinite systems on periodic structures. *Multiscale Modeling & Simulation*, 13(2):459–471, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [Yin15d] **Ying:2015:SPL** Lexing Ying. Sparsifying preconditioner for the Lippmann–Schwinger equation. *Multiscale Modeling & Simulation*, 13(2):644–660, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

- 3459 (print), 1540-3467 (electronic).
- [Yin17] Lexing Ying. Tensor network skeletonization. *Multiscale Modeling & Simulation*, 15(4):1423–1447, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YLY15] Haizhao Yang, Jianfeng Lu, and Lexing Ying. Crystal image analysis using 2D synchrosqueezed transforms. *Multiscale Modeling & Simulation*, 13(4):1542–1572, 2015. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YM11] Jennifer Young and Sorin Mitran. A continuum-microscopic algorithm for modeling fibrous, heterogeneous media with dynamic microstructures. *Multiscale Modeling & Simulation*, 9(1):241–257, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsub/v9/i1/p241-s1>.
- [YWS11] G. Yin, Le Yi Wang, and Yu Sun. Stochastic recursive algorithms for networked systems with delay and random switching: Multiscale formulations and asymptotic properties. *Multiscale Modeling & Simulation*, 9(3):1087–1112, 2011. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/mms/resource/1/mmsub/v9/i3/p1087-s1>.
- [YY14] Zaibao Yang and Wen-An Yong. Asymptotic analysis of the lattice Boltzmann method for generalized Newtonian fluid flows. *Multiscale Modeling & Simulation*, 12(3):1028–1045, 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YYW13] G. Yin, Quan Yuan, and Le Yi Wang. Asynchronous stochastic approximation algorithms for networked systems: Regime-switching topologies and multi-scale structure. *Multiscale Modeling & Simulation*, 11(3):813–839, 2013. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).
- [YBFO10] Lei Zhang, Leonid Berlyand, Maxim V. Fedorov, and Houman Owhadi. Global energy matching method for atomistic-to-continuum modeling of self-assembling biopolymer aggregates. *Multiscale Modeling & Simulation*, 8(5):1958–1980,

Ying:2017:TNS

Yang:2015:CIA

Young:2011:CMA

Yin:2011:SRA

Yang:2014:AAL

Yin:2013:ASA

Zhang:2010:GEM

- ???? 2010. CODEN MM-SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/mms/resource/1/mmsubt/v8/i5/p1958_s1. [ZFW05]
- [ZBK+06] Xiaoyu Zhang, Chandrajit L. Bajaj, Bongjune Kwon, Todd J. Dolinsky, Jens E. Nielsen, and Nathan A. Baker. Application of new multiresolution methods for the comparison of biomolecular electrostatic properties in the absence of global structural similarity. *Multiscale Modeling & Simulation*, 5(4):1196–1213, January 2006. CODEN MM-SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [ZG04]
- [ZCH15] Zhiwen Zhang, Maolin Ci, and Thomas Y. Hou. A multiscale data-driven stochastic method for elliptic PDEs with random coefficients. *Multiscale Modeling & Simulation*, 13(1):173–204, ??? 2015. CODEN MM-SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [ZG05]
- [ZCL14] Lei Zhang, Liqun Cao, and Jianlan Luo. Multiscale analysis and computation for a stationary Schrödinger–Poisson system in heterogeneous nanostructures. *Multiscale Modeling & Simulation*, 12(4):1561–1591, ??? 2014. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). [ZJ17]
- [Zhou:2005:KSS] Ruhai Zhou, M. Gregory Forest, and Qi Wang. Kinetic structure simulations of nematic polymers in plane Couette cells. I: The algorithm and benchmarks. *Multiscale Modeling & Simulation*, 3(4):853–870, 2005. CODEN MM-SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60946>.
- [Zou:2004:MDA] Yu Zou and Roger Ghanem. A multiscale data assimilation with the ensemble Kalman filter. *Multiscale Modeling & Simulation*, 3(1):131–150, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60116>.
- [Zou:2005:EES] Yu Zou and Roger Ghanem. Error estimation in the spatial discretization of multiscale bridging models. *Multiscale Modeling & Simulation*, 3(4):940–956, 2005. CODEN MM-SUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60195>.
- [Zhu:2017:VPF] Yuhua Zhu and Shi Jin. The Vlasov–Poisson–Fokker–Planck system with uncertainty and

a one-dimensional asymptotic preserving method. *Multiscale Modeling & Simulation*, 15(4): 1502–1529, 2017. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Zou:2008:UQA

- [ZK08] Yu Zou and Ioannis G. Kevrekidis. Uncertainty quantification for atomistic reaction models: An equation-free stochastic simulation algorithm example. *Multiscale Modeling & Simulation*, 6(4):1217–1233, 2008. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic).

Zagaris:2004:FSD

- [ZKK04] Antonios Zagaris, Hans G. Kaper, and Tasso J. Kaper. Fast and slow dynamics for the computational singular perturbation method. *Multiscale Modeling & Simulation*, 2(4): 613–638, 2004. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/60357>.

Zhang:2005:NOS

- [ZYL05] Q. Zhang, G. Yin, and R. H. Liu. A near-optimal selling rule for a two-time-scale market model. *Multiscale Modeling & Simulation*, 4(1):172–193, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL

<http://epubs.siam.org/sam-bin/dbq/article/60633>.