A Complete Bibliography of Publications in *Numerische Mathematik* (2010–2019)

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: https://www.math.utah.edu/~beebe/

30 November 2023
Version 1.65

Title word cross-reference

$(-1, 1)$ [DMN12]. 1 [FR19, RS11]. 2 [HR19, HOR17a, TWW15]. 2/3 [BT15]. 3 [BKW10, CCZ13, EMR19, LCH12]. 5 [BKW10]. α [ABC15]. B [BCM17, MMMKV16]. C^0 [BNRS17, CCQ13, SH18, DLT12]. C^r [Mat13]. δ [YS13]. dG(1) [CLA19]. H [BPZ12, FKS18, FKS19, FLOP10, GMS19, dVBRS11]. $H(\text{curl}; \Omega)$ [HLZ12]. $H(\text{div})$ [dVBMR16]. $H(\mathbf{curl})$ [dVBMR16]. $H(\text{curl}, \text{div})$ [DLT13]. $H(\text{div})$ [AT19]. $h/2$ [FLOP10]. H^1 [BY14, LC14]. $H^2 H^2$ [Bör10]. $\mathbf{H}^2$ [LMcS17]. hp [BDGQ12, HM13, dVCMR18, dVMM19]. k [dVBRS11]. L [Pru14]. L^2 [Har18, LC14, Mak18, NW18]. L^∞ [Hac13, LC14, CC10b]. L^p [Li15]. L_2 [BY14, Wil19, DS11]. L_p [BLM11a]. M [JLL15, XL17]. $\mathbf{hp}$ [CNSV17]. $\mathbf{L^P}$ [CM18]. $\mathcal{H}$ [DHS17, FMP15]. $n = 5$ [HJZ14]. $\nabla \cdot \boldsymbol{B} = 0$ [HMX17]. p [EGLTP17, dVBRS11]. P_1 [LL10]. QR [CH19]. r [Dic12]. S^2 [BD12b]. T [CC13, CFL11]. θ [GAB13]. $\boldsymbol{H}(\text{div})^*$ [CPS16]. W [LV13]. $W^{1,p}$ [Mir12].

-AFEM [CNSV17]. **-BEM** [HM13, GMS19]. **-coercivity** [CC13].
-conforming [AT19, dVBMR16]. **-D** [CCZ13, FR19, HR19]. **-designs**
[CFL11]. **-discretization** [Har18, NW18]. **-elements** [LMcS17]. **-elliptic**
[DLT13, HLZ12]. **-error** [CM18]. **-matrices** [FKS19, Bör10, FKS18].
-matrix [DHS17, FMP15, JLL15, XL17]. **-method** [GAB13]. **-methods**
[LV13]. **-nonconforming** [CCQ13]. **-norm** [EGLTP17]. **-projection** [BY14].
-refinement [dVBRS11]. **-series** [BCM17, MMMKV16]. **-singularities**
[YS13]. **-stability** [BY14]. **-stable** [Pru14].

1 [SB13a].

2 [SB13b].

A-posteriori [RW12]. **Absorbing** [ABK13]. **Abstract**
[SDH$^+$14, Mas16, FGP10b]. **Accelerated** [SX15b]. **Acceleration**
[Sid11a, SCHH13]. **Accuracy** [HR14, BGR18, MR17]. **Accurate**
[Koe19, XXL12b, XXL12a, BZ17, CCLM15, CGSW16, DWWW17, DK11,
DH17, Lin17, NP15, XL17]. **acoustic** [KK15c, MP18b, dVMRR17]. **action**
[BL13a]. **active** [GGGS19]. **actual** [NN11]. **adaptations** [DMG19].
adapted [EÖ17, Mir12]. **Adaptive** [AORS17, CHTV18, DM16, EPS17,
FGH$^+$16, FHPS19, Gan13, GG12, GMSS11, Git14, GY17, KSD11, Mir16,
SV16, BC17, CGMM11, CG11, CPR13, CGMM14, CSW16, CPB17, CXH10,
CCZ13, DS11, Dem16, Dem17, EMR19, FGHP17, FLOP10, Gal15, GK19a,
HSX12, KdS18, KS11c, OB17, Pla15, Rei12, RS18, SZ13, SH18]. **adaptivity**
[KK15a, Rad19, dVMM19]. **Additive** [LMR16, Bre13, DK16b, GS16]. **ADI**
[BBKS18, HJS15, MOR17]. **ADI-type** [BBKS18]. **Adiabatic** [JM18].
adjoint [AN19, BBB17, CEM14, GGMO16]. **adjoints** [BMWB14].
advection [AH14, AH17, BGGH16, DS18c]. **advection-diffusion** [AH14].
AFEM [CNSV17]. **affine** [KR16, MMMKV16]. **aggregation** [PCCC18].
ALE [BKN13]. **algebra** [BCM17]. **algebraic** [AR16, BBK17, BM13,
BBKS18, BMP10, Men11, Not16b, PSV18, XXL12a, XL17]. **Algorithm**
[SCHH13, VVVF10, BCN19, BCPS10, BBKS18, CGSW16, CH19, Dic12,
EMB10, HHYY14, HLS11, Ise11, JMM12, KLL19, MMMS10, OYV17, Rie19,
SG11, ST16, Tu11]. **algorithms** [BLF19, BCGS11, CHTV18, DMG19, HH11,
Kir11, NP15, Nie10, PT10, SX13, SX15a, SX15b, XL17]. **aliasing** [BT15].
all-at-once [Tak15]. **Allen** [BM11, CCS17]. **Almost**
[WMS10, FHPS19, OTMS13, TOMS13]. **alternating** [HY15]. **alternative**
[Pin18]. **Ampère** [BCMO16, Nei10, NZ19]. **analog** [BY19]. **Analysis**
[ABER10, BD12a, BGJ18, BIM11, Ber16, CLLS19, DLT13, FKNP11,
GGM14, GV15, GGK$^+$19, GGRG15, HPS16, KP17, LOSV16, PS11, QRB11,
RS11, RE14, Run14, SS18, SCHH13, TWZ17, XZ10, Zha16a, ABM18,
AMORB16, AL17, ABC15, AG10, BDQ10, BL13a, BB12, BRK17, BJLZ15,
BBD16, BDLM18, BL13b, BC15a, BDQ11, BKN13, BM17, Bre13, BDS13,
CDNP16, CPS16, CGG19, CC19, CDL19, CP14, CS12, DES11, DS18c,

DWWW17, DM14, DHM19, DGS15, EH18, EH13, GMS19, GW19, GMP⁺14,
GKN⁺18, GMT11, GSV19, HR12, HL16, HSD18, HS19a, HLZ12, HP17,
HPS18, HKT14, HL18, KS11a, KPR14, LC14, LS16, LN18, LCWW17, LJS18,
MOS11, Mak18, NGKN10, NvPZ10, Nou19, PS18, PGW18, RMS17, ST16,
SB13a, SX13, TSGU13, TWW15, TT15, VGG14, Wen10]. **analysis**
[Wil19, WS19, ZS17, ZDQ17, dHQS15, dVBRS11]. **Analytic** [CG17]. **and/of**
[TWW15]. **angle** [HKK12]. **Anisotropic**
[Mon19, BGN12, CCP13, CCZ13, Kop17, LN18, LHQ14, Mir16, SY17]. **anti**
[AR19]. **anti-Gauss** [AR19]. **any** [ZZ15]. **application**
[Adc10, BK12, BC15a, CEM14, Che12, CC13, CLM15, GV15, HSLZ19, HW18,
Hor17b, HSZ13, NTT16]. **applications** [ABM18, AHR14, BL13a, BCPS10,
BDQ11, HW13, JZ13, KKN14, Nie10, NTW18, NOS16, YS13, ZT12].
applied [FGP10a, FGP10b]. **Applying** [GGS15]. **approach**
[BO19, BG17, CGMM11, CCGP17, CH18b, CM10, DS18c, FY11, GWCH10,
GP11, GGGS19, Mak18, NPVW19, Not16b, OPS15, BEG14].
approximability [FMP15]. **Approximate**
[BH11, BAK19, BCCH19, BKW10, Rus10]. **Approximating**
[BV14, Pin18, Wan12]. **Approximation**
[BMWB14, BS17, Bör10, BC16, BM17, BS19, CHW12, CMP13, vyKS14,
ABB19, AP11, ABB15, BLM11a, BBL11, BY15, BO17, BGN12, BM11,
Bar13b, BHK10, BKV15, BG12, BBD16, BDQ11, BLP19, BHL⁺19, CD11,
CMR18, DMG19, DCC18, DU15, DHS17, DMMS11, Egg19, Eng14, EZ15,
EH12, GT14, GK19a, GSY17, GGRG15, HSW17, HR10, KKR12, KOZ16,
KK15c, KS11b, LSW11, LMMR19, LLY15, NTT16, NTW18, Nou19, Nov14,
OMS13, PC13, RHM13, SY17, SG. . . 12, Wac17, XCW10, ZT12].
approximations
[AN19, BCS14a, Bal12, BFG13, BPS10, BBK17, BV12, BR17, BMO15, BEJ14,
CCP13, CEM14, EK18, ER18, Fro18, GGMO16, GNS15, GEEF17, HR14,
HR12, HJT14, HL18, KK15a, KR16, LM11, LHQ14, LM13, NS14, TWZ17].
arbitrary [Mir12, Mon19]. **argument** [Fuk10]. **arising**
[BLM11b, BG16, DD16, Eng14, GMP⁺14, PG17]. **Arnold** [CGG19].
Arnoldi [BG12, ST16]. **Artificial** [BMGN18]. **assimilation** [BO18].
associated [BCD15, GK19b]. **assumption** [CGG16]. **assumptions** [CC19].
Asymptotic
[FS14, HL19, OYV17, SH17, WZH13, ADBN16, BDF12, CGMM14, HJNS17].
asymptotically [Pla15, SV12]. **Asymptotics** [LT10, BLM11a].
Asynchronous [MSV17]. **atomistic** [LOSV16, MOS11, OLOV18].
atomistic/continuum [LOSV16, MOS11, OLOV18]. **attractors**
[Pie18, ZT12]. **Augmented** [CC10a, BB12, Jin17, LM15]. **Automatic**
[Pla15, BMWB14]. **auxiliary** [ZLL⁺12]. **average** [DH17, LMR16].
Averaging [Dal10, CLM17]. **axisymmetric** [BGN19].

B [RMS17]. **B-splines** [RMS17]. **Babuska** [Mak18]. **backscattering**
[HHR11]. **Backward** [ST16, AL15, DLPV18, GMT11, LLW10]. **Balanced**

[Sin12, BL17, CDKLM18]. **Balancing** [Zam13]. **Banach**
[FN12, JZ13, JZ14, JY16, KdS18, Ste15, WZ10, ZWJ19, dHQS15]. **band**
[Eng14, GG12]. **barrier** [MOGO17]. **barycentric**
[BDHK12, BRZ13, CH18b, Mas14, MdC17]. **based** [Bal12, BBK17, BKW10,
CGG19, CHTV18, CS17, CH12, DS16, DSX16, EH18, FLOP10, FHN⁺14,
GS17, GGM14, GH14a, GH14b, GP11, HS19a, HT18, KT12, LA11, LFS16,
MOS11, Mat13, NTW18, Nou19, OLOV18, RMS17, WX12, Wei11]. **bases**
[BV12, MV15]. **basis** [CQR16, HSW17, PT14, RHM13, SV13]. **BDDC**
[Sou13, Tu11]. **BDF** [BMWB14]. **BE** [GMSS11]. **beam** [DGBL⁺15]. **Bear**
[CLLS19]. **Beavers** [CGHW11]. **Bellman** [BMZ10, SS16]. **Beltrami**
[BHL⁺19]. **BEM** [HM13, Bal12, BBSV13, BGIS17, BN16, FFKP15, FHPS19,
GMS19, GHS12, OB17, Wei11]. **BEM-based** [Wei11]. **BEM-FEM** [GHS12].
bending [Bar13b, Zha16a, dVM11]. **Benjamin** [BMGN18, DHKR16].
Bernoulli [Kre17]. **Bernstein** [Kir11, KT12, Kir17, PS16]. **Bessel** [Hor17b].
best [BY15, BO17, HL18]. **between** [CMR18, Fer13b, HU17, Jun15].
Bézout [NNT15]. **BGK** [ADBN16]. **bidiagonal** [Bar13a]. **bidomain**
[Zam13]. **Bielak** [GHS12]. **bifurcations** [Chá11, HJNS17]. **biharmonic**
[BAK19, CG14, PS13]. **binary** [YBTB14]. **Bingham** [CRS16]. **biology**
[GT14]. **bioluminescence** [GWCH10]. **Biot** [AKYZ18]. **Birkhoff**
[FGP10a, FGP10b]. **bisection** [CNX12]. **Bivariate**
[EKAB16, Che12, NNT15]. **blended** [LOSV16]. **blending** [OLOV18]. **Block**
[DLPV18, AR19, BLM11a, BS13, Hac16, Har15, LZ15, OYV17].
block-Jacobi [OYV17]. **block-structured** [Hac16]. **blocks** [Koe19]. **blow**
[Cho18, HW18, ZS17]. **blow-up** [Cho18, HW18, ZS17]. **Bona** [BMGN18].
both [HHS15, HM16]. **Bouligand** [CN19]. **bound** [FLMP12, GMT11].
bound-constrained [GMT11]. **Boundary**
[GMÖ⁺18, HJHA17, Ste14, VGG14, Adc10, ABK13, BY19, BHT17, BIM11,
BMGN18, BHL⁺19, CWHLT15, CGS14, DU15, EÖ17, Era15, EOS17, FM18,
FGH⁺16, FGHP17, FL15, FH17, Gan13, GKL19, HK19a, HQ12, HT18,
HK17, JL13b, JSW18, KOZ16, Kre17, LA11, LJS18, Mas16, OS14, OPS15,
QRSZ19, SV13, Say13, SH17, SW11b, ST18, ZZ15, vyKS14].
boundary-driven [FH17]. **bounded** [Che12, KR16, MOR17, Wen10].
bounds [AV11, BBB17, BCCH19, BKUV17, CDM⁺18, CG14, DS16, FGL14,
Har18, HHS15, LN15, PS16, SB13a, SB13b, XCW10]. **Boussinesq** [OS19].
box [PT10]. **branches** [GL11]. **Bregman** [SH19]. **Brent** [WG13].
Brinkman [AMORB16, GGM14, GKSS13, LDQ11]. **Bubble** [BS10, GN14].
Buchholz [LT10]. **build** [Maz11a]. **bulk** [BHLZ16]. **bulk-surface** [BHLZ16].
Burgers [LP15].

c [Dic12]. **Cahn**
[BM11, CCS17, CHW17, CP14, DWWW17, ER15, GL11, GWW14, LCWW17].
calculation [Hor17b]. **calculations** [Eng14]. **calculus** [Chr11, EHRS12].
Camassa [ADM19]. **canonical** [EH12]. **capillary** [KP17]. **capturing**
[HM14]. **cardiac** [Zam13]. **Carlo** [BSZ11, LRS20, BC15a, BD12b, GGK⁺19,

GKSS13, GKN⁺15, HANT16, HMOU16, LRS19, PGW18, TSGU13]. **case**
[ABER10]. **Cauchy** [BR11]. **cbc** [Dic12]. **CCC** [BR17]. **cell**
[CCP13, Era15, GGGS19, YWY14]. **cell-centered** [CCP13, Era15]. **cells**
[HJHA17]. **centered** [CCP13, Era15, ZZ15]. **Central** [CKL14].
Central-upwind [CKL14]. **certain** [Smy10]. **CG** [ZBJ18]. **chain** [MOS11].
chains [MS19]. **changing** [CC13, DCC18]. **channel** [BHT17].
characteristics [SWS16]. **characterization** [Kim19]. **Chebyshev**
[Mas14, Maz11b, XCW10]. **Chebyshevian** [Maz11a]. **chemistry** [BCS14a].
circle [HJT14]. **Circulant** [GKN⁺18]. **clarifier** [BKTT10].
clarifier-thickener [BKTT10]. **class**
[BMN11, BB13, BBC⁺18, CWHLT15, DD16, NvPZ10, Not19, RS11, Ven11].
classes [iTSMM10]. **classical** [AN18, BS13, CG17, LMS19, SX15a].
classification [JO10]. **Clenshaw** [HS15]. **closed** [BGN12, BEG14, KLL19].
clouds [DM14]. **clusters** [Gal15, LZ15]. **co** [DL11]. **co-dimension** [DL11].
coarse [EMR19, SDH⁺14]. **coefficient** [HQ12, LS18]. **coefficients**
[AY18, BD11, BSZ11, CC13, DCC18, GGK⁺19, GKN⁺15, GKN⁺18, mHZZ17,
Ise11, Li15, LMR16, SS18, SS16, TSGU13, TWZ17]. **coercivity** [CC13].
Collocation [ST18, AR16, LSW12, Lui17, MNT13, Nak17]. **combined**
[SS15]. **common** [NNT15]. **commutator** [HK19b]. **commutator-free**
[HK19b]. **compactly** [SV13]. **compactness** [HHX19]. **companion**
[VVVF10]. **comparison** [BD12a, BHK10, BS19, LM15]. **complementarity**
[GAB13]. **Complete** [HK19a]. **completion** [BGJ18, GK19a]. **complex**
[BGHL14, Seg13, Zha16b]. **complexes** [CHH18]. **complexity** [Bel11].
component [Nou19]. **Componentwise** [NP15]. **composites** [PC13].
composition [CMMV14]. **compressed** [VD11]. **compressible**
[AH17, CR12, FKM16, GMN19, Kar13, SS15, Wil19]. **compressor** [Str15].
computable [AV11]. **Computation** [MP15, Cho18, CCSS16, Fuk10, Fuk13,
GL11, GST19, GP11, Ise11, JO10, Man13, Rie19, SG11, SB13b, WZH13].
Computational [CFL11, FHPS19]. **computations** [DK11, NP15].
Computing [ACWL14, NNT15, Seg13, ZLL⁺12, BL13b, EMB10, GG12,
JLL15, KLS19, MV15]. **condensation** [Loz19]. **condition**
[CGHW11, DP16, HKK12, HK19b, JL13a, KdS18, KOZ16, Nak12, PZ18].
conditional [Fuk13]. **conditions** [AHR14, ABK13, BMGN18, DU15, GKL19,
HK19a, HW11, LA11, LJS18, vyKS14]. **conductivity** [HKQ18, PC13]. **cone**
[GS13, KdS18]. **cone-constrained** [GS13]. **cones** [Mir16]. **confinement**
[GY12]. **conformal** [GT19, KPR14]. **Conforming**
[Wac17, DO17, GN14, KK15b, SZ13, AT19, dVBMR16]. **conjecture** [HJZ14].
conjugate [EGLTP17, PT10]. **connection** [Jun15]. **consecutive** [Dri12].
conservation
[AGS10, BBC⁺18, BG16, BKTT10, GM14, HM14, MR17, Tow18].
conservative [EZ15, JP13]. **Consistency** [KSD10, Kla15]. **consistent**
[ADF18, CEM14]. **constant** [AP11, BDHK12, FLZ19]. **constants**
[OMS13, RHM13]. **Constrained** [Str15, AGS10, ABC15, CQR16, CHL13,
GS13, GMT11, HS19a, NPVW19, PG17, SG11]. **constraint** [Owe16].

constraints
[EMB10, FLMP12, HHYY14, NW18, OW11, PT10, RW12, dHQS15].
Constructing [BV12, HHS15, ZBJ18]. **Construction**
[AT19, DGSY17, BD11, DL11]. **contact** [BK12, BGIS17, CMR18, DH17,
HR10, KSD10, KSD11, Kla15, Rad19, WHC14]. **contact-stabilized**
[KSD11, Kla15]. **Continuation** [BEK11, Bel11]. **Continuous**
[HW18, LL12, BRK17, CC13, DLT13, Li15, YBTB14]. **continuum**
[Cal17, LOSV16, MOS11, OLOV18]. **control** [AORS17, ABM18, BM11,
CQR16, DD16, GY17, HSLZ19, HFL12, JSW18, KK15a, KSD11, LV13, NV12,
NPVW19, OPS15, OW11, RW12, SG11, SA10, Tak15]. **controllability**
[BHL11]. **controlling** [DS11, Dem16]. **controls** [CHW12]. **convection**
[ABH13, BBFP18, BBK17, BS12, BC12, BHLZ19, CJ14, FKNP11, FH17,
HJT14, KKR12, LHQ14, TWW15]. **convection-diffusion**
[BBFP18, BBK17, BS12, BC12, CJ14, FKNP11, HJT14, KKR12].
convection-reaction-diffusion [ABH13]. **Convergence**
[AG10, BBD16, BC15a, BMZ10, BDS13, CNSV17, CPB17, CLA19, CXH10,
CDL19, CS12, DFL16, DS11, Dem17, DWWW17, DHKR16, EH18, FKM16,
FLOP10, GW19, GS17, GH14b, GLW19, HS19a, HQ12, Har15, HLZ12, HJS15,
HKT14, HSX12, HL18, KdS18, KS11a, KLLG17, KPR14, LS18, LZ15, Nak17,
NTT16, PGW18, Pie18, PCCC18, SCHH13, Tow18, Ais15, AR16, BL13a,
BT15, BHK10, BG12, BR17, BC17, Cal17, CvN13, DE16, ER18, FM18,
FGH$^+$16, FGHP17, GGS15, Gan13, GLS17, GY17, HL19, HKK12, HY15,
HH10, KL18b, NN11, NZ19, ÖS13, OTMS13, OYV17, SW19, Sid11a, Sin12,
SH19, SH18, SX13, SX15a, SX15b, TOMS13, Wan18, ZRK16, dVCMR18].
Convergent [CR12, AKST14, ABAC16, CLM15, FLS10, GWW14, Kar13,
KL17, KLL19, NKL21, Rie19, Sch16]. **Convex**
[CLMS18, DKS13, HHR11, EÖ17, FN12, FLMP12, GNS15, GWW14,
HHYY14, JZ14, JY16, LMSS17, Mir16, Wac17]. **convex-nonconvex**
[LMSS17]. **convexity** [EMB10]. **convolution**
[BBSV13, BLM11b, Hac11, LFS16]. **coordinates** [DS10]. **Cordes** [SS16].
Coriolis [CDKLM18]. **corner** [dVCMR18]. **corners** [FL15]. **corrected**
[HS15, JSW18, Not16a]. **Correcting** [ABB19]. **Correction**
[FKS19, LRS20, NKL21, OZ23, BBK17, Fer13a]. **corrections** [CCP13]. **costs**
[FHPS19]. **Coulomb** [GMSS11]. **counts** [GMS19]. **coupled**
[BDG$^+$18, BHLZ16, CDL19, DO17, LVY14, OS14, PS17b, SzS12]. **Coupling**
[OB17, ADF18, AN18, AG10, BDQ10, BLS15, Era15, EOS17, GHS12,
GMSS11, HJHA17, KL17, NKL21]. **couplings** [FFKP15]. **Covariance**
[DHS17]. **Crank** [KK15a, Wan18]. **critical** [PSV10]. **cross**
[BKV15, BC16, KK11, Mur17]. **cross-diffusion** [Mur17]. **Crouzeix**
[HM16, LMR16]. **crystals** [GG12]. **cubature** [Che12]. **cubic** [ABB15].
cuboid [CCQ13]. **cuboidal** [AT19]. **curl** [KK15b, Sun16]. **Curtis** [HS15].
curvature [BGN19, KLL19, ZLL$^+$12]. **Curve** [PS17b]. **curves**
[BGN12, EKAB16]. **curvilinear** [ABB15]. **customized** [HHYY14]. **Cut**
[BHLZ16, YBTB14]. **CutFEM** [BHLZ19]. **cylindrical** [AP10].

d [TWW15, CCZ13, EMR19, FR19, HR19, HOR17a, LCH12, RS11]. **DAEs**
[SB13a, SB13b]. **Damped** [EK18]. **damping** [CGK18, PSV10]. **Darcy**
[BDQ10, BB12, BDG+18, BGG+16, BOS18, CGHW11, CGSW16, CS17,
CHW17, DO17, GVY14, LDQ11, LVY14]. **Data** [BO18, AdST12, BGJ18,
BMZ10, CD11, GSY17, HR12, HSW17, HW13, LC14, WE16, ZS14].
Davidson [Ais15]. **DDFV** [GKL19]. **de-aliasing** [BT15]. **DE-Sinc**
[OTMS13, TOMS13]. **Decay** [KS11c, Pet12]. **decomposition**
[AL17, ABAC16, Ber16, CGHW11, CH12, EH18, FN12, FLS10, HSZ13,
NGKN10, PT12, SW11b, YWY14, Zha18, ZDQ17]. **decoupled**
[CHW17, GGGS11]. **defined** [NS14]. **degenerate**
[ABH13, CJ14, DE16, EH18, EKAB16, KKR12, LS18, Rei12, SX15a, SX15b].
degree [CHTV18, Dri12, HLS11]. **delamination** [OB17]. **delay**
[HV12, WMS10]. **denoising** [AHR14]. **densities** [Lin17]. **density** [SSS12].
dependent [Ber16, HL16, SG. . . 12, SS16]. **derivative** [AdST12, Nov14].
Derivatives [BCPS10, ADF18, Dal10]. **derived** [BC12]. **descent** [dHQS15].
description [AGK+14]. **Design** [BDF12, ADF18, Maz11a]. **designs**
[CFL11, GP11]. **determinant** [SAI17]. **deterministic** [Rus10, TWZ17].
DeTurck [Fri15]. **developmental** [GT14]. **DG** [BS19, DGS15, Kar13].
diagonal [Har15]. **diagonalization** [GW19, Str15]. **diagonally** [DK11].
difference [AL15, BY19, DHKR16, Fro18, GK19b, HR14, HV12, KKR12,
LVY14, MR17, Pru14, SzS12]. **different** [Dri12, HHNS16]. **differentiable**
[DGSY17]. **differential** [ABB15, AR12, BLF19, BM13, Bör10, BV14,
CMMV14, CH18a, CS12, DM14, Git14, GKL15, GLW19, HHB16, HHX19,
HV12, Mas16, Rus10, SV12, SA10, Sti10, WZ10, WMS10].
differential-algebraic [BM13]. **Differentiation**
[dGKL19, BMWB14, DS16, DS18a]. **diffuse** [DS18c]. **diffusion**
[AH14, AH17, AV11, ABH13, BO19, BBFP18, BBK17, BGGH16, BS12,
BC12, BCCH19, BEJ14, CLLS19, CCP13, CJ14, CM15, DS18c, DK16a,
FKNP11, FGL14, FH17, GV19, GGGS11, HPS16, HJT14, KKR12, KS11b,
Kop17, KLLG17, LS18, LHQ14, Mur17, Mus15, Pie18, PS17b, SG. . . 12].
diffusion-convection-reaction [LHQ14]. **diffusive** [TWW15]. **digital**
[HMOU16]. **dilation** [CCR14]. **dimension** [DL11, ZS14]. **dimensional**
[ABB19, ABER10, ABK13, BGG+16, CCQ13, CH19, FGP10a, GL11, HS18,
Pet12, Wan12]. **dimensionality** [Pet12]. **dimensionally** [BDQ11].
dimensionally-heterogeneous [BDQ11]. **dimensions**
[BGGH16, DGS15, KS18a]. **Dirac** [AORS17]. **Direct** [Man13]. **direction**
[HY15]. **directional** [BM17, Dal10]. **Dirichlet**
[BY19, FL15, GMS19, JSW18, LN18, OPS15, vyKS14]. **discontinous**
[BMZ10]. **discontinuities** [SKW19, Tow18]. **discontinuity** [DL11].
Discontinuous [AH14, AP10, HM13, HK17, LVY14, MR17, SS16, WHC14,
YS13, BB12, BCS14b, BC15b, BCGS11, BKTT10, BS10, CP18, CBHW18,
CM15, DM16, DK16b, FKNP11, HM14, HW18, HKXZ16, JL13b, KP17,
LS18, LMMR19, LP15, Loz19, MP18b, MNT13, Mus15, RSV13, SSS12, SA10,
SH18, Wil19, ZS14, Zha16a]. **Discrete**

BPZ12, BHLZ16, BO18, BHL⁺19, CGPS17, CGH13, CGMM14, CPS16,
CSW16, CPB17, CWHLT15, CXH10, CW12, CH18a, CHH18, CCSS16, DS11,
Dem16, Dem17, DCC18, DWWW17, DKS13, DU15, DO17, DSX16, DLT13,
EÖ17, ER18, ER15, Era15, EOS17, FM18, FGH⁺16, FGHP17, Gan13, GT14,
GGM14, GG12, GVY14, GKSS13, GY17, GKN⁺15, GGRG15, GLW19,
HKK12, HT18, HR10, HLZ12, HSX12, HHS15, HMX17, HH11, JP13, KOZ16,
KK15a, KS18b, Kir11, KT12, KK15c, KLL19, LM11, LMS19, LV17, LA11,
LMY18, LLY15, LCWW17, LMR16, LL10, LHQ14, Mak18, MSW13, Mat13,
Nei10, NV12, OS14, OPS15, OR10, PS13, PC13, QRB11]. **element**
[SS15, SG. . . 12, SZ13, SS16, SW11b, Ste14, Ste10, Wac17, WX12, WXY12,
ZBB14, Zha16b, ZRK16, dVBMR16, dVMRR17, dVCMR18, BSZ11].
elementary [EHRS12]. **elements** [AT19, BRK17, CCQ13, CGS14, CK16,
CGK18, DLT12, EH13, GMÖ⁺18, GN14, HHNS16, HK17, HM16, KS18a,
KK15b, KLLG17, KS11c, LL12, LMcS17, Mir12, Mon19, dVMM19]. **ELLAM**
[CDL19]. **elliptic** [AV12, ABM18, BSZ11, Bör10, BS10, CDNP16, CCQ13,
DK16a, DGS15, DK16b, DLT13, Fuk10, Fuk13, GV15, GGK⁺19, Git14,
GY17, GKN⁺15, GKN⁺18, HQ12, HPS16, mHZZ17, HSLZ19, HS19b, HLZ12,
HHS15, JL13b, KS18a, LMR16, NW18, NTT16, OPS15, PT14, Smy10, Sti10,
TSGU13, XZ10, ZZ15]. **ellipticity** [OS14]. **embedded** [DFL16, HHB16].
embedding [GKN⁺18]. **enclosure** [KKN14]. **Energy** [JSW18, Kop17,
Say13, CHW17, Dem16, FLMP12, LMY18, OPS15, ZS17, ZVKG11].
Energy-norm [Kop17]. **enhancement** [MR17]. **enrichment** [Sch11b].
entries [BV12]. **Entropy** [BEJ14, HM14, FH17, Wil19, ZS12].
entropy-dissipative [BEJ14]. **Entropy-stable** [BEJ14]. **epitaxy** [CW12].
equation [AY18, AKST14, ABH13, ABK13, ADM19, AP10, AN18, BFG13,
BLS15, BO19, BD12a, BCST19, BY19, BDG⁺18, BN16, BMGN18, BDS13,
BDF12, BEJ14, BO18, Cal17, CG14, CP14, Cho18, CCSS16, CMP13, CR12,
DES11, DS18c, DHKR16, ER18, ER15, FS14, FL15, GL11, GGS15, GMÖ⁺18,
GH14b, GWW14, HK19a, HT18, HS17, JM18, KK15a, KS11a, Kre17, LL12,
LP15, MP18b, MNT13, Nei10, NZ19, OS14, OS19, PSV10, PT12, Pie18,
QRSZ19, SW11b, VGG14, ZS14]. **equations**
[AL15, AL17, AR16, AR12, BLF19, BZ17, BBK17, BM11, BGGH16, BB13,
BBKS18, BDLM18, BC12, BMP10, BMZ10, Bör10, BGHL14, BHL11, BV14,
BC17, CCP13, CG17, CP18, CHW12, CCFM17, CC19, CMMV14, CCLM15,
CLM17, CQR16, CKL14, CDKLM18, CH12, CJ14, CS12, CLM15, DD16,
DU15, DL15, DE16, DLT12, EH18, FGHP17, FH17, GY12, GMN19, GLS17,
Git14, GK19b, GKL15, GLW19, HHNS16, HHB16, HR19, He13, HOR17a,
HJS15, HP17, HPS18, HKT14, HJT14, HKXZ16, HJNS17, HS18, HV12,
JLZ18, KKR12, Kar13, KOZ16, KS18b, KKN14, KK15c, KL17, KL18b,
KNWW19, LA11, LCH12, LC14, Li15, LS16, LL10, MP18a, Man15a, Mas16,
MOR17, Nak17, NvPZ10, PS13, Pet12, PT14, PCCC18, Pru4, Ren17, RS11,
RE14, Rus10, SV13, Say13]. **equations** [Sch10, SH17, SSS16, SWS16, SS16,
SV12, ST18, SA10, Sti10, TT15, Ver17, Ver10, WZ10, Wan12, Wil19, WMS10,
XZ10, XXL12b, XXL12a, XL17, YS13, ZT12, ZS12, NKL21]. **equidistant**

[BDHK12]. **equilibration** [CM13]. **equilibria** [GL11]. **equivariant**
[MMMKV16]. **ergodic** [FS19, HY15]. **Error**
[ADM19, ABC15, BCS14a, BM11, BRK17, BL13b, CCS17, CDNP16, CD11,
CC15, DS16, DD16, FS19, GMN19, GK19b, GGGS11, GSV19, HS15, HP17,
HPS18, LCWW17, LL10, OMS13, SZ13, XCW10, ZS14, AV12, AV11, AMN11,
AMORB16, BLM11a, BB12, BDLM18, BKN13, BM17, BKUV17, CCM12,
CGPS17, CM13, CGH13, CPS16, CGG19, Che12, CS17, CM18, CJ14, DS18c,
DK16a, DWWW17, DSX16, FLOP10, GMS19, GGMO16, GM14, GMT11,
HR12, HSV12, Har18, HZZ18, KKR12, KK15a, Kla15, Kop17, KVW15,
LM11, LMS19, LLW10, LO14, LMY18, LN18, LM13, LJS18, MOS11, Mon19,
NV12, NW18, NvPZ10, OW11, PS16, RW12, RHM13, ST16, SWS16, TT15,
WX12, Wei11, YS13, ZS17, ZVKG11, dVMM19]. **errors**
[ABB19, DS11, Dem16, DLPV18, FGH$^+$16, MdC17, PSV18]. **estimate**
[HS15, KKR12, LL10, Mon19, Wei11]. **estimates**
[AV12, AMN11, ADM19, BCS14a, CCM12, CCS17, CGPS17, CGH13, CD11,
CC15, CHTV18, Che12, CM18, CJ14, DD16, DK16a, DWWW17, FS19,
GMS19, GMN19, GGMO16, GNS15, GK19b, GGGS11, Hac16, HZZ18, KKN14,
Kop17, KSZ13, LM11, LMY18, LM13, Mak18, MR17, NV12, NW18, OMS13,
OW11, RW12, Say13, SWS16, Ste15, YS13, ZS14, ZS17, ZVKG11, dVBRS11].
Estimating [PSV18, Che16b]. **estimation** [DSX16, Hac13, HSV12, LMS19,
LO14, Lin17, NPVW19, PGW18, RHM13, dVMM19]. **estimator**
[CS17, Era15, KVW15]. **estimators** [BC15a, CM13, FLOP10, SAI17, WX12].
Euclidean [Man15b]. **Euler**
[CvN13, GGGS11, He13, HP17, JT16, LS18, Pin18, Ren17, WZ10, Wil19].
Eulerian [NDL14]. **evaluation** [Bal12, SS11]. **evanescent** [AN18]. **EVD**
[OYV17]. **even** [BCS14a, HLS11, OTMS13, TOMS13]. **even-tempered**
[BCS14a]. **evolution**
[CLA19, CLM17, Egg19, HP17, HPS18, JLZ18, KL18a, KL18b]. **Evolving**
[ER15, GM14, KLLG17, KLL19, Man15a]. **exact** [DGBL$^+$15, Koe19].
exactly [HMX17, MMMKV16]. **examples** [GV19]. **exercise** [MOGO17].
Existence [BFG13, CFL11]. **expanding** [Wor19]. **expansion** [SH17].
expansions [LT10, MOGO17, SS11, WZH13]. **Explicit**
[EH13, AL15, GMS19, He13, OMS13, SB13a, SB13b, ZS14]. **Exponential**
[Pet12, dVCMR18, BM19, CCR14, DMN12, EK18, GV19, HS17, HK19b,
KLS19, OS19, Pie18, iTSMM10, WMS10]. **exponential-fitting** [GV19].
exponential-type [HS17, OS19]. **exponents** [BL13b, BV14]. **Extended**
[SCHH13, KS11a, MV15, dCM17, Maz11b]. **extensible** [Owe16]. **Extension**
[AdST12]. **exterior** [ABK13, BBSV13, BLS15, KL17, NKL21].
Extrapolated [LM15]. **extremal** [LLY15].

factor [NN11]. **factoring** [BH11]. **factorization** [DK11, LGC14, RB11].
family [AHR14, BBC$^+$18, CDL19, OTMS13, Ste10, TOMS13]. **Far**
[dCMT16]. **Far-field** [dCMT16]. **Farin** [Mat13]. **Fast**
[Bal12, FKS18, Fuk10, GST19, Kir11, KT12, Kir17, LGC14, PG17, SS11,

Fuk13, GP11, HT18, Ise11, MMMS10, Mir14, Run14, WZH13, FKS19].
Faster [DMMS11]. **fat** [BIM11]. **FE** [GMSS11]. **Fejér** [Not16a]. **FEM**
[BS19, BC17, CLLS19, CG11, CPR13, CRS16, CGG19, EPS17, FMP15,
FFKP15, Gal15, GHS12, GGGS11, JSW18, Kar13, Sun16, Wei11]. **FEMs**
[CDNP16, GLS17, mHZZ17, Li15, SWS16, Wan18]. **Fer** [RI15]. **FETI**
[DGS15, PS11]. **Feynman** [FS19]. **Fickian** [BBFP18]. **fictitious**
[BG17, JL13b]. **field**
[BN16, BMO15, CCS17, DL11, FKS18, FKS19, dCMT16]. **fields**
[Ber16, DHS17]. **Filippov** [DL11]. **film** [CW12, FLMP12]. **filtering**
[NGKN10]. **finding** [LGL17, WG13]. **fine** [PZ18]. **Finite**
[AGS10, AP11, ABB15, BPS10, Bar13b, BSZ11, BDG$^+$18, BHL$^+$19, LLY15,
PC13, SG. . . 12, SzS12, ZS17, AV12, AH14, AORS17, AKST14, ABH13,
ADM19, AT19, BBL11, BY14, BBK17, BHK10, BRK17, BY19, BGJ18,
BBD16, BC12, BPZ12, BDF12, BHLZ16, BO18, CCP13, CGH13, CGMM14,
CPS16, CSW16, CPB17, CXH10, CW12, CH18a, CHH18, CCSS16, CK16,
CGK18, DS11, Dem16, Dem17, DCC18, DWWW17, DKS13, DU15, DO17,
DSX16, DLT13, DHKR16, ER18, ER15, Era15, EOS17, EH13, FGL14, FH17,
Fro18, GT14, GGM14, GG12, GM14, GVY14, GKSS13, GY17, GKN$^+$15,
GK19b, GGRG15, GLW19, GN14, HR14, HKK12, HZZ18, HR10, HLZ12,
HW18, HHS15, HMX17, JP13, KKR12, KOZ16, KK15a, KS18a, KS18b,
KK15b, Kir11, KT12, KK15c, KLLG17]. **finite** [KLL19, KS11c, LM11, LL12,
LMS19, LV17, LA11, LCH12, LC14, LMY18, LVY14, LCWW17, LMR16,
LL10, LHQ14, Mak18, Mir12, Mur17, Nei10, NV12, OS14, OPS15, OR10,
Pet12, QRB11, SS15, SS18, SZ13, SS16, Ste10, Wac17, WX12, WXY12, XZ10,
ZBB14, ZZ15, Zha16b, ZRK16, BHT17, BGHL14, FGP10a]. **finite-difference**
[HR14]. **Finite-dimensional** [FGP10a]. **finite-element** [GGRG15]. **Finsler**
[Mir14]. **First** [BHK10, NS14, BS12, Fuk10, MP18b, RS18]. **First-order**
[BHK10, MP18b]. **fitting** [GV19, IN18, OTMS13, TOMS13]. **fixed**
[EHRS12, HRS12]. **Fliess** [GEEF17]. **Floater** [dCM17]. **flow**
[BGN12, BB12, BG16, BMO15, CRS16, CS17, DD16, DHM19, Fri15, GGM14,
KP17, KLL19, KLS19, LDQ11, PS17b, SS15, YBTB14, ZLL$^+$12]. **flows**
[AH17, BPS10, BGN19, BHT17, BCN19, BEG14, BGG$^+$16, CCS17, CHW17,
GVY14, LVY14, RHM13]. **fluid**
[AKYZ18, AG10, BJLZ15, BG17, DD16, Fer13a, GV15, LDQ11, NP15, SSS12].
fluid-poroelastic [AKYZ18]. **fluid-rigid** [SSS12]. **fluid-structure**
[AG10, BG17, Fer13a, GV15]. **fluidic** [BGN16]. **fluids** [BBD16]. **flux**
[BBK17, BHK10, BG16, BKTT10, DSX16, PSV18, Tow18, WXY12].
flux-correction [BBK17]. **fluxes** [CCSS16]. **Force** [OLOV18, MOS11].
Force-based [OLOV18, MOS11]. **forces** [CDKLM18]. **forcing** [RE14]. **form**
[FGP10a, FGP10b, Har15]. **format** [EH12, GK19a]. **formation** [GT14].
formats [Nou19]. **forms** [ABB15, CH18a, Dem17, HHX19]. **formula**
[Not16a, Pin18]. **formulae** [AL15, Not19, PS16]. **formulas**
[DS18a, iTSMM10]. **formulation**
[AMN11, BB12, DGBL$^+$15, EGH15, HJHA17, HFL12, MP18b].

formulations [BKN13]. **Fortin** [MSW13]. **forward** [RS11]. **foundation**
[Smy10]. **four** [HK19b]. **Fourier**
[Adc10, BZ17, BT15, CG17, GP11, KK11, NGKN10]. **fourth**
[BMN11, BEJ14, CGH13, CCQ13, HH11, Zha18]. **fourth-order**
[BEJ14, CGH13]. **fractional** [AN19, AdST12, BLF19, BO19, BLP19, CJ14,
CM15, JLZ18, KY12, Mus15, Nov14]. **fracture** [DHM19]. **fractured**
[BGG+16, CS17, LDQ11]. **framework**
[CDM+18, HSV12, Man15b, Mas16, Olv12, YBTB14, Zha18]. **free**
[BDGQ12, CG11, HK19b, Kre17, SAI17]. **frequencies** [CLM17]. **Frequency**
[EÖ17, ABER10, BM17, CWHLT15, HL16, NGKN10, NDL14].
Frequency-adapted [EÖ17]. **Fresnel** [ACWL14]. **friction** [GMSS11].
frictional [BK12, BGIS17, CMR18, Rad19]. **Froissart** [BLM18]. **front**
[BCS14b]. **full** [DGS15, KL18a, BEG14]. **Fully** [AV11, AL15, BFG13, BIM11,
CLLS19, CDL19, GLS17, HR12, KL17, Nak17, Nei10, NKL21]. **Function**
[iTSMM10, ABB19, FY11, HSW17, Man13, SG11, SV12]. **functional**
[BV14, BMO15, EGLTP17, Mas16, Rus10, WZ10, YWY14, ZVKG11].
functionals [BBL11, BCMO16, Che12, DKS13, HW13, SS11]. **functions**
[BG12, BLM18, BGR18, BAK19, BS17, BPZ12, CHW12, Che12, DV11,
DBV11, DGSY17, Fro18, Fuk13, GH14a, GT19, GN14, HMOU16, Hor17b,
KY12, KR16, LT10, MMMS10, Maz11b, Mir16, NNT15, NTT16, Not19,
OTMS13, PS16, PT14, PR13, SV13, SY17, Seg13, TOMS13, Wac17, WG13].
Further [TSGU13].

Gaffney [HHX19]. **gain** [BD11]. **Galerkin** [AH14, AMN11, ADM19, AP10,
AR12, BBSV13, BB12, BS12, BCS14b, BC15b, BCGS11, BS10, CP18,
CBHW18, CC13, CC10a, CM15, DM16, DK16b, EÖ17, EPS17, EGH15,
FKNP11, FLOP10, Fer13b, GLS17, HM13, HK17, HM14, HW18, HKXZ16,
JL13b, KP17, KNWW19, LMMR19, LV17, LMY18, LVY14, LP15, Loz19,
MR17, MP18b, Mus15, RSV13, RMS17, SSS12, SV13, Say13, SS16, Ste15,
Sti10, SH18, TT15, WHC14, Wan18, Wil19, Wor19, YS13, ZS14, Zha16a].
gamma [AHR14]. **gaps** [GG12]. **gas** [NDL14, ZS12]. **Gasca** [HJZ14]. **gauge**
[HS13]. **Gauss**
[BCD15, AR19, GST19, JZ13, Kal15, Man15a, PS16, SY17, dS18b].
Gaussian [BCS14a, DMN12]. **Gegenbauer** [Dri12]. **General**
[DMG19, ABH13, CCR14, DKS13, FKM16, GWX16, HW13, JY16, Loz19,
Olv12, Sid11a, SX13, WS19]. **generalising** [Man15b]. **Generalized**
[AR19, AGK+14, BCN19, CH18a, HHX19, HM18, LFS16, MS19, ABC15,
BJLZ15, BB13, Chá11, DBV11, DLT12, FN12, FY11, GV15, GS16, IG15,
Nak12, PSV10, RMS17, SSS16, SDH+14, ZBB14]. **generalized-** [ABC15].
generation [FKS18, FKS19]. **generic** [CCP13]. **Geometric**
[BR11, GM14, CM10, Maz11a]. **geometrically** [DGBL+15]. **geometries**
[RHM13]. **geometry** [CHW17, Dic12]. **Gilbert** [AKST14]. **Global**
[Ais15, CK16, CGK18, EMB10, FGL14]. **globally** [PZ18]. **GMRES**
[GGS15, Olv10]. **GMWB** [HFL12]. **Godunov** [Tow18]. **Golub** [Bar13a].

ideal [BKW10, WS19]. **identification** [HQ12, JZ13]. **Identifying** [HKQ18].
IGA [BS19, FGHP17]. **II**
[ABER10, BKW10, CG17, FGP10b, Not19, PS11, SX15b]. **Il'in** [GV19]. **ill**
[CN19, HH10, Kal15]. **ill-posed** [CN19, HH10, Kal15]. **image** [CLMS18].
imaginary [AL17]. **imaginary-time** [AL17]. **impedance**
[GS17, HHR11, HKQ18, HM18]. **implementation** [BKW10].
implementations [Rie19]. **Implicit** [VVVF10, AL15, AG10, CvN13, FGL14,
GMN19, He13, HJHA17, HP17, HPS18, KL18a, SS18, WZ10].
implicit-explicit [AL15]. **implicit-linear** [CvN13]. **implicit/explicit**
[He13]. **improved** [FR19, LJS18]. **Improving** [FS17]. **incomplete**
[Fuk10, RB11]. **incompressible** [BCN19, CCS17, Fer13a]. **Incremental**
[Fer13a]. **indefinite** [CDNP16, CXH10, DLT12, OMS13]. **indefiniteness**
[HN16]. **independent** [GGS15]. **index** [HANT16, SB13a, SB13b].
index-one [SB13a, SB13b]. **inequalities**
[AdST12, BK12, EH13, HSD18, NvPZ10, RW17, Ste14]. **inequality**
[BL13a, HS19a, HHX19, NW18]. **Inexact**
[JT11, CHTV18, FHPS19, JLL15, Jin12, SG11, SX13, ZBJ18]. **Inf**
[HW11, RHM13]. **Inf-sup** [HW11, RHM13]. **infinite**
[BM19, CH19, HHNS16, Man13]. **infinite-dimensional** [CH19]. **infinitely**
[DGSY17]. **inhomogeneous** [LLY15]. **initial**
[BMZ10, GW19, HR12, HW18, ZS14]. **initial-value** [GW19]. **integral**
[AR16, BY19, BN16, BLP19, BC16, BDS13, CH12, FGHP17, FL15, Fuk10,
HJHA17, Kre17, NvPZ10, PT12, QRSZ19, SV13, Say13, SH17, ST18, VGG14].
integral-equation [BDS13]. **integrals**
[ACWL14, Bal12, BLF19, Olv10, Pin18]. **integrands** [DNP14]. **integration**
[ABC15, BBL11, BM13, BD12b, HS19b, HMOU16, MMMS10, OMS13, Pla15,
Rus10, iTSMM10]. **integrator** [BZ17, HS17]. **integrators**
[EH18, HL15, HK19b, OS19, Ver17]. **integro** [GLW19]. **integro-differential**
[GLW19]. **interaction** [AKYZ18, AG10, Fer13a, GV15]. **interactions**
[BG17]. **interconnection** [HU17]. **interface**
[CGHW11, DS18c, DLT13, HLZ12, LR17, PS11, Run14]. **Interior**
[LMY18, LM13, BLS15, BNRS17, KP17, KS11b, KL17, NKL21, PG17, SG11].
interior-layer [KS11b]. **interlaced** [DGSY17]. **Interlacing** [Dri12].
interpolants [JT16, dCM17]. **Interpolation**
[GH14a, IG15, BLM11a, BY15, BO17, BM17, BDHK12, BRZ13, CH18b,
EKAB16, Mas14, MdC17, Mon19, NOS16, SM16]. **interpretation** [BR11].
intersection [dCMT16]. **Interval** [SB13a, SB13b]. **Intrinsic**
[CCSS16, HAG17, Sor10]. **invariant** [BEK11, Rie19]. **inverse**
[BSCZ12, BH11, DES11, GS13, HL19, Jin10, Jin17, KKN14, LO14, Man13,
SH19, ZWJ19, dHQS15]. **inverses** [FMP15]. **inversion** [Kir17]. **invert**
[ST16]. **inviscid** [BGHL14]. **involving** [AORS17, BHT17, BCMO16, YS13].
IRGNM [KdS18]. **irreducible** [JLL15, LGL17]. **isentropic** [Ren17].
Isogeometric [ZDQ17, EH13, GMP⁺14, dVBRS11]. **isometries** [Bar13b].
isoparametric [Mon19]. **isotropic** [BGN12]. **issues** [BB13]. **iterated**

[JZ14, Man13, SH19]. **iteration**
[AV10, BL13a, CN19, CGS14, GMS19, JLL15, LGL17, dHQS15]. **iterations**
[ABER10, HL19, Jin12]. **Iterative**
[HFL12, AHR14, BV17, CHTV18, CH18b, GST19, He13, Man15b].
Iteratively [HW13, JZ13, Kal15]. **Ivanov** [KdS18].

Jacobi [BMZ10, Ais15, Cal17, CLM15, GK19b, Har15, Man13, OYV17, SS16].
Jacobi-Bellman [SS16]. **Jacobi-type** [Har15]. **Jacobian** [Fuk13]. **joint**
[Str15]. **Jordan** [Koe19]. **Joseph** [CGHW11]. **junction** [CLM15, GK19b].
Justification [CGG16].

Kac [FS19]. **Kahan** [Bar13a]. **Kármán** [BNRS17]. **karstic** [CHW17]. **Kato**
[KL18b]. **KdV** [HS17]. **Keller** [ZS17]. **Kernel**
[FHN⁺14, BM17, DS16, NTW18]. **kernel-based** [DS16, NTW18]. **kernels**
[Che12, FY11]. **kind** [BK12, Fuk10, Mas14, Not16a]. **Kinetic**
[BEG14, GV19]. **Kirchhoff** [LL12, SH18]. **Klein**
[BD12a, BZ17, CCLM15, FS14]. **Kluk** [LS17]. **Koiter** [Zha16a]. **Korteweg**
[PSV10]. **Kronecker** [BS17, DLPV18]. **Kronrod** [dS18b]. **Krylov**
[KS11a, MV15]. **Kummer** [LT10]. **Kutta** [AMN11, BBSV13, BLM11b,
GS16, HPS18, LFS16, Man15a, Ver10, WE16, ZS14].

labeling [YBTB14]. **Lagrange**
[AKYZ18, BS12, BG17, EKAB16, Fer13b, HR10, Jun15, Ren17, SSS12].
Lagrange-projection [Ren17]. **Lagrangian** [Fer13b, Jin17, RS11].
Laguerre [GST19]. **Lamé** [BLS14]. **Lanczos** [Ais15, Bar13a, LZ15].
Landau [AKST14]. **Landweber** [CN19]. **Langevin** [FS17]. **Laplace**
[BHL⁺19, CDM⁺18, vyKS14]. **Laplacian** [BLP19, DS10, GGS15]. **Large**
[Pru14, AH17, Bar13b, BGR18, BBKS18, BS17, JLL15, LC14, Lin17, Ren17].
largest [GGS15]. **lateral** [PS17b]. **Lattice**
[DNP14, GSY19, BD11, BFK⁺16, BKUV17, Dic12, DGSY17]. **Lavrentiev**
[BGJ18]. **Lavrentiev-finite** [BGJ18]. **law** [BG16, Tow18]. **laws**
[AGS10, BBC⁺18, BKTT10, GM14, HM14, MR17]. **layer** [CCZ13, KS11b].
layers [BHT17]. **LDU** [DK11]. **least**
[BGR18, BC17, CPB17, DMMS11, IN18, JL13a, RS18]. **least-squares**
[BGR18, BC17, IN18]. **Lebesgue** [BDHK12]. **Legendre**
[BCD15, Ise11, Lui17]. **lemniscates** [HN16]. **level**
[BK12, BSZ11, GT14, GKSS13, LCH12, Tu11, dHQS15]. **Levenberg**
[BGR18, HH10, Jin10, JY16]. **lexicographic** [HHB16]. **Lie**
[ABC15, BCM17, DGBL⁺15]. **Lifschitz** [AKST14]. **like**
[EGLTP17, FR19, GW19, GGGS19, Ren17, SX15a, SX15b]. **limit**
[AN18, BD12a, BZ17, Cal17, CG17, FS14, GV19]. **linear**
[AL15, AL17, AP10, BBL11, BGIS17, BM13, BDGQ12, CDNP16, CHW12,
Che12, CvN13, DL15, DE16, GWX19, GAB13, GGGS11, HHYY14, HHB16,
HKXZ16, JMM12, KK15a, KKN14, KK15c, KL18b, LL12, LMcS17, LM15,

LHQ14, Mur17, Sid11a, Sin12, Smy10, XZ10, ZS14]. **linearization**
[Chr11, HM18]. **linearizations** [DLPV18]. **linearized** [BMGN18, NDL14].
Linearly [KL18a, AL15, PCCC18]. **Liouville** [RI15]. **Lipschitz** [Li15].
Lissajous [EKAB16]. **Lobatto** [BCD15]. **Local**
[BBB17, BDLM18, FM18, HH11, SX13, SX15a, SX15b, BV12, BG16, Dem16,
DH17, HS19b, LP15, Sch11b]. **localizing** [PSV18]. **locally** [AGS10, JP13].
Locating [Men11]. **location** [DV11]. **locking** [BDGQ12]. **locking-free**
[BDGQ12]. **log** [SAI17]. **log-determinant** [SAI17]. **logarithmic**
[BCST19, BM11]. **lognormal** [GKN$^+$15, GKN$^+$18, HS19b].
lognormal-parametric [HS19b]. **Long**
[HL16, TWW15, CGSW16, HOR17a, HS18, Wan12]. **Long-term** [HL16].
Long-time [TWW15, CGSW16, HOR17a, HS18]. **Love** [LL12]. **Low**
[BB13, GKL15, BBKS18, CP18, CC19, Hac16, Nou19, SSS16]. **low-order**
[CP18]. **low-rank** [BBKS18, Hac16, Nou19, SSS16]. **lower** [CG14, HHS15].
LU [LGC14]. **Lur'e** [MOR17]. **Lyapunov**
[BB13, BL13b, BV14, KS11a, SSS16].

M [XXL12b, XXL12a]. **M-matrix** [XXL12b, XXL12a]. **MAC** [GMN19].
MacCamy [GHS12]. **Maclaurin** [JT16, Pin18]. **macro** [Mat13].
macro-element [Mat13]. **made** [Lin17]. **Maeztu** [HJZ14].
magnetohydrodynamics [WS19]. **Mahony** [BMGN18]. **majorization**
[LMSS17]. **majorization-minimization** [LMSS17]. **managed** [JM18].
manifold [GSY17]. **manifold-valued** [GSY17]. **manifolds**
[Har18, HRS12, HAG17, Man15b]. **map** [BPS10]. **mapping** [HPS16]. **maps**
[BPS10, GT19, Har18, ZLL$^+$12]. **marching** [BCPS10, Mir14]. **marginal**
[BCN19]. **marking** [KS11c]. **Marquardt** [BGR18, HH10, Jin10, JY16].
Maruyama [LS18]. **mass** [GGGS11, Kir17]. **massively** [DK16b]. **matched**
[CCZ13]. **matching** [YWY14]. **materials** [LLY15, SzS12]. **Mathematical**
[Smy10]. **matrices**
[VVVF10, BS17, BM19, Bör10, DK11, DP16, FMP15, FKS18, GMP$^+$14, Hac16,
Koe19, LGC14, Lin17, Man13, MV15, OYV17, RB11, RMS17, Sid11b, FKS19].
matrix [BG12, BMP10, CCR14, CCGP17, Che16b, DHS17, DLPV18,
DHM19, FMP15, FPD12, FLZ19, GKL15, HLS11, HAG17, JLL15, Kir17,
KLS19, Men11, OR10, SAI17, Str15, XXL12b, XXL12a, XL17, ZBJ18].
matrix-free [SAI17]. **Max** [GNS15, YBTB14]. **max-flow** [YBTB14].
Max-norm [GNS15]. **maximal** [JLZ18, KS18b, LV17, Li15]. **Maximum**
[DK16a, HZZ18, Li15, LHQ14, DKS13, HKK12, Pru14]. **Maximum-norm**
[DK16a, Li15]. **Maximum-norms** [HZZ18]. **Maxwell**
[NKL21, BBSV13, DLT12, HJS15, KL17, LS16]. **mean** [DFL16, KLL19].
mean-variance [DFL16]. **means** [Rus10]. **Meany** [BL13a]. **measure**
[SG. . . 12, dGKL19]. **measure-valued** [SG. . . 12]. **measures**
[AORS17, LRS19, LRS20]. **mechanical** [ABC15]. **media** [BBFP18,
BGG$^+$16, CLLS19, CS17, CDL19, GGM14, KP17, KPR14, LDQ11, SS15].
Median [Nie10]. **meets** [HANT16]. **Meixner** [JJT13]. **membranes**

[BGN16]. **meromorphic** [DV11]. **Mesh**
[DCC18, Rad19, Ber16, GMÖ⁺18, JP13, MLLR14, PZ18]. **mesh-dependent**
[Ber16]. **meshes** [ABH13, ABB15, BN16, BCGS11, BDF12, DH17, GGRG15,
HZZ18, HM13, Kop17, LS16, LN18, Loz19, Mak18, Mir12, SW11a, Wei11,
WS19, YWY14, ZZ15]. **Meshfree** [Fro18, Nak17]. **meshless**
[KNWW19, Sch10]. **metamaterial** [LS16]. **method** [AH14, AH17, AKYZ18,
ABH13, AR16, ABAC16, BZ17, BT15, BGN16, BSZ11, BG12, BGR18, Bel11,
BIM11, Ber16, BBC⁺18, BL13b, BGHL14, BDGQ12, BNRS17, BDS13, BS10,
CEM14, CGPS17, CGMM14, CSW16, CP18, CWHLT15, CW12, CCZ13,
CQR16, CH12, CM15, DS11, DWWW17, DO17, DH17, DK16b, DLT13,
ER15, EOS17, EH12, EGLTP17, FM18, FKM16, FKNP11, FL15, FGL14,
FLS10, FR19, GY12, GHP17, GW19, GGM14, Gau18, GV15, GKSS13, GY17,
GKL19, GWX16, GAB13, GSV19, HL16, HKK12, HPS16, HT18, HR19,
HY15, HOR17a, HR10, HKXZ16, HSX12, HL18, HH11, Jin10, JZ13, JY16,
Jin17, JL13b, Kal15, KdS18, Kar13, KOZ16, KS18b, Kim19, KSD11, Kla15,
KS11a, KNWW19, LS18, LCH12, LZ15, LMY18, LP15, LCWW17, LMR16].
method [Loz19, LL10, LJS18, Man15b, MLLR14, MOR17, MP18b, MNT13,
Mur17, Nei10, NZ19, NDL14, OR10, PS17a, PS18, PT12, PCCC18, QRB11,
RS18, Rus10, SSS12, Sau17, SV13, Sch11a, Sch11b, SV12, Sti10, SH18, Tak15,
TT15, Wac17, WZ10, WXY12, WG13, YS13, YWY14, ZS14, ZBB14, Zha16a,
ZBJ18, dVMRR17, dVCMR18, BHT17]. **methods**
[AV12, Ais15, AMN11, AORS17, AHR14, AL17, ADM19, AP10, ABC15,
BK12, BL13a, BD12a, BCST19, BHK10, BMWB14, BGJ18, BB13, BR11,
BS12, BDG⁺18, BV17, BCGS11, Bre13, BLS14, BOS18, BHLZ16, BO18,
CGHW11, CG17, CGH13, CPB17, CBHW18, CMMV14, CXH10, CNX12,
CC13, CCSS16, CJ14, CC10b, CS12, CHL13, DM16, Dem16, Dem17, DE16,
DSX16, EÖ17, EMR19, EGH15, Era15, FGP10a, FGP10b, FGH⁺16,
FGHP17, Gan13, GG12, GGK⁺19, GVY14, Git14, GWX19, GKN⁺15, GS16,
HR14, HS19a, Har15, HLZ12, HP17, HPS18, HKT14, HW13, HW18, HHS15,
HMX17, HFL12, HV12, JP13, JT11, Jun15, KSD10, LV13, LMS19, LRS19,
LRS20, LV17, LA11, LC14, LOSV16, LVY14, LFS16, LM15, MSV17, Man15b,
MMMKV16, MR17, Mus15, Nak17, NTW18, OS14, OTMS13]. **methods**
[OZ17, OZ23, PS11, Pru14, Rei12, RE14, RSV13, RMS17, Run14, Sch10,
SZ13, SS16, SW11b, Ste14, SzS12, SX15a, SX15b, TOMS13, TSGU13, Ver10,
WX12, WHC14, Wil19, Wor19, XZ10, Zam13, ZRK16, Zha18, ZWJ19, ZS17,
dVBMR16]. **metric** [ZLL⁺12]. **metrics** [BCPS10, Mir14]. **metropolized**
[FS17]. **MFS** [Smy10]. **MHD** [BKW10, BL17, HMX17]. **micromagnetics**
[FLMP12]. **midpoint** [JM18]. **mimetic** [LVY14, dVM11]. **min** [YBTB14].
min-cut [YBTB14]. **Mindlin** [BC15b, PS17a, dVM11]. **Minimal**
[DS18a, CD11, SW19]. **minimisers** [DKS13]. **minimization**
[EGLTP17, FLMP12, FLS10, HHYY14, LMSS17, YWY14]. **minimum**
[ZS12]. **minmax** [BV17]. **miscible** [CLLS19, CDL19]. **misfit** [HW13].
Mixed [CK16, CGK18, LMMR19, AMORB16, AT19, BGIS17, BHK10,
BRK17, BEG14, BKUV17, CDNP16, CGG19, CW12, DO17, DSX16, ER18,

GGM14, GWX19, GN14, KK15c, KY12, LM11, LCWW17, Ste10, ST18, Sti10, Sun16, WXY12]. **model** [AKYZ18, BBD16, CDL19, DHM19, GT14, GGM14, GGGS11, GGGS19, KPR14, LDQ11, Rad19, Sin12, Zam13]. **Modeling** [BDQ11, BG16, HJHA17, QRSZ19]. **modelling** [BKTT10]. **models** [BBFP18, CCS17, CK16, CGK18, HMX17, MOS11, SKW19]. **Modified** [BS12, NGKN10, Ver17, dS18b, Adc10, ACWL14, SSS12, SWS16, WG13]. **moisture** [SzS12]. **Molodensky** [CGS14]. **Monge** [BCMO16, Nei10, NZ19]. **Monotone** [CCP13, BMZ10]. **monotonicity** [GS17]. **monotonicity-based** [GS17]. **Monro** [DMG19]. **Monte** [LRS20, BSZ11, BC15a, BD12b, GGK$^+$19, GKSS13, GKN$^+$15, HANT16, HMOU16, LRS19, PGW18, TSGU13]. **Morley** [HSX12, HM16, HH11, Nei10, PS13]. **Mortar** [GVY14, GSV19, WX12]. **motion** [DL11, GGGS19]. **moving** [DS18c]. **Muckenhoupt** [NOS16]. **Multi** [BSZ11, CMMV14, HANT16, LP11, BHK10, BCN19, BL17, GKSS13, LCH12, dHQS15]. **Multi-index** [HANT16]. **Multi-level** [BSZ11, GKSS13, LCH12, dHQS15]. **multi-marginal** [BCN19]. **Multi-parameter** [LP11]. **multi-point** [BHK10]. **Multi-revolution** [CMMV14]. **multidimensional** [LS18]. **multifidelity** [PGW18]. **Multigrid** [BFK$^+$16, BCGS11, BLS14, BOS18, GWX16, HKXZ16, NN11, Not16b, Tak15]. **multilattices** [OLOV18]. **Multilevel** [CQR16, Sch11a, BC15a, CNX12, DMG19, GWX19, TSGU13]. **multilinear** [NTW18]. **multiple** [AH14, ABER10, CLM17, Che12, Nak12]. **multiplication** [FLZ19]. **multiplicative** [Bre13, CvN13]. **multiplicity** [Men11]. **multiplier** [AKYZ18, BG17, HR10, Jun15]. **multipliers** [HY15]. **multipoint** [DSX16, WXY12]. **Multirate** [GS16]. **Multiscale** [LSW12, MP18a, Wen10, AH14, AH17, BZ17, EMR19, EGH15, GVY14, LDQ11, PS11]. **multispectral** [GWCH10]. **Multistep** [SCHH13, CHL13]. **Multivalued** [ZT12]. **Multivariate** [Adc10, CCR14, HMOU16, Sor10]. **multiwave** [BKW10]. **Mumford** [SKW19]. **Muscl** [CC10b].

Nash [CGS14]. **natural** [CRS16, CPB17, PS18]. **Navier** [DWWW17, BDQ10, DO17, FKM16, GMN19, GNS15, GKL19, HR19, He13, HOR17a, HJNS17, Kar13, LA11, LCH12, LC14, LL10, SWS16, Wan12, ZT12]. **nearest** [Men11]. **nearly** [GWX16]. **nearness** [GKL15]. **necessary** [HKK12]. **negative** [YS13]. **negative-order** [YS13]. **Nested** [BCD15, Sou13, BV12, BKV15, BC16, BM17]. **nets** [HMOU16]. **network** [PC13]. **networks** [EK18]. **Neumann** [CD11, Zam13]. **neutral** [Mas16, WZ10]. **Newmark** [KSD10, KSD11, Kla15]. **Newton** [EH12, HW13, JT11, Jin12, JZ13, Kal15, Kim19, LGL17, Man15b, SX13, SX15a, SX15b, ZBJ18]. **Newton-Halley** [Kal15]. **Newton-like** [SX15a, SX15b]. **Newton-type** [HW13, SX13]. **Nicolson** [KK15a, Wan18]. **Nitsche** [CH12, CMR18, GSV19, JL13b, Jun15, LR17, LJS18, MLLR14]. **Nitsche-based** [CH12]. **Noda** [JLL15, LGL17]. **Nodal** [CHH18, AMN11]. **node** [EKAB16]. **nodes** [BDHK12, MdC17]. **noise** [CvN13, GLW19, ZRK16]. **noisy** [HSW17]. **Non** [BBFP18, CEM14, HK19b, AP10, BV12, BG16,

BCM17, BMZ10, BEG14, CGMM11, CDNP16, CLMS18, CCR14, CCGP17, Che12, Che16a, CP14, CN19, Dri12, DL15, DE16, EOS17, EKAB16, FS14, GGMO16, GSY19, HY15, LCH12, LS16, WE16, YWY14]. **non-consecutive** [Dri12]. **Non-consistent** [CEM14]. **non-convex** [CLMS18]. **non-cylindrical** [AP10]. **non-degenerate** [EKAB16]. **non-ergodic** [HY15]. **Non-Fickian** [BBFP18]. **non-linear** [DL15, DE16]. **non-local** [BV12, BG16]. **non-matching** [YWY14]. **non-monotone** [BMZ10]. **non-orthogonal** [YWY14]. **non-periodic** [GSY19]. **non-permeable** [CP14]. **non-product** [Che12]. **non-relativistic** [FS14]. **non-rooted** [BCM17]. **Non-satisfiability** [HK19b]. **non-self-adjoint** [GGMO16]. **non-selfadjoint** [CGMM11, CDNP16]. **non-singular** [LCH12]. **non-smooth** [CN19, WE16]. **non-staggered** [Che16a]. **non-stationary** [CCR14, CCGP17]. **non-symmetric** [EOS17]. **non-uniform** [LS16]. **nonconforming** [CPR13, CGH13, CDNP16, CRS16, CXH10, CCQ13, Era15, HHS15, LMcS17, LL10, Nei10, SS15, SZ13]. **nonconstant** [BPS10]. **Nonconvex** [LMSS17, CWHLT15, GLS17, PT10]. **nondominated** [Cal17]. **Nonlinear** [CBHW18, AV12, BFG13, BT15, BBK17, BGR18, BC12, BV17, BEK11, CG17, CCLM15, Cho18, CGK18, FN12, FFKP15, FKNP11, GLS17, GMSS11, HH10, HW18, HFK19, JM18, JMM12, Jin10, Kal15, KKN14, LA11, MR17, Mur17, Nak17, Nei10, SS11, SzS12, SX13, SX15a, SX15b, WZ10, Wan18, dHQS15]. **nonlocal** [GWW14]. **nonmatching** [DH17]. **nonmonotone** [AV12, PZ18]. **Nonnegative** [BSCZ12, Koe19, LN15, LGL17, ZBJ18]. **nonobtuse** [Dal10]. **nonorthogonal** [Str15]. **nonoverlapping** [ABAC16, DK16b]. **nonperiodic** [DNP14]. **nonrelativistic** [BD12a, BZ17]. **nonsmooth** [LMSS17, RE14]. **nonstandard** [Ste10]. **Nonstationary** [JZ14, HT18]. **nonsymmetric** [CXH10, FFKP15, LGC14, RB11]. **norm** [CPS16, DK16a, EGLTP17, FLZ19, GNS15, Kop17, Li15, Pru14, YS13]. **normal** [FGP10a, FGP10b]. **norms** [AdST12, HZZ18, Mir12, PS18]. **note** [BY15, CM18]. **novel** [GWCH10]. **number** [JL13a]. **numbers** [DP16, Nak12]. **Numerical** [AH17, BDQ10, BBSV13, BM13, BLP19, Cal17, CC19, DV11, DES11, DM14, DHM19, FLMP12, Fri15, HSD18, NDL14, Nov14, RI15, Rus10, AV12, AN18, BBL11, BLS15, BD12a, BCST19, BGN16, BKW10, BD12b, CD11, CCLM15, CHW17, CP14, CJ14, CC10a, CR12, DS16, DS18a, DE16, FKM16, GGGS19, HS19a, HMOU16, HJT14, KKN14, LP11, MP15, MMMS10, Mas16, PSV18, PSV10, RSV13, Ven11, WMS10, ZS17]. **numerically** [Olv12]. **numerics** [CLM17, LT10, TWW15]. **Nyström** [BDS13, FL15].

objects [Rie19]. **observability** [EZ15]. **observers** [HR12]. **obstacle** [BC15a, CM18, ZVKG11]. **obstacles** [BCS14b, CWHLT15, CC10a]. **Oliker** [NZ19]. **once** [Tak15]. **One** [BK12, HL18, OS14, SB13a, SB13b, ZS14]. **One-** [BK12]. **one-dimension** [ZS14]. **one-equation** [OS14]. **only** [Pin18]. **Ono** [DHKR16]. **onto** [BY14]. **open** [BGN12]. **operator** [BMN11, BAK19,

BCMO16, BFK$^+$16, BHL$^+$19, Eng14, LO14, MSW13, Nov14, Sch10].
operators
[AN19, ABM18, BLM11b, BBB17, BV12, Bör10, BC16, BR17, DM14, FY11,
Git14, GEEF17, HFK19, HHS15, KKN14, KT12, MS19, Wor19, vyKS14].
Optimal
[CPR13, CNX12, FGHP17, HMOU16, LR17, LC14, Rei12, SA10, AORS17,
ADF18, BC17, CRS16, CSW16, CQR16, DFL16, DD16, FGH$^+$16, FHPS19,
Gal15, GY17, GWX19, GWX16, HSLZ19, JSW18, LV13, NV12, NPVW19,
NTT16, OW11, Pla15, RS18, RW12, SG11, SH18, TWZ17, dGKL19].
optimality [CNSV17, CXH10, DS11, Dem16, Dem17, GY17, HSX12, Jin12].
Optimally [Mir12]. **Optimization**
[AY18, GV15, GP11, GMT11, LMSS17, NW18, PG17, Str15]. **Optimized**
[BGGH16, BPZ12, MSV17]. **options** [MOGO17]. **order**
[AHR14, AdST12, ADBN16, BLF19, BMN11, BHK10, BS12, BPZ12, BKN13,
BGHL14, BDS13, BEJ14, BKTT10, CGH13, CDNP16, CP18, CCFM17,
CCQ13, CGSW16, CS12, DWWW17, HU17, mHZZ17, HZZ18, HMOU16,
HKT14, HK19b, HL18, HH11, Jin12, JL13b, KS18a, KY12, KNWW19, Mir12,
MP18b, MNT13, NN11, NS14, Nou19, RS18, Ren17, Run14, SV12, SH19,
SKW19, Wan12, WS19, YS13, ZS12, ZS14, ZBB14, ZZ15, ZRK16, Zha18].
ordinary [AR12, HHB16]. **orthogonal**
[DBV11, ÖS13, PR13, YWY14, ZDQ17]. **Osborn** [Mak18]. **oscillation**
[CG11]. **oscillation-free** [CG11]. **oscillatory**
[AN18, CMMV14, CCLM15, CLM17, Olv10, WZH13]. **OSLC** [Tow18]. **other**
[FHN$^+$14, Man15b]. **outflow** [GKL19]. **over-penalized** [BC15b].
overdamped [FS17]. **overdetermined** [Str15]. **overlap** [BFK$^+$16, MSV17].
Overlapping [EMR19, FLS10, MLLR14]. **overlaps** [SDH$^+$14].
Overrelaxation [LM15].

P1 [KOZ16]. **P1/P1** [KOZ16]. **Padé** [BRZ13]. **Padé-type** [BRZ13]. **pair**
[LGL17, Zha16b]. **pairs** [BEK11, Che16b]. **Palindromic** [HLS11, LLW10].
parabolic [AH17, AL15, ABH13, BRK17, BHL11, BS10, CC19, DE16, EH18,
HFK19, KS18b, KKN14, KNWW19, LM11, LV17, Li15, LM13, MP18a,
Nak17, NV12, Pru14, Rei12, RSV13, Sti10, ZDQ17]. **parabolic-elliptic**
[Sti10]. **paraboloids** [dCMT16]. **parallel** [DK16b, HH11]. **parallelepiped**
[KK15b]. **parameter** [JZ13, LP11, NPVW19]. **parameterized**
[BEK11, DP16, TWZ17]. **parameters** [dGKL19]. **Parametric**
[BGN12, EH13, HHB16, HS19b]. **parametrized** [RHM13]. **Part**
[FGP10a, FGP10b, PS11, SB13a, SB13b]. **partial**
[BSCZ12, Bör10, Git14, GLW19, HV12, Rus10, Sti10]. **particle**
[PC13, PCCC18, Sch11a, Sch11b]. **particle-partition** [Sch11a, Sch11b].
partition [Sch11a, Sch11b]. **partitions** [BLM11a]. **Pathwise** [CvN13].
pattern [GT14]. **PCG** [FHPS19]. **PDE**
[BO19, GKN$^+$18, NPVW19, PG17, Sin12]. **PDE-constrained**
[NPVW19, PG17]. **PDEs**

[FGP10a, FGP10b, GKN⁺15, HS19b, KS18a, LSW12, Lui17, NTT16, OR10, PZ18, Rei12, SDH⁺14, TSGU13, TWZ17, WE16, ZRK16, BSZ11, PS11].
penalization [vyKS14]. **penalized** [BC15b, LL10]. **Penalty**
[DU15, KOZ16, BNRS17, HS19a, HR19, JZ14, KP17]. **penalty-projection**
[HR19]. **perfectly** [CCZ13]. **periodic**
[AY18, CMP13, GW19, GSY19, GWW14, HMOU16, HJNS17, MOS11].
periodic-like [GW19]. **permeable** [CP14]. **Perron** [LGL17]. **Perturbation**
[DK11]. **perturbed** [AV11, DK16a, KS11b, Kop17, SH17]. **Petrov**
[CP18, CBHW18, EGH15, HK17, Ste15]. **Phase** [BMO15, CCS17, CS17,
CHW17, DHM19, HHNS16, Hor17b, KP17, SS15, SV12]. **Phase-field**
[BMO15, CCS17]. **photonic** [Eng14, GG12]. **Piecewise**
[KR16, NOS16, CHW12, LL12]. **pipes** [BEG14]. **Pitaevskii** [AL17, HKT14].
placement [NPVW19]. **plane** [GN14, IG15]. **plate** [BNRS17, LL12, dVM11].
plates [BC15b, PS17a, SH18]. **POD** [Sin12]. **point** [BHK10, BLS14, BOS18,
DM14, FGH⁺16, HW11, KSZ13, PG17, PPS18, SG11, Sou13, Tu11, ZWJ19].
points [DFL16, EKAB16, Mas14, XCW10]. **Pointwise**
[NZ19, NW18, OW11]. **Poisson** [CCFM17, CCSS16, HW13, LP15, RS11].
polarization [AGK⁺14]. **polefinding** [IN18]. **poles** [DV11]. **Polyak**
[DMG19]. **polygon** [GLS17]. **polygonal** [LVY14, Wei11]. **polyhedra**
[GNS15]. **polyhedral** [BN16, FM18, LN18, LVY14]. **polynomial**
[BD11, Bel11, CHTV18, DGSY17, LLW10, MS19, NOS16, SV12, TWZ17].
polynomial-degree-robust [CHTV18]. **Polynomials**
[HN16, CCR14, DLPV18, Dri12, Eng14, HLS11, JO10, JJT13, Kir11, KT12,
LT10, Not19, ÖS13, ST18, dS18b]. **poroelastic** [AKYZ18]. **porous** [BBFP18,
BGG⁺16, CLLS19, CS17, CDL19, GGM14, KP17, KPR14, LDQ11, SS15].
posed [CN19, HH10, Kal15, Sch16]. **posedness** [BG16]. **positive**
[AN19, BM13, MOR17, WS19]. **positivity** [HK19b, JLL15]. **post** [ER18].
post-processing [ER18]. **posteriori** [AV11, AMN11, AMORB16, BB12,
CCM12, CDM⁺18, CGPS17, CM13, CGH13, CPS16, CGG19, CHTV18,
CS17, DK16a, DSX16, Era15, HSV12, KK15a, KKN14, Kop17, KVW15,
LM11, LMS19, LO14, LM13, NvPZ10, RW12, RHM13, WX12, dVMM19].
postprocessing [CM13]. **potential** [ABK13, BM11, LO14]. **potentials**
[GY12, SV16]. **power** [HL18, Pet12]. **powers** [AN19]. **precipitation**
[KPR14]. **Precise** [Fuk13, AKST14]. **Preconditioned** [PT10, LM15].
preconditioner [DGS15]. **preconditioners** [LR17, PPS18].
Preconditioning [BMN11, BFK⁺16, GGS15, LSW11, Sch11b]. **prescribed**
[ZBJ18]. **presence** [dVCMR18]. **Preserving**
[WZ10, BDF12, Egg19, FS14, GAB13, HMX17, HLS11, JLL15, KLS19].
prespecified [Men11]. **pressure** [LMS19]. **pressure-robust** [LMS19].
Pricing [MOGO17, HFL12]. **primal** [ABAC16, Loz19]. **primal-dual**
[ABAC16]. **primitive** [BGHL14, HS18, Pet12]. **principal** [Nou19]. **principle**
[DKS13, LHQ14, ZS12]. **priori** [AV12, AMORB16, BKN13, CM18, LN18,
LJS18, MOS11, NV12, NW18, OW11]. **probability** [LRS19, LRS20].
problem [AORS17, AMORB16, BJLZ15, BY19, BDG⁺18, BHLZ19, CPR13,

[Dem16, CXH10, DS11, Dem17]. **quasi-orthogonal** [DBV11].
quasi-Toeplitz [BM19]. **quasi-uniform** [HM13]. **quasiconformal**
[ZLL$^+$12]. **quasilinear** [CD11, CC19, DD16, HP17, HPS18]. **quasiseparable**
[DP16]. **quasistatic** [WHC14]. **quaternionic** [JO10]. **queue** [NP15].
quotient [AV10].

Rachford [HHYY14, HY15]. **Radau** [PS16]. **RADI** [BBKS18]. **Radial**
[HSW17, PT14]. **radiation** [HK19a]. **radii** [BPS10]. **radius** [LN15]. **Radon**
[GH14a]. **Random** [Dic12, OZ17, AR12, BBC$^+$18, BC15a, DHS17, FKS18,
FKS19, Git14, GKN$^+$15, HPS16, MNT13, NTT16, TSGU13, OZ23].
Randomized [Lin17, SAI17]. **rank** [BB13, BBKS18, BKUV17, EHRS12,
GK19a, GKL15, Hac16, HRS12, HL18, Nou19, SSS16]. **rank-1** [BKUV17].
rank-adaptive [GK19a]. **rate** [AR16, HY15, HL18, SH18]. **rates**
[BC17, Cal17, Gan13, HQ12, KS11c, NZ19, SH19]. **Rational**
[AN19, BG12, BLM18, BDHK12, BRZ13, CH18b, DBV11, GT19, GN14,
IN18, MMMS10, PR13]. **Raviart** [HM16, LMR16]. **raw** [DM14]. **Rayleigh**
[AV10, BJLZ15, GHP17]. **RBF** [LSW12]. **reaction**
[AV11, ABH13, BGGH16, DK16a, FGL14, KS11b, Kop17, LHQ14, Pie18].
reaction-diffusion [AV11, DK16a, KS11b, Kop17, Pie18]. **real**
[HU17, Kim19, MOR17]. **realizable** [ZBJ18]. **realization** [LP11, RSV13].
Reconstructing [HR12]. **reconstruction** [GS17]. **reconstructions**
[PSV18]. **recovery** [DV11]. **rectangles** [CGH13]. **rectangular** [JP13, LS16].
Recurrence [PR13]. **recurrences** [MV15]. **recursive** [Hac16]. **red** [SZ13].
red-green [SZ13]. **Reduced** [RHM13, CQR16, Zha18]. **reduction**
[Bar13a, SZ13, Sin12]. **Refined** [LMS19, PPS18]. **refinement**
[SZ13, dVBRS11]. **refinements** [GMÖ$^+$18]. **reflector** [dCMT16]. **Regge**
[Chr11]. **regime** [BD12a, BZ17, FS14, NDL14]. **regions** [AN18]. **Regular**
[Zha18, Che16b, Dal10]. **Regularity** [CCGP17, LN18, CG17, CD11, CC19,
DHS17, JLZ18, KS18b, KY12, LV17, Li15, Pru14, dGKL19]. **Regularization**
[ZWJ19, GS17, HQ12, HKQ18, JT11, Jin12, JZ14, JY16, Jin17, LA11, LP11,
OB17, SH19]. **Regularized** [BCST19, EH12, HW13, Jin10, JZ13, Kal15].
regularizing [HH10]. **Reissner** [BC15b, PS17a, dVM11]. **related**
[BB13, BR11, BGHL14, FL15, Not19]. **relation** [BBK17]. **relations** [PR13].
relationship [Fer13b]. **relative** [FH17]. **relativistic** [FS14]. **relaxation**
[ADF18, AL17, BGGH16, BKW10, GW19]. **Relaxing** [GHS12]. **reliable**
[GST19, KVW15]. **remarks** [BO17]. **reordering** [OZ17, OZ23].
Reorthogonalization [Bar13a]. **Reorthogonalized** [BS13].
Representation [GT19, HAG17]. **representations** [EPS17, VD11].
represented [EH12]. **Reproducing** [FY11]. **Reproduction** [CCR14].
requirements [DCC18]. **Residual**
[CGG19, DSX16, Wei11, CS17, KVW15, WX12]. **Residual-based**
[CGG19, DSX16, CS17, WX12]. **residual-type** [KVW15]. **residue** [DV11].
resolution [BGHL14]. **respect** [BCPS10, dGKL19]. **restarted** [Ais15].
Restarting [BV17]. **resultants** [NNT15]. **results** [KSD10]. **retarded**

GY12, HL19, HKT14, KSZ13, LN15, Lin17, Lui17, vyKS14]. **spectrum**
[BV14, GMP$^+$14, Pet12, ZBJ18]. **speed** [MNT13]. **sphere**
[BD12b, HSW17, LSW11, PT12, PT14, TT15, VGG14]. **spheres**
[BPS10, FHN$^+$14, KNWW19, LSW12, Nie10]. **spherical**
[CFL11, GP11, PT12, TT15]. **Spline** [BAK19, SW11a, Maz11a]. **splines**
[PT12, RMS17, Sor10, TT15]. **split** [Mat13]. **splitting**
[BMN11, CG17, CCFM17, FGP10a, FGP10b, Gau18, GH14b, GWW14,
HHYY14, HJS15, HKT14]. **square** [LO14]. **squares**
[BGR18, BC17, CPB17, DMMS11, IN18, JL13a, RS18]. **Stabilised** [KS11b].
Stability [BT15, DS18c, FFKP15, GLS17, KL18b, KSZ13, LSW11, SCHH13,
BFG13, BY14, CC10b, EK18, GHP17, HOR17a, HJNS17, HS18, KK11, Li15,
Mas14, RHM13, SWS16, WZ10, Wan18, Wil19, WMS10, dCM17, dHQS15].
stabilization [Ber16, PSV10]. **Stabilized** [BGIS17, BHLZ19, BS10, BO18,
HR10, Jun15, KSD11, Kla15, LA11, LCH12, MLLR14]. **Stable**
[BLS15, GK19a, HMX17, IN18, KL17, Sch11b, SW11b, Zha16b, BGN16,
BEJ14, CHW17, HM14, HV12, MSW13, Pru14, Sch16, ZBB14, NKL21].
staggered [Che16a]. **staggering** [Che16a]. **staircase** [HR14]. **state**
[CGHW11, NW18, OW11, RW12, SG11]. **states** [BFG13]. **static** [Loz19].
Stationary [AN18, CCR14, CCGP17, HSD18, He13, LCH12, LC14].
statistical [Wan12]. **steady** [BBD16, CGHW11]. **steady-state** [CGHW11].
steepest [dHQS15]. **step** [Pru14, SG11]. **stepping** [HW18, JLZ18, Mus15].
steps [Ren17]. **Stieltjes** [Not19, dS18b]. **stiff** [CS12, HJT14]. **stiffness**
[GMP$^+$14]. **stimulation** [HJHA17]. **Stochastic**
[AR12, BSZ11, CQR16, CS12, DMG19, EPS17, GGK$^+$19, GKSS13, GLW19,
HL19, HR19, MNT13, TWZ17, WMS10, ZRK16]. **Stokes**
[CHW17, AKYZ18, BDQ10, BJLZ15, BDLM18, BLS14, BC17, CGHW11,
CPR13, CP18, CHTV18, CGSW16, CQR16, CH18a, DWWW17, DU15,
DO17, FKM16, GMN19, GVY14, GNS15, GKL19, GGRG15, HSV12, HR19,
He13, HOR17a, HKXZ16, HJNS17, Kar13, KOZ16, LMS19, LA11, LCH12,
LC14, LVY14, LL10, MLLR14, Not16b, PPS18, QRB11, RE14, RHM13,
SWS16, Tak15, Wan12, ZT12, Zha16b, vyKS14]. **Stokes/Darcy**
[BDQ10, DO17]. **Stopping** [GMT11, Jin17]. **Störmer** [HL16]. **strain**
[LMcS17]. **Strassen** [FLZ19]. **streamers** [RI15]. **stresses** [BDGQ12].
Strong [ZRK16, NS14]. **Strongly** [PT14, ABAC16, GMSS11, SzS12].
structural [KSZ13]. **Structure** [Egg19, AKYZ18, AG10, BS17, BG17,
Eng14, Fer13a, FH17, GV15, HLS11, KLS19]. **structure-preserving**
[HLS11]. **Structured** [DP16, LLW10, Hac16, KS18a, LGC14]. **structures**
[AY18, CMR18]. **studies** [GWCH10]. **Sturm** [RI15]. **subdivision**
[CCR14, CCGP17, CM10, MS19, Rie19]. **subgradient** [BCPS10]. **subject**
[dHQS15]. **submanifolds** [LRS19, LRS20]. **subspace** [KS11a]. **subspaces**
[GSY19]. **Successive** [LM15]. **summation** [Pin18]. **sums** [EHRS12, Pin18].
sup [HW11, RHM13]. **Super** [ER18, AR16]. **super-algebraic** [AR16].
Super-convergence [ER18]. **supercell** [CEM14]. **Superconvergence**
[HM16, LS16, AMN11]. **Superlinear** [BG12]. **supersmoothness** [Sor10].

support [HHR11]. **supported** [SV13]. **supports** [HS19b]. **sure** [WMS10].
surface [BDS13, BHLZ16, BHL$^+$19, DS18c, ER15, KLLG17, KL18a, OR10].
surfaces [BN16, BHLZ19, DM16, DL11, GM14, KLL19, Man15a, SW19].
sweeping [Ven11]. **Sylvester** [XXL12b]. **Symmetric** [CHL13, GN14, Ais15,
BDGQ12, BCGS11, CG11, CGG19, EOS17, FFKP15, Sid11b]. **Symplectic**
[KK15c]. **Symplectic-mixed** [KK15c]. **system**
[BCCH19, BL17, BGHL14, CGHW11, CGSW16, CHW17, CKL14, DWWW17,
FKM16, Gau18, GGGS19, LCWW17, RS18, SSS12, SzS12, Wan18, ZS17].
systems [ADBN16, ABC15, BM13, Bel11, BBC$^+$18, BLS14, BOS18, Chá11,
CH18a, CHL13, EK18, EZ15, GAB13, HL16, HM14, LM15, Man13, Mur17,
Sin12, Smy10, SDH$^+$14, SA10]. **Szego** [PS16].

tangent [HAG17]. **tangential** [KdS18, NGKN10]. **Taylor** [MSW13, MS19].
TDNNS [PS17a, PS18]. **technique** [GW19]. **techniques**
[AR12, Che16a, EZ15, HM18, MP18a, SH17]. **temperature** [CKL14].
tempered [BCS14a]. **Temple** [BBC$^+$18]. **Temple-class** [BBC$^+$18].
temporal [HS18, RSV13, SV13]. **tensor** [Bal12, CLLS19, DS10, EPS17,
EH12, FN12, FLZ19, GK19a, Hac13, KS18a, LGL17, SS11].
tensor-structured [KS18a]. **Tensorisation** [Hac11]. **tensors**
[AGK$^+$14, EH12, EHRS12, HU17, HRS12, HL18, LN15, Nou19]. **term**
[BDLM18, HL16, RE14]. **terms** [JZ14, JY16]. **tetrahedral** [CCQ13].
tetrahedron [Mat13]. **textile** [SzS12]. **Their**
[SCHH13, ABB15, BK12, DLPV18, Hac11, ZT12]. **theoretical** [BS19].
theory [ABM18, DK11, HS13, Nie10, Sin12]. **thermistor** [GLS17].
thickener [BKTT10]. **thin** [CW12, FLMP12]. **thin-film** [FLMP12]. **third**
[CGSW16, ZS14]. **third-order** [CGSW16]. **three**
[ABER10, Ber16, CCQ13, GL11, GT14, HS18, Pet12, Tu11].
three-dimensional [ABER10, CCQ13]. **three-level** [Tu11]. **tide**
[CK16, CGK18]. **Tight** [BKUV17]. **Tikhonov** [HQ12, JZ14, KdS18]. **Time**
[ADBN16, BKN13, HR19, Mus15, QRSZ19, AL17, ABC15, BZ17, BRK17,
BS12, BCCH19, CCS17, CG17, CCZ13, CGSW16, DE16, EH18, EZ15,
FKNP11, GH14b, GEEF17, HHNS16, HT18, HOR17a, HM14, HKT14,
HW18, HJNS17, HS18, JLZ18, KL18b, LM13, Lui17, Man15a, MP18b, NV12,
Pie18, Pru14, Rei12, Ren17, RE14, SV16, Say13, SG. . . 12, SS16, TWW15,
Tow18, Wan12, WE16]. **time-dependent** [SG. . . 12, SS16]. **Time-discrete**
[BKN13, EZ15]. **Time-discretization** [HR19]. **time-discretized** [BHL11].
Time-domain [QRSZ19]. **time-splitting** [CG17, GH14b, HKT14].
Time-stepping [Mus15, JLZ18]. **timestep** [KSD11]. **Toeplitz** [BM19].
tomography [GS17, GWCH10, HHR11, HKQ18, HM18]. **topography**
[BL17]. **topological** [ADF18]. **Total** [CP19, FLS10, HKQ18, JL13a, PSV18].
totally [Koe19]. **TR** [SW11a]. **TR-meshes** [SW11a]. **trace** [EH13, SAI17].
tracking [CC15, Run14]. **traffic** [BG16, CLM15]. **transfer** [Wor19].
transform [KK11]. **Transformation** [SCHH13, Fuk10, Sid11a].
transformed [PCCC18]. **Transforming** [BMP10]. **transforms**

[GP11, VD11, WZH13]. **translational** [CP19]. **transmission**
[CC13, GMSS11, QRSZ19]. **Transmutation** [EZ15]. **transport**
[BCN19, SzS12, dGKL19]. **transports** [HAG17]. **trapezium** [ACWL14].
tree [Nou19]. **tree-based** [Nou19]. **trees** [BCM17]. **Trefftz** [Kre17, MP18b].
triangles [ÖS13]. **triangular** [BHK10]. **triangulations** [Dal10]. **Tricomi**
[LT10]. **tridiagonal** [FPD12]. **tridiagonalization** [Sid11b]. **trigonometric**
[CS12, ST18]. **trivariate** [Mat13]. **truncation** [Hac16]. **truncations**
[Hac13]. **TT-format** [GK19a]. **TT-rank** [HRS12]. **turnpike** [HSLZ19]. **Two**
[AV10, LMcS17, OS19, ABK13, BK12, BBB17, BGGH16, CCS17, Che16b,
CHW17, CMR18, DHM19, DGS15, HQ12, JO10, KP17, KS18a, MOS11,
NNT15, SS15, Sid11b, Wan12, ZWJ19]. **two-coefficient** [HQ12].
two-dimensional [ABK13]. **two-level** [BK12]. **two-phase**
[CCS17, CHW17, DHM19]. **two-point** [ZWJ19]. **Two-sided**
[AV10, BBB17, JO10]. **twofold** [HW11]. **type** [BBKS18, BRZ13, DMG19,
Har15, HS17, HW13, KL18b, KVW15, LO14, OS19, OZ17, OZ23, SX13].

UA [BZ17]. **Ultraconvergence** [mHZZ17]. **unbiased** [CMR18].
Unconditional [HOR17a, SWS16, Wan18]. **Unconditionally** [HV12].
unification [VD11]. **unified** [AMN11, CDM$^+$18, HSV12]. **Uniform**
[BCCH19, BHL11, DE16, FGL14, PSV10, BEG14, EK18, HM13, LS16].
Uniform-in-time [BCCH19, DE16]. **Uniformly**
[CCLM15, BZ17, JZ14, MSW13, Sch16, Wor19]. **unilateral** [BMP10].
Uniquely [CHW17]. **Uniqueness** [PZ18]. **unit** [BD12b]. **unitary**
[MV15, VD11]. **units** [BKTT10]. **unity** [Sch11a, Sch11b]. **unknown**
[ABB19]. **unrestricted** [GST19]. **Unsteady** [BEG14, LL10]. **unstructured**
[BDF12, GWX16, GGRG15, Mak18]. **Unsymmetric** [Sch10, FPD12]. **upper**
[HHS15]. **upscaling** [MP15]. **upwind** [CKL14, SS18]. **UQ** [NTW18]. **used**
[LT10]. **using** [BRK17, BO18, GN14, HR12, Kir11, KT12, NP15, PSV18,
PS18, Pla15, SKW19, ZLL$^+$12].

value [Adc10, GW19, HQ12, HW18, Kre17, Mas16, OS14, ST18, ZZ15].
valued [GSY17, NTT16, SG. . . 12]. **values** [HU17]. **variable**
[BC15b, DD16, mHZZ17]. **variables** [Sau17]. **variance** [BC15a, DFL16].
variation [CP19, FLS10, HKQ18, KR16, PS11]. **Variational**
[BGN19, EHRS12, SW19, BK12, DGBL$^+$15, EMB10, HL15, HSD18, NvPZ10,
SH19, Ste14, Ver17]. **vector** [DL11, HAG17]. **vectors** [Hac11, HAG17].
velocities [HHNS16]. **velocity** [CC15, HOR17a]. **velocity-vorticity**
[HOR17a]. **Verlet** [HL16]. **Vertex** [ZZ15]. **Vertex-centered** [ZZ15].
vertices [Dal10, SW11a]. **very** [Loz19]. **via** [ACWL14, FY11, GW19, IN18,
Jin12, LMSS17, NNT15, RI15, SDH$^+$14, Tow18]. **vibration** [dVMRR17].
viewpoint [vyKS14]. **virtual**
[CGPS17, dVBMR16, dVMRR17, dVCMR18, dVMM19]. **viscosity** [DD16].
viscous [HS18, Ver10]. **Vlasov** [CCFM17, RS11]. **Volterra** [WZ10].
Volume [BHT17, AGS10, ABH13, BC12, BDF12, CCP13, Era15, EOS17,

FGL14, FH17, GM14, HZZ18, LCH12, LC14, LMR16, Mur17, QRB11, SS15, SS18, XZ10, ZZ15, ZS17, vyKS14, BGHL14]. **volume-nonconforming** [SS15]. **Voronoi** [FGL14]. **vorticity** [HOR17a]. **Vries** [PSV10].

walls [CP14]. **Wang** [HH11]. **water** [BL17, BEG14, CKL14, CDKLM18, TT15]. **wave** [AY18, BPS10, BLM11b, BLS15, BO19, Cho18, CR12, EK18, ER18, GMÖ⁺18, HR14, HHNS16, KK15c, KY12, Man15a, MP18b, MNT13, Ver10]. **waveform** [AL17, BGGH16, GW19]. **wavefunctions** [SY17]. **waveguides** [HK19a]. **wavelet** [DS10, Git14, MOGO17, Rei12, RS18, SS11]. **Wavenumber** [GMS19, GGS15]. **Wavenumber-explicit** [GMS19]. **wavenumber-independent** [GGS15]. **wavepacket** [GH14b]. **waves** [BKW10, IG15]. **weak** [BMWB14, LMY18, ZRK16]. **Weakly** [BC15b, AR16, FGHP17, LGL17]. **weakly-singular** [FGHP17]. **weight** [Maz11b, Not19, PS16]. **weighted** [CQR16, HSZ13, KY12, NOS16]. **weights** [DMN12, Dic12, HS19b]. **Well** [BG16, CDKLM18, BL17, Sch16]. **Well-balanced** [CDKLM18, BL17]. **well-posed** [Sch16]. **Well-posedness** [BG16]. **which** [GGS15]. **white** [GLW19, ZRK16]. **whose** [GV19]. **Wideband** [BKV15]. **Willmore** [BMO15]. **Winther** [CGG19]. **without** [BLM18, BC15b, MSV17, PZ18]. **Worsey** [Mat13].

XFEM [LR17]. **Xu** [HH11].

Yee [LS16]. **yields** [FHPS19].

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

References

Attouch:2016:SCP

[ABAC16]   Hédy Attouch, Luis M. Briceño-Arias, and Patrick L. Combettes. A strongly convergent primal-dual method for nonoverlapping domain decomposition. *Numerische Mathematik*, 133(3):443–470, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0751-4; http://link.springer.com/article/10.1007/s00211-015-0751-4.

Arnold:2015:FED

[ABB15]   Douglas N. Arnold, Daniele Boffi, and Francesca Bonizzoni. Finite element differential forms on curvilinear cubic meshes and their approximation properties. *Numerische Mathematik*, 129

(1):1–20, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0631-3`.

Adcock:2019:CUE

[ABB19]   Ben Adcock, Anyi Bao, and Simone Brugiapaglia. Correcting for unknown errors in sparse high-dimensional function approximation. *Numerische Mathematik*, 142(3):667–711, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01051-9`.

Arnold:2015:EAG

[ABC15]   Martin Arnold, Olivier Brüls, and Alberto Cardona. Error analysis of generalized-α Lie group time integration methods for constrained mechanical systems. *Numerische Mathematik*, 129(1): 149–179, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0633-1`.

Anand:2010:AMS

[ABER10]   Akash Anand, Yassine Boubendir, Fatih Ecevit, and Fernando Reitich. Analysis of multiple scattering iterations for high-frequency scattering problems. II: The three-dimensional scalar case. *Numerische Mathematik*, 114(3):373–427, January 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=3&spage=`█ 373.

Angelini:2013:FVM

[ABH13]   Ophélie Angelini, Konstantin Brenner, and Danielle Hilhorst. A finite volume method on general meshes for a degenerate parabolic convection-reaction-diffusion equation. *Numerische Mathematik*, 123(2):219–257, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0485-5`.

Antoine:2013:ABC

[ABK13]   Xavier Antoine, Christophe Besse, and Pauline Klein. Absorbing boundary conditions for the two-dimensional Schrödinger equation with an exterior potential. *Numerische Mathematik*, 125(2): 191–223, October 2013. CODEN NUMMA7. ISSN 0029-599X

(print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0542-8`.

Allonsius:2018:SAD

[ABM18]   Damien Allonsius, Franck Boyer, and Morgan Morancey. Spectral analysis of discrete elliptic operators and applications in control theory. *Numerische Mathematik*, 140(4):857–911, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0983-1`.

Alazah:2014:CFI

[ACWL14]   Mohammad Alazah, Simon N. Chandler-Wilde, and Scott La Porte. Computing Fresnel integrals via modified trapezium rules. *Numerische Mathematik*, 128(4):635–661, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0627-z`.

Aregba-Driollet:2016:TAH

[ADBN16]   Denise Aregba-Driollet, Maya Briani, and Roberto Natalini. Time asymptotic high order schemes for dissipative BGK hyperbolic systems. *Numerische Mathematik*, 132(2):399–431, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0720-y`.

Adcock:2010:MMF

[Adc10]   Ben Adcock. Multivariate modified Fourier series and application to boundary value problems. *Numerische Mathematik*, 115(4):511–552, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=511`.

Amstutz:2018:CRO

[ADF18]   Samuel Amstutz, Charles Dapogny, and Àlex Ferrer. A consistent relaxation of optimal design problems for coupling shape and topological derivatives. *Numerische Mathematik*, 140(1):35–94, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0964-4`.

Antonopoulos:2019:EEG

[ADM19]   D. C. Antonopoulos, V. A. Dougalis, and D. E. Mitsotakis. Error estimates for Galerkin finite element methods for the Camassa–Holm equation. *Numerische Mathematik*, 142(4):833–862, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01045-7.

Arcangeli:2012:ESI

[AdST12]   Rémi Arcangéli, María Cruz López de Silanes, and Juan José Torrens. Extension of sampling inequalities to Sobolev seminorms of fractional order and derivative data. *Numerische Mathematik*, 121(3):587–608, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=587.

Astorino:2010:CAP

[AG10]   M. Astorino and C. Grandmont. Convergence analysis of a projection semi-implicit coupling scheme for fluid-structure interaction problems. *Numerische Mathematik*, 116(4):721–767, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=4&spage=721.

Ammari:2014:GPT

[AGK$^+$14]   Habib Ammari, Josselin Garnier, Hyeonbae Kang, Mikyoung Lim, and Sanghyeon Yu. Generalized polarization tensors for shape description. *Numerische Mathematik*, 126(2):199–224, February 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0561-5.

Andreianov:2010:FVS

[AGS10]   Boris Andreianov, Paola Goatin, and Nicolas Seguin. Finite volume schemes for locally constrained conservation laws. *Numerische Mathematik*, 115(4):609–645, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=609.

Abdulle:2014:DGF

[AH14]   A. Abdulle and M. E. Huber. Discontinuous Galerkin finite element heterogeneous multiscale method for advection-diffusion problems with multiple scales. *Numerische Mathematik*, 126 (4):589–633, April 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0578-9.

Abdulle:2017:NHM

[AH17]   A. Abdulle and M. E. Huber. Numerical homogenization method for parabolic advection–diffusion multiscale problems with large compressible flows. *Numerische Mathematik*, 136(3):603–649, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Amat:2014:FHO

[AHR14]   S. Amat, M. A. Hernández, and N. Romero. On a family of high-order iterative methods under gamma conditions with applications in denoising. *Numerische Mathematik*, 127(2):201–221, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0589-6.

Aishima:2015:GCR

[Ais15]   Kensuke Aishima. Global convergence of the restarted Lanczos and Jacobi–Davidson methods for symmetric eigenvalue problems. *Numerische Mathematik*, 131(3):405–423, November 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0699-4.

Alouges:2014:CPF

[AKST14]   François Alouges, Evaggelos Kritsikis, Jutta Steiner, and Jean-Christophe Toussaint. A convergent and precise finite element scheme for Landau–Lifschitz–Gilbert equation. *Numerische Mathematik*, 128(3):407–430, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0615-3.

Ambartsumyan:2018:LMM

[AKYZ18]   Ilona Ambartsumyan, Eldar Khattatov, Ivan Yotov, and Paolo Zunino. A Lagrange multiplier method for a Stokes–Biot fluid-

poroelastic structure interaction model. *Numerische Mathematik*, 140(2):513–553, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0967-1`.

Akrivis:2015:FIL

[AL15] Georgios Akrivis and Christian Lubich. Fully implicit, linearly implicit and implicit-explicit backward difference formulae for quasi-linear parabolic equations. *Numerische Mathematik*, 131(4):713–735, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0702-0`.

Antoine:2017:ASW

[AL17] X. Antoine and E. Lorin. An analysis of Schwarz waveform relaxation domain decomposition methods for the imaginary-time linear Schrödinger and Gross–Pitaevskii equations. *Numerische Mathematik*, 137(4):923–958, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0897-3`.

Akrivis:2011:GRK

[AMN11] Georgios Akrivis, Charalambos Makridakis, and Ricardo H. Nochetto. Galerkin and Runge–Kutta methods: unified formulation, a posteriori error estimates and nodal superconvergence. *Numerische Mathematik*, 118(3):429–456, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=429`.

Anaya:2016:PPE

[AMORB16] Verónica Anaya, David Mora, Ricardo Oyarzúa, and Ricardo Ruiz-Baier. A priori and a posteriori error analysis of a mixed scheme for the Brinkman problem. *Numerische Mathematik*, 133(4):781–817, August 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0758-x`; `http://link.springer.com/article/10.1007/s00211-015-0758-x`.

Arnold:2018:SSE

[AN18]   Anton Arnold and Claudia Negulescu. Stationary Schrödinger equation in the semi-classical limit: numerical coupling of oscillatory and evanescent regions. *Numerische Mathematik*, 138(2):501–536, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0913-7;` `https://link.springer.com/content/pdf/10.1007/s00211-017-0913-7.pdf`.

Aceto:2019:RAF

[AN19]   Lidia Aceto and Paolo Novati. Rational approximations to fractional powers of self-adjoint positive operators. *Numerische Mathematik*, 143(1):1–16, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01048-4`.

Allendes:2017:AFE

[AORS17]   Alejandro Allendes, Enrique Otárola, Richard Rankin, and Abner J. Salgado. Adaptive finite element methods for an optimal control problem involving Dirac measures. *Numerische Mathematik*, 137(1):159–197, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Antonopoulou:2010:DGM

[AP10]   D. C. Antonopoulou and M. Plexousakis. Discontinuous Galerkin methods for the linear Schrödinger equation in non-cylindrical domains. *Numerische Mathematik*, 115(4):585–608, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=585`.

Antonietti:2011:FEA

[AP11]   Paola F. Antonietti and Aldo Pratelli. Finite element approximation of the Sobolev constant. *Numerische Mathematik*, 117(1):37–64, January 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=1&spage=37`.

Augustin:2012:SGT

[AR12]   F. Augustin and P. Rentrop. Stochastic Galerkin techniques for random ordinary differential equations. *Numerische Mathematik*, 122(3):399–419, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=399`.

Arens:2016:CMW

[AR16]   Tilo Arens and Thomas Rösch. A collocation method for weakly singular integral equations with super-algebraic convergence rate. *Numerische Mathematik*, 134(3):441–472, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0783-9`; `http://link.springer.com/article/10.1007/s00211-015-0783-9`.

Alqahtani:2019:GBA

[AR19]   Hessah Alqahtani and Lothar Reichel. Generalized block anti-Gauss quadrature rules. *Numerische Mathematik*, 143(3):605–648, November 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01069-z`.

Arbogast:2019:CCM

[AT19]   Todd Arbogast and Zhen Tao. Construction of H(div)-conforming mixed finite elements on cuboidal hexahedra. *Numerische Mathematik*, 142(1):1–32, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0998-7`.

Absil:2010:TSG

[AV10]   P.-A. Absil and P. Van Dooren. Two-sided Grassmann–Rayleigh quotient iteration. *Numerische Mathematik*, 114(4):549–571, February 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=549`.

Ainsworth:2011:FCR

[AV11]   Mark Ainsworth and Tomás Vejchodský. Fully computable robust a posteriori error bounds for singularly perturbed

reaction-diffusion problems. *Numerische Mathematik*, 119(2): 219–243, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=219`.

Abdulle:2012:PEE

[AV12] Assyr Abdulle and Gilles Vilmart. A priori error estimates for finite element methods with numerical quadrature for non-monotone nonlinear elliptic problems. *Numerische Mathematik*, 121(3):397–431, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=397`.

Allaire:2018:ODC

[AY18] G. Allaire and T. Yamada. Optimization of dispersive coefficients in the homogenization of the wave equation in periodic structures. *Numerische Mathematik*, 140(2):265–326, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0972-4`.

Ben-Artzi:2019:SFB

[BAK19] Matania Ben-Artzi and Guy Katriel. Spline functions, the biharmonic operator and approximate eigenvalues. *Numerische Mathematik*, 141(4):839–879, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-01018-2`.

Ballani:2012:FES

[Bal12] Jonas Ballani. Fast evaluation of singular BEM integrals based on tensor approximations. *Numerische Mathematik*, 121 (3):433–460, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=433`.

Barlow:2013:RGK

[Bar13a] Jesse L. Barlow. Reorthogonalization for the Golub–Kahan–Lanczos bidiagonal reduction. *Numerische Mathematik*, 124(2): 237–278, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0518-8`.

Bartels:2013:FEA

[Bar13b]   Sören Bartels. Finite element approximation of large bending isometries. *Numerische Mathematik*, 124(3):415–440, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0519-7`.

Barrios:2012:PEA

[BB12]   Tomás P. Barrios and Rommel Bustinza. An a posteriori error analysis of an augmented discontinuous Galerkin formulation for Darcy flow. *Numerische Mathematik*, 120(2): 231–269, February 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=2&spage=231`.

Benner:2013:LRM

[BB13]   Peter Benner and Tobias Breiten. Low rank methods for a class of generalized Lyapunov equations and related issues. *Numerische Mathematik*, 124(3):441–470, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0521-0`.

Barrenechea:2017:LTS

[BBB17]   G. R. Barrenechea, L. Boulton, and N. Boussaïd. Local two-sided bounds for eigenvalues of self-adjoint operators. *Numerische Mathematik*, 135(4):953–986, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0822-1`; `http://link.springer.com/content/pdf/10.1007/s00211-016-0822-1.pdf`.

Betancourt:2018:RSM

[BBC+18]   Fernando Betancourt, Raimund Bürger, Christophe Chalons, Stefan Diehl, and Sebastian Farås. A random sampling method for a family of Temple-class systems of conservation laws. *Numerische Mathematik*, 138(1):37–73, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0900-z`.

Berselli:2016:CAF

[BBD16]   Luigi C. Berselli, Dominic Breit, and Lars Diening. Convergence analysis for a finite element approximation of a steady model for electrorheological fluids. *Numerische Mathematik*, 132 (4):657–689, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0735-4`.

Barbeiro:2018:NFC

[BBFP18]   Sílvia Barbeiro, Somayeh Gh. Bardeji, José A. Ferreira, and Luís Pinto. Non-Fickian convection-diffusion models in porous media. *Numerische Mathematik*, 138(4):869–904, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0922-6`.

Barrenechea:2017:EBN

[BBK17]   Gabriel R. Barrenechea, Erik Burman, and Fotini Karakatsani. Edge-based nonlinear diffusion for finite element approximations of convection-diffusion equations and its relation to algebraic flux-correction schemes. *Numerische Mathematik*, 135(2):521–545, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0808-z;` `http://link.springer.com/content/pdf/10.1007/s00211-016-0808-z.pdf`.

Benner:2018:RLR

[BBKS18]   Peter Benner, Zvonimir Bujanović, Patrick Kürschner, and Jens Saak. RADI: a low-rank ADI-type algorithm for large scale algebraic Riccati equations. *Numerische Mathematik*, 138(2):301–330, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0907-5;` `https://link.springer.com/content/pdf/10.1007/s00211-017-0907-5.pdf`.

Babuska:2011:ENI

[BBL11]   Ivo Babuska, Uday Banerjee, and Hengguang Li. The effect of numerical integration on the finite element approximation of linear functionals. *Numerische Mathematik*, 117 (1):65–88, January 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.`

springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=1&spage=65.

Ballani:2013:NSE

[BBSV13]   J. Ballani, L. Banjai, S. Sauter, and A. Veit. Numerical solution of exterior Maxwell problems by Galerkin BEM and Runge–Kutta convolution quadrature. *Numerische Mathematik*, 123(4): 643–670, April 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0503-7.

Bessemoulin-Chatard:2012:FVS

[BC12]   Marianne Bessemoulin-Chatard. A finite volume scheme for convection-diffusion equations with nonlinear diffusion derived from the Scharfetter–Gummel scheme. *Numerische Mathematik*, 121(4):637–670, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=637.

Bierig:2015:CAM

[BC15a]   Claudio Bierig and Alexey Chernov. Convergence analysis of multilevel Monte Carlo variance estimators and application for random obstacle problems. *Numerische Mathematik*, 130(4): 579–613, August 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0676-3.

Bosing:2015:WPD

[BC15b]   Paulo Rafael Bösing and Carsten Carstensen. Weakly over-penalized discontinuous Galerkin schemes for Reissner–Mindlin plates without the shear variable. *Numerische Mathematik*, 130 (3):395–423, July 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0672-7.

Borm:2016:AIO

[BC16]   Steffen Börm and Sven Christophersen. Approximation of integral operators by Green quadrature and nested cross approximation. *Numerische Mathematik*, 133(3):409–442, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0757-y; http://link.springer.com/article/10.1007/s00211-015-0757-y.

Bringmann:2017:ALS

[BC17] P. Bringmann and C. Carstensen. An adaptive least-squares FEM for the Stokes equations with optimal convergence rates. *Numerische Mathematik*, 135(2):459–492, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0806-1; http://link.springer.com/article/10.1007/s00211-016-0806-1.

Bessemoulin-Chatard:2019:UTB

[BCCH19] M. Bessemoulin-Chatard and C. Chainais-Hillairet. Uniform-in-time bounds for approximate solutions of the drift–diffusion system. *Numerische Mathematik*, 141(4):881–916, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-01019-1.

Brix:2015:NDG

[BCD15] Kolja Brix, Claudio Canuto, and Wolfgang Dahmen. Nested dyadic grids associated with Legendre–Gauss–Lobatto grids. *Numerische Mathematik*, 131(2):205–239, October 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0691-4.

Brenner:2011:MAS

[BCGS11] S. C. Brenner, J. Cui, T. Gudi, and L.-Y. Sung. Multigrid algorithms for symmetric discontinuous Galerkin methods on graded meshes. *Numerische Mathematik*, 119(1):21–47, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=21.

Bogfjellmo:2017:HSL

[BCM17] Geir Bogfjellmo, Charles Curry, and Dominique Manchon. Hamiltonian *B*-series and a Lie algebra of non-rooted trees. *Numerische Mathematik*, 135(1):97–112, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0792-3; http://link.springer.com/article/10.1007/s00211-016-0792-3.

Benamou:2016:DFI

[BCMO16] Jean-David Benamou, Guillaume Carlier, Quentin Mérigot, and Édouard Oudet. Discretization of functionals involving the Monge–Ampère operator. *Numerische Mathematik*, 134 (3):611–636, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0781-y`; `http://link.springer.com/article/10.1007/s00211-015-0781-y`.

Benamou:2019:GIF

[BCN19] Jean-David Benamou, Guillaume Carlier, and Luca Nenna. Generalized incompressible flows, multi-marginal transport and Sinkhorn algorithm. *Numerische Mathematik*, 142(1):33–54, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0995-x`.

Benmansour:2010:DRM

[BCPS10] F. Benmansour, G. Carlier, G. Peyré, and F. Santambrogio. Derivatives with respect to metrics and applications: subgradient marching algorithm. *Numerische Mathematik*, 116 (3):357–381, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=357`.

Bachmayr:2014:EEH

[BCS14a] Markus Bachmayr, Huajie Chen, and Reinhold Schneider. Error estimates for Hermite and even-tempered Gaussian approximations in quantum chemistry. *Numerische Mathematik*, 128(1):137–165, September 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0605-5`.

Bokanowski:2014:DGS

[BCS14b] Olivier Bokanowski, Yingda Cheng, and Chi-Wang Shu. A discontinuous Galerkin scheme for front propagation with obstacles. *Numerische Mathematik*, 126(1):1–31, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0555-3`.

Bao:2019:RNM

[BCST19]   Weizhu Bao, Rémi Carles, Chunmei Su, and Qinglin Tang. Regularized numerical methods for the logarithmic Schrödinger equation. *Numerische Mathematik*, 143(2):461–487, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01058-2.

Baldeaux:2011:CPL

[BD11]   Jan Baldeaux and Josef Dick. A construction of polynomial lattice rules with small gain coefficients. *Numerische Mathematik*, 119(2):271–297, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=271.

Bao:2012:ACN

[BD12a]   Weizhu Bao and Xuanchun Dong. Analysis and comparison of numerical methods for the Klein–Gordon equation in the nonrelativistic limit regime. *Numerische Mathematik*, 120(2):189–229, February 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=2&spage=189.

Brauchart:2012:QMC

[BD12b]   Johann S. Brauchart and Josef Dick. Quasi-Monte Carlo rules for numerical integration over the unit sphere $\mathbf{s}^2$. *Numerische Mathematik*, 121(3):473–502, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=473.

Buet:2012:DAP

[BDF12]   Christophe Buet, Bruno Després, and Emmanuel Franck. Design of asymptotic preserving finite volume schemes for the hyperbolic heat equation on unstructured meshes. *Numerische Mathematik*, 122(2):227–278, October 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=2&spage=227.

Bernardi:2018:FEM

[BDG⁺18] Christine Bernardi, Séréna Dib, Vivette Girault, Frédéric Hecht, François Murat, and Toni Sayah. Finite element methods for Darcy's problem coupled with the heat equation. *Numerische Mathematik*, 139(2):315–348, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0938-y`.

Bramwell:2012:LFD

[BDGQ12] Jamie Bramwell, Leszek Demkowicz, Jay Gopalakrishnan, and Weifeng Qiu. A locking-free *hp* DPG method for linear elasticity with symmetric stresses. *Numerische Mathematik*, 122(4): 671–707, December 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0476-6`.

Bos:2012:LCB

[BDHK12] Len Bos, Stefano De Marchi, Kai Hormann, and Georges Klein. On the Lebesgue constant of barycentric rational interpolation at equidistant nodes. *Numerische Mathematik*, 121 (3):461–471, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=461`.

Bertoluzza:2018:LEA

[BDLM18] Silvia Bertoluzza, Astrid Decoene, Loïc Lacouture, and Sébastien Martin. Local error analysis for the Stokes equations with a punctual source term. *Numerische Mathematik*, 140(3):677–701, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0976-0`.

Badea:2010:NAN

[BDQ10] Lori Badea, Marco Discacciati, and Alfio Quarteroni. Numerical analysis of the Navier–Stokes/Darcy coupling. *Numerische Mathematik*, 115(2):195–227, April 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=195`.

Blanco:2011:MDH

[BDQ11]   Pablo J. Blanco, Marco Discacciati, and Alfio Quarteroni. Modeling dimensionally-heterogeneous problems: analysis, approximation and applications. *Numerische Mathematik*, 119(2): 299–335, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=299`.

Bruno:2013:CAH

[BDS13]   Oscar P. Bruno, Víctor Domínguez, and Francisco-Javier Sayas. Convergence analysis of a high-order Nyström integral-equation method for surface scattering problems. *Numerische Mathematik*, 124(4):603–645, August 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0525-9`.

Bourdarias:2014:UMF

[BEG14]   Christian Bourdarias, Mehmet Ersoy, and Stéphane Gerbi. Unsteady mixed flows in non uniform closed water pipes: a Full Kinetic Approach. *Numerische Mathematik*, 128(2):217–263, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0611-7`.

Bukal:2014:ESE

[BEJ14]   Mario Bukal, Etienne Emmrich, and Ansgar Jüngel. Entropy-stable and entropy-dissipative approximations of a fourth-order quantum diffusion equation. *Numerische Mathematik*, 127(2): 365–396, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0588-7`.

Beyn:2011:CEI

[BEK11]   Wolf-Jürgen Beyn, Cedric Effenberger, and Daniel Kressner. Continuation of eigenvalues and invariant pairs for parameterized nonlinear eigenvalue problems. *Numerische Mathematik*, 119(3):489–516, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=489`.

Beltran:2011:CMS

[Bel11]   Carlos Beltrán.   A continuation method to solve polyno-
            mial systems and its complexity.   *Numerische Mathematik*,
            117(1):89–113, January 2011.   CODEN NUMMA7.   ISSN
            0029-599X (print), 0945-3245 (electronic).   URL http://www.
            springerlink.com/openurl.asp?genre=article&issn=0029-
            599X&volume=117&issue=1&spage=89.

Bertoluzza:2016:AMD

[Ber16]   Silvia Bertoluzza.   Analysis of a mesh-dependent stabilization
            for the three fields domain decomposition method. *Numerische
            Mathematik*, 133(1):1–36, May 2016. CODEN NUMMA7. ISSN
            0029-599X (print), 0945-3245 (electronic). URL http://link.
            springer.com/article/10.1007/s00211-015-0742-5.

Bambusi:2013:ESG

[BFG13]   Dario Bambusi, Erwan Faou, and Benoît Grébert. Existence and
            stability of ground states for fully discrete approximations of the
            nonlinear Schrödinger equation. *Numerische Mathematik*, 123
            (3):461–492, March 2013. CODEN NUMMA7. ISSN 0029-599X
            (print), 0945-3245 (electronic). URL http://link.springer.
            com/article/10.1007/s00211-012-0491-7.

Brannick:2016:MPO

[BFK^{+}16] James Brannick, Andreas Frommer, Karsten Kahl, Björn Leder,
            Matthias Rottmann, and Artur Strebel. Multigrid preconditio-
            ning for the overlap operator in lattice QCD. *Numerische Math-
            ematik*, 132(3):463–490, March 2016. CODEN NUMMA7. ISSN
            0029-599X (print), 0945-3245 (electronic). URL http://link.
            springer.com/article/10.1007/s00211-015-0725-6.

Beckermann:2012:SCR

[BG12]   Bernhard Beckermann and Stefan Güttel.   Superlinear con-
            vergence of the rational Arnoldi method for the approxi-
            mation of matrix functions.   *Numerische Mathematik*, 121
            (2):205–236, June 2012.   CODEN NUMMA7.   ISSN 0029-
            599X (print), 0945-3245 (electronic).   URL http://www.
            springerlink.com/openurl.asp?genre=article&issn=0029-
            599X&volume=121&issue=2&spage=205.

Blandin:2016:WPC

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

ing. *Numerische Mathematik*, 132(2):217–241, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0717-6`.

Boffi:2017:FDA

[BG17]   Daniele Boffi and Lucia Gastaldi. A fictitious domain approach with Lagrange multiplier for fluid-structure interactions. *Numerische Mathematik*, 135(3):711–732, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0814-1`; `http://link.springer.com/article/10.1007/s00211-016-0814-1`.

Brenner:2016:GDH

[BGG⁺16]   Konstantin Brenner, Mayya Groza, Cindy Guichard, Gilles Lebeau, and Roland Masson. Gradient discretization of hybrid dimensional Darcy flows in fractured porous media. *Numerische Mathematik*, 134(3):569–609, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0782-x`; `http://link.springer.com/article/10.1007/s00211-015-0782-x`.

Bennequin:2016:OSW

[BGGH16]   Daniel Bennequin, Martin J. Gander, Loic Gouarin, and Laurence Halpern. Optimized Schwarz waveform relaxation for advection reaction diffusion equations in two dimensions. *Numerische Mathematik*, 134(3):513–567, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0784-8`; `http://link.springer.com/article/10.1007/s00211-015-0784-8`.

Bousquet:2014:HOF

[BGHL14]   Arthur Bousquet, Gung-Min Gie, Youngjoon Hong, and Jacques Laminie. A higher order Finite Volume resolution method for a system related to the inviscid primitive equations in a complex domain. *Numerische Mathematik*, 128(3):431–461, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0622-4`.

Banz:2017:SMH

[BGIS17]   Lothar Banz, Heiko Gimperlein, Abderrahman Issaoui, and Ernst P. Stephan. Stabilized mixed hp-BEM for frictional contact problems in linear elasticity. *Numerische Mathematik*, 135(1):217–263, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http:/ /link.springer.com/accesspage/article/10.1007/s00211- 016-0797-y`; `http://link.springer.com/article/10.1007/ s00211-016-0797-y`.

BenBelgacem:2018:ALF

[BGJ18]   F. Ben Belgacem, V. Girault, and F. Jelassi. Analysis of Lavrentiev-finite element methods for data completion problems. *Numerische Mathematik*, 139(1):1–25, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211- 017-0930-6`.

Barrett:2012:PAI

[BGN12]   John W. Barrett, Harald Garcke, and Robert Nürnberg. Parametric approximation of isotropic and anisotropic elastic flow for closed and open curves. *Numerische Mathematik*, 120 (3):489–542, March 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www. springerlink.com/openurl.asp?genre=article&issn=0029- 599X&volume=120&issue=3&spage=489`.

Barrett:2016:SNM

[BGN16]   John W. Barrett, Harald Garcke, and Robert Nürnberg. A stable numerical method for the dynamics of fluidic membranes. *Numerische Mathematik*, 134(4):783–822, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211- 015-0787-5`; `http://link.springer.com/content/pdf/10. 1007/s00211-015-0787-5.pdf`.

Barrett:2019:VDA

[BGN19]   John W. Barrett, Harald Garcke, and Robert Nürnberg. Variational discretization of axisymmetric curvature flows. *Numerische Mathematik*, 141(3):791–837, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https:/ /link.springer.com/article/10.1007/s00211-018-1013-z`;

https://link.springer.com/content/pdf/10.1007/s00211-018-1013-z.pdf.

Bellavia:2018:LMM

[BGR18]   Stefania Bellavia, Serge Gratton, and Elisa Riccietti. A Levenberg–Marquardt method for large nonlinear least-squares problems with dynamic accuracy in functions and gradients. *Numerische Mathematik*, 140(3):791–825, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0977-z.

Byckling:2011:AFI

[BH11]   Mikko Byckling and Marko Huhtanen. Approximate factoring of the inverse. *Numerische Mathematik*, 117(3):507–528, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=507.

Bause:2010:FOC

[BHK10]   Markus Bause, Joachim Hoffmann, and Peter Knabner. First-order convergence of multi-point flux approximation on triangular grids and comparison with mixed finite element methods. *Numerische Mathematik*, 116(1):1–29, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=1.

Boyer:2011:UCP

[BHL11]   Franck Boyer, Florence Hubert, and Jérôme Le Rousseau. Uniform controllability properties for space/time-discretized parabolic equations. *Numerische Mathematik*, 118(4):601–661, August 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=4&spage=601.

Burman:2019:FEA

[BHL+19]   Erik Burman, Peter Hansbo, Mats G. Larson, Karl Larsson, and André Massing. Finite element approximation of the Laplace–Beltrami operator on a surface with boundary. *Numerische*

Mathematik, 141(1):141–172, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0990-2;` `https://link.springer.com/content/pdf/10.1007/s00211-018-0990-2.pdf`.

Burman:2016:CFE

[BHLZ16]   Erik Burman, Peter Hansbo, Mats G. Larson, and Sara Zahedi. Cut finite element methods for coupled bulk-surface problems. *Numerische Mathematik*, 133(2):203–231, June 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0744-3`.

Burman:2019:SCC

[BHLZ19]   Erik Burman, Peter Hansbo, Mats G. Larson, and Sara Zahedi. Stabilized CutFEM for the convection problem on surfaces. *Numerische Mathematik*, 141(1):103–139, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0989-8;` `https://link.springer.com/content/pdf/10.1007/s00211-018-0989-8.pdf`.

BenChaabane:2017:NFV

[BHT17]   Soumaya Ben Chaabane, Makram Hamouda, and Mahdi Tekitek. New Finite Volume Method for rotating channel flows involving boundary layers. *Numerische Mathematik*, 136(3):651–678, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Bertoluzza:2011:AFD

[BIM11]   Silvia Bertoluzza, Mourad Ismail, and Bertrand Maury. Analysis of the fully discrete fat boundary method. *Numerische Mathematik*, 118(1):49–77, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=49`.

Bazhlekova:2015:ARS

[BJLZ15]   Emilia Bazhlekova, Bangti Jin, Raytcho Lazarov, and Zhi Zhou. An analysis of the Rayleigh–Stokes problem for a generalized second-grade fluid. *Numerische Mathematik*, 131(1):1–31, September 2015. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http:/ /link.springer.com/article/10.1007/s00211-014-0685-2;` `http://link.springer.com/content/pdf/10.1007/s00211-` `014-0685-2.pdf.`

Badea:2012:OTL

[BK12] L. Badea and R. Krause. One- and two-level Schwarz methods for variational inequalities of the second kind and their application to frictional contact. *Numerische Mathematik*, 120 (4):573–599, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.` `springerlink.com/openurl.asp?genre=article&issn=0029-` `599X&volume=120&issue=4&spage=573.`

Bonito:2013:TDH

[BKN13] Andrea Bonito, Irene Kyza, and Ricardo H. Nochetto. Time-discrete higher order ALE formulations: a priori error analysis. *Numerische Mathematik*, 125(2):225–257, October 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/` `s00211-013-0539-3.`

Burger:2010:SOS

[BKTT10] Raimund Bürger, Kenneth H. Karlsen, Héctor Torres, and John D. Towers. Second-order schemes for conservation laws with discontinuous flux modelling clarifier-thickener units. *Numerische Mathematik*, 116(4):579–617, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http:/ /www.springerlink.com/openurl.asp?genre=article&issn=` `0029-599X&volume=116&issue=4&spage=579.`

Byrenheid:2017:TEB

[BKUV17] Glenn Byrenheid, Lutz Kämmerer, Tino Ullrich, and Toni Volkmer. Tight error bounds for rank-1 lattice sampling in spaces of hybrid mixed smoothness. *Numerische Mathematik*, 136(4): 993–1034, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Bebendorf:2015:WNC

[BKV15] M. Bebendorf, C. Kuske, and R. Venn. Wideband nested cross approximation for Helmholtz problems. *Numerische Mathematik*, 130(1):1–34, May 2015. CODEN NUMMA7. ISSN 0029-599X

(print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0656-7`.

Bouchut:2010:MAR

[BKW10]   François Bouchut, Christian Klingenberg, and Knut Waagan. A multiwave approximate Riemann solver for ideal MHD based on relaxation II: numerical implementation with 3 and 5 waves. *Numerische Mathematik*, 115(4):647–679, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=647`.

Bai:2013:MIA

[BL13a]   Zhong-Zhi Bai and Xin-Guo Liu. On the Meany inequality with applications to convergence analysis of several row-action iteration methods. *Numerische Mathematik*, 124(2):215–236, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0512-6`.

Beyn:2013:EAH

[BL13b]   Wolf-Jürgen Beyn and Alexander Lust. Error analysis of a hybrid method for computing Lyapunov exponents. *Numerische Mathematik*, 123(2):189–217, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0486-4`.

Bouchut:2017:MWB

[BL17]   François Bouchut and Xavier Lhébrard. A multi well-balanced scheme for the shallow water MHD system with topography. *Numerische Mathematik*, 136(4):875–905, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Banjai:2019:EHO

[BLF19]   L. Banjai and M. López-Fernández. Efficient high order algorithms for fractional integrals and fractional differential equations. *Numerische Mathematik*, 141(2):289–317, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1004-0`; `https://link.springer.com/content/pdf/10.1007/s00211-018-1004-0.pdf`.

Babenko:2011:SAA

[BLM11a]   Yuliya Babenko, Tatyana Leskevich, and Jean-Marie Mirebeau. Sharp asymptotics of the L_p approximation error for interpolation on block partitions. *Numerische Mathematik*, 117(3):397–423, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=397`.

Banjai:2011:RKC

[BLM11b]   Lehel Banjai, Christian Lubich, and Jens Markus Melenk. Runge–Kutta convolution quadrature for operators arising in wave propagation. *Numerische Mathematik*, 119(1):1–20, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=1`.

Beckermann:2018:RFF

[BLM18]   Bernhard Beckermann, George Labahn, and Ana C. Matos. On rational functions without Froissart doublets. *Numerische Mathematik*, 138(3):615–633, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0917-3`.

Bonito:2019:NAI

[BLP19]   Andrea Bonito, Wenyu Lei, and Joseph E. Pasciak. Numerical approximation of the integral fractional Laplacian. *Numerische Mathematik*, 142(2):235–278, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01025-x`.

Brenner:2014:MMS

[BLS14]   Susanne C. Brenner, Hengguang Li, and Li-Yeng Sung. Multigrid methods for saddle point problems: Stokes and Lamé systems. *Numerische Mathematik*, 128(2):193–216, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0607-3`.

Banjai:2015:SNC

[BLS15]   Lehel Banjai, Christian Lubich, and Francisco-Javier Sayas. Stable numerical coupling of exterior and interior problems for the

wave equation. *Numerische Mathematik*, 129(4):611–646, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0650-0`.

Bartels:2011:ECA

[BM11] Sören Bartels and Rüdiger Müller. Error control for the approximation of Allen–Cahn and Cahn–Hilliard equations with a logarithmic potential. *Numerische Mathematik*, 119 (3):409–435, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=409`.

Baum:2013:NIP

[BM13] A. K. Baum and V. Mehrmann. Numerical integration of positive linear differential-algebraic systems. *Numerische Mathematik*, 124(2):279–307, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0514-z`.

Borm:2017:AHF

[BM17] Steffen Börm and Jens M. Melenk. Approximation of the high-frequency Helmholtz kernel by nested directional interpolation: error analysis. *Numerische Mathematik*, 137(1):1–34, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Bini:2019:ESI

[BM19] Dario A. Bini and Beatrice Meini. On the exponential of semi-infinite quasi-Toeplitz matrices. *Numerische Mathematik*, 141(2): 319–351, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1006-y`.

Besse:2018:ABC

[BMGN18] Christophe Besse, Benoît Mésognon-Gireau, and Pascal Noble. Artificial boundary conditions for the linearized Benjamin–Bona–Mahony equation. *Numerische Mathematik*, 139(2):281–314, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0943-1`.

Bansch:2011:PCF

[BMN11]   Eberhard Bänsch, Pedro Morin, and Ricardo H. Nochetto. Preconditioning a class of fourth order problems by operator splitting. *Numerische Mathematik*, 118(2):197–228, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=`■ 197.

Bretin:2015:PFA

[BMO15]   Elie Bretin, Simon Masnou, and Édouard Oudet. Phase-field approximations of the Willmore functional and flow. *Numerische Mathematik*, 131(1):115–171, September 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0683-4`.

Bini:2010:TAR

[BMP10]   Dario A. Bini, Beatrice Meini, and Federico Poloni. Transforming algebraic Riccati equations into unilateral quadratic matrix equations. *Numerische Mathematik*, 116(4):553–578, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=4&spage=`■ 553.

Beigel:2014:AWA

[BMWB14]   Dörte Beigel, Mario S. Mommer, Leonard Wirsching, and Hans Georg Bock. Approximation of weak adjoints by reverse automatic differentiation of BDF methods. *Numerische Mathematik*, 126(3):383–412, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0570-4`.

Bokanowski:2010:CNM

[BMZ10]   Olivier Bokanowski, Nadia Megdich, and Hasnaa Zidani. Convergence of a non-monotone scheme for Hamilton–Jacobi–Bellman equations with discontinous initial data. *Numerische Mathematik*, 115(1):1–44, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=1`.

Bespalov:2016:BGM

[BN16] A. Bespalov and S. Nicaise. The BEM with graded meshes for the electric field integral equation on polyhedral surfaces. *Numerische Mathematik*, 132(4):631–655, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0736-3.

Brenner:2017:IPM

[BNRS17] Susanne C. Brenner, Michael Neilan, Armin Reiser, and Li-Yeng Sung. A C^0 interior penalty method for a von Kármán plate. *Numerische Mathematik*, 135(3):803–832, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0817-y; http://link.springer.com/article/10.1007/s00211-016-0817-y.

Bank:2017:SRI

[BO17] Randolph E. Bank and Jeffrey S. Ovall. Some remarks on interpolation and best approximation. *Numerische Mathematik*, 137(2):289–302, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0877-7.

Burman:2018:DAH

[BO18] Erik Burman and Lauri Oksanen. Data assimilation for the heat equation using stabilized finite element methods. *Numerische Mathematik*, 139(3):505–528, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0949-3; https://link.springer.com/content/pdf/10.1007/s00211-018-0949-3.pdf.

Banjai:2019:PAF

[BO19] Lehel Banjai and Enrique Otárola. A PDE approach to fractional diffusion: a space-fractional wave equation. *Numerische Mathematik*, 143(1):177–222, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01055-5.

Borm:2010:ASO

[Bör10] Steffen Börm. Approximation of solution operators of elliptic partial differential equations by H H- and $H^2\mathcal{H}^2$-matrices.

Numerische Mathematik, 115(2):165–193, April 2010. CO-DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=█165.

Brenner:2018:MMS

[BOS18]   Susanne C. Brenner, Duk-Soon Oh, and Li-Yeng Sung. Multigrid methods for saddle point problems: Darcy systems. *Numerische Mathematik*, 138(2):437–471, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0911-9.

Banas:2010:FEA

[BPS10]   L'ubomír Bañas, Andreas Prohl, and Reiner Schätzle. Finite element approximations of harmonic map heat flows and wave maps into spheres of nonconstant radii. *Numerische Mathematik*, 115(3):395–432, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=395.

Beuchler:2012:SOH

[BPZ12]   Sven Beuchler, Veronika Pillwein, and Sabine Zaglmayr. Sparsity optimized high order finite element functions for $H(\mathrm{div})$ on simplices. *Numerische Mathematik*, 122(2):197–225, October 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=2&spage=197.

Berlinet:2011:GIS

[BR11]   Alain F. Berlinet and Christophe Roland. Geometric interpretation of some Cauchy related methods. *Numerische Mathematik*, 119(3):437–464, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=437.

Bosner:2017:QCA

[BR17]   Tina Bosner and Mladen Rogina. Quadratic convergence of approximations by CCC–Schoenberg operators. *Numerische*

Mathematik, 135(4):1253–1287, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0831-0`; `http://link.springer.com/article/10.1007/s00211-016-0831-0`.

Brenner:2013:AAM

[Bre13]   Susanne C. Brenner.   An additive analysis of multiplicative Schwarz methods. *Numerische Mathematik*, 123(1):1–19, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0479-3`.

Bause:2017:EAD

[BRK17]   Markus Bause, Florin A. Radu, and Uwe Köcher. Error analysis for discretizations of parabolic problems using continuous finite elements in time and mixed finite elements in space. *Numerische Mathematik*, 137(4):773–818, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0894-6`; `https://link.springer.com/content/pdf/10.1007/s00211-017-0894-6.pdf`.

Brezinski:2013:PTR

[BRZ13]   Claude Brezinski and Michela Redivo-Zaglia. Padé-type rational and barycentric interpolation. *Numerische Mathematik*, 125(1):89–113, September 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0535-7`.

Burman:2010:BSD

[BS10]   Erik Burman and Benjamin Stamm. Bubble stabilized discontinuous Galerkin method for parabolic and elliptic problems. *Numerische Mathematik*, 116(2):213–241, August 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=213`.

Bermejo:2012:MLG

[BS12]   Rodolfo Bermejo and Laura Saavedra. Modified Lagrange–Galerkin methods of first and second order in time for convection-diffusion problems. *Numerische Mathematik*, 120

(4):601–638, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=4&spage=601`.

Barlow:2013:RBC

[BS13] Jesse L. Barlow and Alicja Smoktunowicz. Reorthogonalized block classical Gram–Schmidt. *Numerische Mathematik*, 123(3):395–423, March 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0496-2`.

Benzi:2017:AFL

[BS17] Michele Benzi and Valeria Simoncini. Approximation of functions of large matrices with Kronecker structure. *Numerische Mathematik*, 135(1):1–26, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0799-9`; `http://link.springer.com/article/10.1007/s00211-016-0799-9`.

Bressan:2019:AFD

[BS19] Andrea Bressan and Espen Sande. Approximation in FEM, DG and IGA: a theoretical comparison. *Numerische Mathematik*, 143(4):923–942, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01063-5`.

Bai:2012:NIE

[BSCZ12] Zheng-Jian Bai, Stefano Serra-Capizzano, and Zhi Zhao. Nonnegative inverse eigenvalue problems with partial eigendata. *Numerische Mathematik*, 120(3):387–431, March 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=3&spage=387`.

Barth:2011:MLM

[BSZ11] Andrea Barth, Christoph Schwab, and Nathaniel Zollinger. Multi-level Monte Carlo Finite Element method for elliptic PDEs with stochastic coefficients. *Numerische Mathematik*, 119(1):123–161, September 2011. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=123`.

Bardos:2015:SSC

[BT15] Claude Bardos and Eitan Tadmor. Stability and spectral convergence of Fourier method for nonlinear problems: on the shortcomings of the 2/3 de-aliasing method. *Numerische Mathematik*, 129 (4):749–782, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0652-y`.

Bebendorf:2012:CNB

[BV12] M. Bebendorf and R. Venn. Constructing nested bases approximations from the entries of non-local operators. *Numerische Mathematik*, 121(4):609–635, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=609`.

Breda:2014:ALE

[BV14] Dimitri Breda and Erik Van Vleck. Approximating Lyapunov exponents and Sacker–Sell spectrum for retarded functional differential equations. *Numerische Mathematik*, 126(2):225–257, February 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0565-1`.

Betcke:2017:RIP

[BV17] Marta M. Betcke and Heinrich Voss. Restarting iterative projection methods for Hermitian nonlinear eigenvalue problems with minmax property. *Numerische Mathematik*, 135 (2):397–430, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0804-3`; `http://link.springer.com/content/pdf/10.1007/s00211-016-0804-3.pdf`.

Bank:2014:HHS

[BY14] Randolph E. Bank and Harry Yserentant. On the H^1-stability of the L_2-projection onto finite element spaces. *Numerische Mathematik*, 126(2):361–381, February 2014. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0562-4`.

Bank:2015:NIB

[BY15]   Randolph E. Bank and Harry Yserentant. A note on interpolation, best approximation, and the saturation property. *Numerische Mathematik*, 131(1):199–203, September 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0687-0`.

Beale:2019:SDP

[BY19]   J. Thomas Beale and Wenjun Ying. Solution of the Dirichlet problem by a finite difference analog of the boundary integral equation. *Numerische Mathematik*, 141(3):605–626, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1010-2`.

Bao:2017:UAU

[BZ17]   Weizhu Bao and Xiaofei Zhao. A uniformly accurate (UA) multiscale time integrator Fourier pseudospectral method for the Klein–Gordon–Schrödinger equations in the nonrelativistic limit regime. *Numerische Mathematik*, 135(3):833–873, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0818-x`; `http://link.springer.com/article/10.1007/s00211-016-0818-x`.

Calder:2017:NSR

[Cal17]   Jeff Calder. Numerical schemes and rates of convergence for the Hamilton–Jacobi equation continuum limit of nondominated sorting. *Numerische Mathematik*, 137(4):819–856, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0895-5`.

Carstensen:2018:NDP

[CBHW18]   C. Carstensen, P. Bringmann, F. Hellwig, and P. Wriggers. Nonlinear discontinuous Petrov–Galerkin methods. *Numerische Mathematik*, 139(3):529–561, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0947-5`.

Claeys:2010:AGS

[CC10a] X. Claeys and F. Collino. Augmented Galerkin schemes for the numerical solution of scattering by small obstacles. *Numerische Mathematik*, 116(2):243–268, August 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=243`.

Clain:2010:SMM

[CC10b] Stéphane Clain and Vivien Clauzon. L^∞ stability of the MUSCL methods. *Numerische Mathematik*, 116(1):31–64, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=`31.

Chesnel:2013:CCG

[CC13] Lucas Chesnel and Patrick Ciarlet, Jr. *T*-coercivity and continuous Galerkin methods: application to transmission problems with sign changing coefficients. *Numerische Mathematik*, 124(1):1–29, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0510-8`.

Casas:2015:EED

[CC15] Eduardo Casas and Konstantinos Chrysafinos. Error estimates for the discretization of the velocity tracking problem. *Numerische Mathematik*, 130(4):615–643, August 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0680-7`.

Casas:2019:NAQ

[CC19] Eduardo Casas and Konstantinos Chrysafinos. Numerical analysis of quasilinear parabolic equations under low regularity assumptions. *Numerische Mathematik*, 143(4):749–780, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01071-5`.

Casas:2017:HOH

[CCFM17] Fernando Casas, Nicolas Crouseilles, Erwan Faou, and Michel Mehrenberger. High-order Hamiltonian splitting for the Vlasov–

Poisson equations. *Numerische Mathematik*, 135(3):769–801, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0816-z`; `http://link.springer.com/article/10.1007/s00211-016-0816-z`.

Charina:2017:RNS

[CCGP17]   M. Charina, C. Conti, N. Guglielmi, and V. Protasov. Regularity of non-stationary subdivision: a matrix approach. *Numerische Mathematik*, 135(3):639–678, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0809-y`; `http://link.springer.com/content/pdf/10.1007/s00211-016-0809-y.pdf`.

Chartier:2015:UAN

[CCLM15]   Philippe Chartier, Nicolas Crouseilles, Mohammed Lemou, and Florian Méhats. Uniformly accurate numerical schemes for highly oscillatory Klein–Gordon and nonlinear Schrödinger equations. *Numerische Mathematik*, 129(2):211–250, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0638-9`.

Cacace:2012:PEE

[CCM12]   S. Cacace, A. Chambolle, and R. Monneau. A posteriori error estimates for the effective Hamiltonian of dislocation dynamics. *Numerische Mathematik*, 121(2):281–335, June 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=2&spage=281`.

Cances:2013:MCG

[CCP13]   Clément Cancès, Mathieu Cathala, and Christophe Le Potier. Monotone corrections for generic cell-centered finite volume approximations of anisotropic diffusion equations. *Numerische Mathematik*, 125(3):387–417, November 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0545-5`.

Chen:2013:NTC

[CCQ13]   Hongru Chen, Shaochun Chen, and Zhonghua Qiao. C^0-nonconforming tetrahedral and cuboid elements for the three-

dimensional fourth order elliptic problem. *Numerische Mathematik*, 124(1):99–119, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0508-2`.

Charina:2014:REP

[CCR14]   Maria Charina, Costanza Conti, and Lucia Romani. Reproduction of exponential polynomials by multivariate non-stationary subdivision schemes with a general dilation matrix. *Numerische Mathematik*, 127(2):223–254, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0587-8`.

Cai:2017:EET

[CCS17]   Yongyong Cai, Heejun Choi, and Jie Shen. Error estimates for time discretizations of Cahn–Hilliard and Allen–Cahn phase-field models for two-phase incompressible flows. *Numerische Mathematik*, 137(2):417–449, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0875-9`.

Ciarlet:2016:IFE

[CCSS16]   P. G. Ciarlet, P. Ciarlet, Jr., S. A. Sauter, and C. Simian. Intrinsic finite element methods for the computation of fluxes for Poisson's equation. *Numerische Mathematik*, 132(3):433–462, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0730-9`.

Chen:2013:AAP

[CCZ13]   Zhiming Chen, Tao Cui, and Linbo Zhang. An adaptive anisotropic perfectly matched layer method for 3-D time harmonic electromagnetic scattering problems. *Numerische Mathematik*, 125(4):639–677, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0550-8`.

Casas:2011:EEN

[CD11]   Eduardo Casas and Vili Dhamo. Error estimates for the numerical approximation of a quasilinear Neumann problem under minimal regularity of the data. *Numerische Mathematik*, 117(1):115–145, January 2011. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=1&spage=115`.

Chertock:2018:WBS

[CDKLM18] Alina Chertock, Michael Dudzinski, Alexander Kurganov, and Mária Lukácová-Medvid'ová. Well-balanced schemes for the shallow water equations with Coriolis forces. *Numerische Mathematik*, 138(4):939–973, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0928-0`.

Cheng:2019:CAF

[CDL19] Hanz Martin Cheng, Jérôme Droniou, and Kim-Ngan Le. Convergence analysis of a family of ELLAM schemes for a fully coupled model of miscible displacement in porous media. *Numerische Mathematik*, 141(2):353–397, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1002-2`.

Cances:2018:GRP

[CDM+18] Eric Cancès, Geneviève Dusson, Yvon Maday, Benjamin Stamm, and Martin Vohralík. Guaranteed and robust a posteriori bounds for Laplace eigenvalues and eigenvectors: a unified framework. *Numerische Mathematik*, 140(4):1033–1079, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0984-0`.

Carstensen:2016:EAN

[CDNP16] Carsten Carstensen, Asha K. Dond, Neela Nataraj, and Amiya K. Pani. Error analysis of nonconforming and mixed FEMs for second-order linear non-selfadjoint and indefinite elliptic problems. *Numerische Mathematik*, 133(3):557–597, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0755-0`; `http://link.springer.com/article/10.1007/s00211-015-0755-0`.

Cances:2014:NCA

[CEM14] Eric Cancès, Virginie Ehrlacher, and Yvon Maday. Nonconsistent approximations of self-adjoint eigenproblems: application to the supercell method. *Numerische Mathematik*, 128(4):

663–706, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0626-0`.

Chen:2011:CEP

[CFL11] Xiaojun Chen, Andreas Frommer, and Bruno Lang. Computational existence proofs for spherical *t*-designs. *Numerische Mathematik*, 117(2):289–305, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=2&spage=289`.

Carstensen:2011:OFA

[CG11] Carsten Carstensen and Joscha Gedicke. An oscillation-free adaptive FEM for symmetric eigenvalue problems. *Numerische Mathematik*, 118(3):401–427, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=401`.

Carstensen:2014:GLE

[CG14] Carsten Carstensen and Dietmar Gallistl. Guaranteed lower eigenvalue bounds for the biharmonic equation. *Numerische Mathematik*, 126(1):33–51, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0559-z`.

Carles:2017:FTS

[CG17] Rémi Carles and Clément Gallo. On Fourier time-splitting methods for nonlinear Schrödinger equations in the semi-classical limit II. Analytic regularity. *Numerische Mathematik*, 136(1):315–342, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Carstensen:2016:JSA

[CGG16] C. Carstensen, D. Gallistl, and J. Gedicke. Justification of the saturation assumption. *Numerische Mathematik*, 134(1):1–25, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0769-7`; `http://link.springer.com/article/10.1007/s00211-015-0769-7`.

Carstensen:2019:RBP

[CGG19] Carsten Carstensen, Dietmar Gallistl, and Joscha Gedicke. Residual-based a posteriori error analysis for symmetric mixed Arnold–Winther FEM. *Numerische Mathematik*, 142(2):205–234, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01029-7; https://link.springer.com/content/pdf/10.1007/s00211-019-01029-7.pdf.

Carstensen:2013:PEE

[CGH13] Carsten Carstensen, Dietmar Gallistl, and Jun Hu. A posteriori error estimates for nonconforming finite element methods for fourth-order problems on rectangles. *Numerische Mathematik*, 124(2):309–335, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0513-5.

Cao:2011:RRD

[CGHW11] Yanzhao Cao, Max Gunzburger, Xiaoming He, and Xiaoming Wang. Robin–Robin domain decomposition methods for the steady-state Stokes–Darcy system with the Beavers–Joseph interface condition. *Numerische Mathematik*, 117 (4):601–629, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=601.

Cotter:2018:MFE

[CGK18] Colin J. Cotter, P. Jameson Graber, and Robert C. Kirby. Mixed finite elements for global tide models with nonlinear damping. *Numerische Mathematik*, 140(4):963–991, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0980-4.

Carstensen:2011:AHA

[CGMM11] C. Carstensen, J. Gedicke, V. Mehrmann, and A. Miedlar. An adaptive homotopy approach for non-selfadjoint eigenvalue problems. *Numerische Mathematik*, 119(3):557–583, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=557.

Carstensen:2014:AFE

[CGMM14]   C. Carstensen, J. Gedicke, V. Mehrmann, and A. Miedlar. An adaptive finite element method with asymptotic saturation for eigenvalue problems. *Numerische Mathematik*, 128(4):615–634, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0624-2.

Cangiani:2017:PEE

[CGPS17]   Andrea Cangiani, Emmanuil H. Georgoulis, Tristan Pryer, and Oliver J. Sutton. A posteriori error estimates for the virtual element method. *Numerische Mathematik*, 137(4):857–893, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0891-9; https://link.springer.com/content/pdf/10.1007/s00211-017-0891-9.pdf.

Costea:2014:NHI

[CGS14]   Adrian Costea, Heiko Gimperlein, and Ernst P. Stephan. A Nash–Hörmander iteration and boundary elements for the Molodensky problem. *Numerische Mathematik*, 127(1):1–34, May 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0579-8.

Chen:2016:ELT

[CGSW16]   Wenbin Chen, Max Gunzburger, Dong Sun, and Xiaoming Wang. An efficient and long-time accurate third-order algorithm for the Stokes–Darcy system. *Numerische Mathematik*, 134(4):857–879, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0789-3; http://link.springer.com/article/10.1007/s00211-015-0789-3.

Chouly:2012:NBD

[CH12]   Franz Chouly and Norbert Heuer. A Nitsche-based domain decomposition method for hypersingular integral equations. *Numerische Mathematik*, 121(4):705–729, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=705.

Christiansen:2018:GFE

[CH18a]   Snorre H. Christiansen and Kaibo Hu. Generalized finite element systems for smooth differential forms and Stokes' problem. *Numerische Mathematik*, 140(2):327–371, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0970-6.

Cirillo:2018:IAB

[CH18b]   Emiliano Cirillo and Kai Hormann. An iterative approach to barycentric rational Hermite interpolation. *Numerische Mathematik*, 140(4):939–962, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0986-y.

Colbrook:2019:IDQ

[CH19]   Matthew J. Colbrook and Anders C. Hansen. On the infinite-dimensional QR algorithm. *Numerische Mathematik*, 143(1):17–83, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01047-5; https://link.springer.com/content/pdf/10.1007/s00211-019-01047-5.pdf.

Chavez:2011:DDS

[Chá11]   Joseph Páez Chávez. Discretizing dynamical systems with generalized Hopf bifurcations. *Numerische Mathematik*, 118 (2):229–246, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=229.

Chen:2012:PSK

[Che12]   Chin-Yun Chen. On the properties of Sard kernels and multiple error estimates for bounded linear functionals of bivariate functions with application to non-product cubature. *Numerische Mathematik*, 122(4):603–643, December 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0471-y.

Chen:2016:STN

[Che16a]   Qingshan Chen. On staggering techniques and the non-staggered Z-grid scheme. *Numerische Mathematik*, 132(1):1–21, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0715-8.

Chen:2016:EST

[Che16b]   Xiao Shan Chen. On estimating the separation of two regular matrix pairs. *Numerische Mathematik*, 134(2):223–247, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0775-9; http://link.springer.com/article/10.1007/s00211-015-0775-9.

Christiansen:2018:NFE

[CHH18]   Snorre H. Christiansen, Jun Hu, and Kaibo Hu. Nodal finite element de Rham complexes. *Numerische Mathematik*, 139(2):411–446, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0939-x.

Console:2013:SMM

[CHL13]   Paola Console, Ernst Hairer, and Christian Lubich. Symmetric multistep methods for constrained Hamiltonian systems. *Numerische Mathematik*, 124(3):517–539, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0522-z.

Cho:2018:CBS

[Cho18]   Chien-Hong Cho. On the computation for blow-up solutions of the nonlinear wave equation. *Numerische Mathematik*, 138(3):537–556, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0919-1.

Christiansen:2011:LRC

[Chr11]   Snorre H. Christiansen. On the linearization of Regge calculus. *Numerische Mathematik*, 119(4):613–640, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?

```
genre=article&issn=0029-599X&volume=119&issue=4&spage=█
613.
```

Cermak:2018:AII

[CHTV18]   Martin Cermák, Frédéric Hecht, Zuqi Tang, and Martin Vohralík. Adaptive inexact iterative algorithms based on polynomial-degree-robust a posteriori estimates for the Stokes problem. *Numerische Mathematik*, 138(4):1027–1065, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0925-3`.

Casas:2012:ASC

[CHW12]   Eduardo Casas, Roland Herzog, and Gerd Wachsmuth. Approximation of sparse controls in semilinear equations by piecewise linear functions. *Numerische Mathematik*, 122(4):645–669, December 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0475-7`.

Chen:2017:USE

[CHW17]   Wenbin Chen, Daozhi Han, and Xiaoming Wang. Uniquely solvable and energy stable decoupled numerical schemes for the Cahn–Hilliard–Stokes–Darcy system for two-phase flows in karstic geometry. *Numerische Mathematik*, 137(1):229–255, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Cifani:2014:NME

[CJ14]   Simone Cifani and Espen R. Jakobsen. On numerical methods and error estimates for degenerate fractional convection-diffusion equations. *Numerische Mathematik*, 127(3):447–483, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0590-0`.

Cotter:2016:MFE

[CK16]   Colin J. Cotter and Robert C. Kirby. Mixed finite elements for global tide models. *Numerische Mathematik*, 133(2):255–277, June 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0748-z`; `http://link.springer.com/content/pdf/10.1007/s00211-015-0748-z.pdf`.

Chertock:2014:CUS

[CKL14]   Alina Chertock, Alexander Kurganov, and Yu Liu. Central-upwind schemes for the system of shallow water equations with horizontal temperature gradients. *Numerische Mathematik*, 127 (4):595–639, August 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer. com/article/10.1007/s00211-013-0597-6.

Carstensen:2019:CEE

[CLA19]   Carsten Carstensen, Dongjie Liu, and Jochen Alberty. Convergence of dG(1) in elastoplastic evolution. *Numerische Mathematik*, 141(3):715–742, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link. springer.com/article/10.1007/s00211-018-0999-6.

Cai:2019:AFD

[CLLS19]   Wentao Cai, Buyang Li, Yanping Lin, and Weiwei Sun. Analysis of fully discrete FEM for miscible displacement in porous media with Bear–Scheidegger diffusion tensor. *Numerische Mathematik*, 141(4):1009–1042, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link. springer.com/article/10.1007/s00211-019-01030-0.

Costeseque:2015:CSH

[CLM15]   Guillaume Costeseque, Jean-Patrick Lebacque, and Régis Monneau. A convergent scheme for Hamilton–Jacobi equations on a junction: application to traffic. *Numerische Mathematik*, 129 (3):405–447, March 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer. com/article/10.1007/s00211-014-0643-z.

Chartier:2017:HOE

[CLM17]   Philippe Chartier, Mohammed Lemou, and Florian Méhats. Highly-oscillatory evolution equations with multiple frequencies: averaging and numerics. *Numerische Mathematik*, 136(4):907–939, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Chan:2018:CNC

[CLMS18]   Raymond Chan, Alessandro Lanza, Serena Morigi, and Fiorella Sgallari. Convex non-convex image segmentation. *Numerische Mathematik*, 138(3):635–680, March 2018. CODEN NUMMA7.

ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0916-4`.

Costantini:2010:GAH

[CM10]   Paolo Costantini and Carla Manni. A geometric approach for Hermite subdivision. *Numerische Mathematik*, 115(3): 333–369, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=333`.

Carstensen:2013:EPE

[CM13]   C. Carstensen and C. Merdon. Effective postprocessing for equilibration a posteriori error estimators. *Numerische Mathematik*, 123(3):425–459, March 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0494-4`.

Cockburn:2015:HDG

[CM15]   Bernardo Cockburn and Kassem Mustapha. A hybridizable discontinuous Galerkin method for fractional diffusion problems. *Numerische Mathematik*, 130(2):293–314, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0661-x`.

Christof:2018:NPE

[CM18]   Constantin Christof and Christian Meyer. A note on a priori L^p-error estimates for the obstacle problem. *Numerische Mathematik*, 139(1):27–45, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0931-5`.

Chartier:2014:MRC

[CMMV14]   Philippe Chartier, Joseba Makazaga, Ander Murua, and Gilles Vilmart. Multi-revolution composition methods for highly oscillatory differential equations. *Numerische Mathematik*, 128(1): 167–192, September 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0602-0`.

Cindea:2013:APS

[CMP13]   Nicolae Cîndea, Sorin Micu, and Jardel Morais Pereira. Approximation of periodic solutions for a dissipative hyperbolic

equation. *Numerische Mathematik*, 124(3):559–601, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0523-y`.

Chouly:2018:UNA

[CMR18] Franz Chouly, Rabii Mlika, and Yves Renard. An unbiased Nitsche's approximation of the frictional contact between two elastic structures. *Numerische Mathematik*, 139(3):593–631, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0950-x`.

Clason:2019:BLI

[CN19] Christian Clason and Vu Huu Nhu. Bouligand–Landweber iteration for a non-smooth ill-posed problem. *Numerische Mathematik*, 142(4):789–832, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01038-6`.

Canuto:2017:COA

[CNSV17] Claudio Canuto, Ricardo H. Nochetto, Rob Stevenson, and Marco Verani. Convergence and optimality of **hp**-AFEM. *Numerische Mathematik*, 135(4):1073–1119, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0826-x`; `http://link.springer.com/article/10.1007/s00211-016-0826-x`.

Chen:2012:OMM

[CNX12] Long Chen, Ricardo H. Nochetto, and Jinchao Xu. Optimal multilevel methods for graded bisection grids. *Numerische Mathematik*, 120(1):1–34, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=1`.

Cherfils:2014:NAC

[CP14] Laurence Cherfils and Madalina Petcu. A numerical analysis of the Cahn–Hilliard equation with non-permeable walls. *Numerische Mathematik*, 128(3):517–549, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0618-0`.

Carstensen:2018:LOD

[CP18] Carsten Carstensen and Sophie Puttkammer. A low-order discontinuous Petrov–Galerkin method for the Stokes equations. *Numerische Mathematik*, 140(1):1–34, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0965-3.

Chambolle:2019:TRT

[CP19] Antonin Chambolle and Thomas Pock. Total roto-translational variation. *Numerische Mathematik*, 142(3):611–666, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01026-w.

Carstensen:2017:CNA

[CPB17] Carsten Carstensen, Eun-Jae Park, and Philipp Bringmann. Convergence of natural adaptive least squares finite element methods. *Numerische Mathematik*, 136(4):1097–1115, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Carstensen:2013:OAN

[CPR13] Carsten Carstensen, Daniel Peterseim, and Hella Rabus. Optimal adaptive nonconforming FEM for the Stokes problem. *Numerische Mathematik*, 123(2):291–308, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0490-8.

Carstensen:2016:NDG

[CPS16] Carsten Carstensen, Daniel Peterseim, and Andreas Schröder. The norm of a discretized gradient in $\boldsymbol{H}(\mathrm{div})^*$ for a posteriori finite element error analysis. *Numerische Mathematik*, 132(3):519–539, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0728-3.

Chen:2016:MWR

[CQR16] Peng Chen, Alfio Quarteroni, and Gianluigi Rozza. Multilevel and weighted reduced basis method for stochastic optimal control problems constrained by Stokes equations. *Numerische Mathematik*, 133(1):67–102, May 2016. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0743-4`.

Cohen:2012:CNS

[CR12] David Cohen and Xavier Raynaud. Convergent numerical schemes for the compressible hyperelastic rod wave equation. *Numerische Mathematik*, 122(1):1–59, September 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=1&spage=`1.

Carstensen:2016:NNF

[CRS16] C. Carstensen, B. D. Reddy, and M. Schedensack. A natural nonconforming FEM for the Bingham flow problem is quasi-optimal. *Numerische Mathematik*, 133(1):37–66, May 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0738-1`.

Cohen:2012:CAT

[CS12] David Cohen and Magdalena Sigg. Convergence analysis of trigonometric methods for stiff second-order stochastic differential equations. *Numerische Mathematik*, 121(1):1–29, May 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=`1.

Chen:2017:RBP

[CS17] Huangxin Chen and Shuyu Sun. A residual-based a posteriori error estimator for single-phase Darcy flow in fractured porous media. *Numerische Mathematik*, 136(3):805–839, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Carstensen:2016:OAF

[CSW16] Carsten Carstensen, Andreas Schröder, and Sebastian Wiedemann. An optimal adaptive finite element method for elastoplasticity. *Numerische Mathematik*, 132(1):131–154, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0714-9`.

Cox:2013:PHC

[CvN13]   Sonja Cox and Jan van Neerven. Pathwise Hölder convergence of the implicit-linear Euler scheme for semi-linear SPDEs with multiplicative noise. *Numerische Mathematik*, 125(2):259–345, October 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0538-4`.

Chen:2012:MFE

[CW12]   Wenbin Chen and Yanqiu Wang. A mixed finite element method for thin film epitaxy. *Numerische Mathematik*, 122(4):771–793, December 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0473-9`.

Chandler-Wilde:2015:HFB

[CWHLT15]   S. N. Chandler-Wilde, D. P. Hewett, S. Langdon, and A. Twigger. A high frequency boundary element method for scattering by a class of nonconvex obstacles. *Numerische Mathematik*, 129 (4):647–689, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0648-7`.

Chen:2010:CQO

[CXH10]   Huangxin Chen, Xuejun Xu, and Ronald H. W. Hoppe. Convergence and quasi-optimality of adaptive nonconforming finite element methods for some nonsymmetric and indefinite problems. *Numerische Mathematik*, 116(3):383–419, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=`383.

Dalik:2010:ADD

[Dal10]   Josef Dalík. Averaging of directional derivatives in vertices of nonobtuse regular triangulations. *Numerische Mathematik*, 116(4):619–644, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=4&spage=619`.

Deckers:2011:GEP

[DBV11]   K. Deckers, A. Bultheel, and J. Van Deun. A generalized eigenvalue problem for quasi-orthogonal rational functions. *Numerische Mathematik*, 117(3):463–506, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=▮463.

Dhia:2018:MRF

[DCC18]   Anne-Sophie Bonnet-Ben Dhia, Camille Carvalho, and Patrick Ciarlet, Jr. Mesh requirements for the finite element approximation of problems with sign-changing coefficients. *Numerische Mathematik*, 138(4):801–838, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0923-5.

deCamargo:2017:SEF

[dCM17]   André Pierro de Camargo and Walter F. Mascarenhas. The stability of extended Floater–Hormann interpolants. *Numerische Mathematik*, 136(1):287–313, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

deCastro:2016:FFR

[dCMT16]   Pedro Machado Manhães de Castro, Quentin Mérigot, and Boris Thibert. Far-field reflector problem and intersection of paraboloids. *Numerische Mathematik*, 134(2):389–411, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0780-z; http://link.springer.com/article/10.1007/s00211-015-0780-z.

DeLosReyes:2016:EEO

[DD16]   Juan Carlos De Los Reyes and Vili Dhamo. Error estimates for optimal control problems of a class of quasilinear equations arising in variable viscosity fluid flow. *Numerische Mathematik*, 132 (4):691–720, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0737-2.

Droniou:2016:UTC

[DE16]   Jérôme Droniou and Robert Eymard. Uniform-in-time convergence of numerical methods for non-linear degenerate parabolic

equations. *Numerische Mathematik*, 132(4):721–766, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0733-6`.

Demlow:2016:QOA

[Dem16] Alan Demlow. Quasi-optimality of adaptive finite element methods for controlling local energy errors. *Numerische Mathematik*, 134(1):27–60, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0774-x`; `http://link.springer.com/article/10.1007/s00211-015-0774-x`.

Demlow:2017:CQO

[Dem17] Alan Demlow. Convergence and quasi-optimality of adaptive finite element methods for harmonic forms. *Numerische Mathematik*, 136(4):941–971, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Deckelnick:2011:NAI

[DES11] Klaus Deckelnick, Charles M. Elliott, and Vanessa Styles. Numerical analysis of an inverse problem for the eikonal equation. *Numerische Mathematik*, 119(2):245–269, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=245`.

Dang:2016:CEM

[DFL16] Duy-Minh Dang, Peter A. Forsyth, and Yuying Li. Convergence of the embedded mean-variance optimal points with discrete sampling. *Numerische Mathematik*, 132(2):271–302, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0723-8`.

Demoures:2015:DVL

[DGBL+15] F. Demoures, F. Gay-Balmaz, S. Leyendecker, S. Ober-Blöbaum, T. S. Ratiu, and Y. Weinand. Discrete variational Lie group formulation of geometrically exact beam dynamics. *Numerische Mathematik*, 130(1):73–123, May 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0659-4`.

deGournay:2019:DRS

[dGKL19] Frédéric de Gournay, Jonas Kahn, and Léo Lebrat. Differentiation and regularity of semi-discrete optimal transport with respect to the parameters of the discrete measure. *Numerische Mathematik*, 141(2):429–453, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-1000-4.

Dryja:2015:AFD

[DGS15] Maksymilian Dryja, Juan Galvis, and Marcus Sarkis. The analysis of a FETI–DP preconditioner for a full DG discretization of elliptic problems in two dimensions. *Numerische Mathematik*, 131(4):737–770, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0705-x.

Dick:2017:CIP

[DGSY17] Josef Dick, Takashi Goda, Kosuke Suzuki, and Takehito Yoshiki. Construction of interlaced polynomial lattice rules for infinitely differentiable functions. *Numerische Mathematik*, 137(2):257–288, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0882-x.

Drouet:2017:ALA

[DH17] Guillaume Drouet and Patrick Hild. An accurate local average contact method for nonmatching meshes. *Numerische Mathematik*, 136(2):467–502, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Dutta:2016:CFD

[DHKR16] Rajib Dutta, Helge Holden, Ujjwal Koley, and Nils Henrik Risebro. Convergence of finite difference schemes for the Benjamin–Ono equation. *Numerische Mathematik*, 134(2):249–274, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0778-6; http://link.springer.com/article/10.1007/s00211-015-0778-6.

Droniou:2019:NAT

[DHM19] Jérôme Droniou, Julian Hennicker, and Roland Masson. Numerical analysis of a two-phase flow discrete fracture matrix

model. *Numerische Mathematik*, 141(1):21–62, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0994-y`.

deHoop:2015:AML

[dHQS15] Maarten V. de Hoop, Lingyun Qiu, and Otmar Scherzer. An analysis of a multi-level projected steepest descent iteration for nonlinear inverse problems in Banach spaces subject to stability constraints. *Numerische Mathematik*, 129(1):127–148, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0629-x`.

Dolz:2017:CRM

[DHS17] J. Dölz, H. Harbrecht, and Ch. Schwab. Covariance regularity and $\mathcal{H}$-matrix approximation for rough random fields. *Numerische Mathematik*, 135(4):1045–1071, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0825-y`; `http://link.springer.com/article/10.1007/s00211-016-0825-y`.

Dick:2012:RWR

[Dic12] Josef Dick. Random weights, robust lattice rules and the geometry of the cbc*rc* algorithm. *Numerische Mathematik*, 122(3):443–467, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=443`.

Dopico:2011:PTL

[DK11] Froilán M. Dopico and Plamen Koev. Perturbation theory for the LDU factorization and accurate computations for diagonally dominant matrices. *Numerische Mathematik*, 119(2):337–371, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=337`.

Demlow:2016:MNP

[DK16a] Alan Demlow and Natalia Kopteva. Maximum-norm a posteriori error estimates for singularly perturbed elliptic reaction-

diffusion problems. *Numerische Mathematik*, 133(4):707–742, August 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0763-0`; `http://link.springer.com/article/10.1007/s00211-015-0763-0`.

Dryja:2016:MPN

[DK16b] Maksymilian Dryja and Piotr Krzyzanowski. A massively parallel nonoverlapping additive Schwarz method for discontinuous Galerkin discretization of elliptic problems. *Numerische Mathematik*, 132(2):347–367, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0718-5`; `http://link.springer.com/content/pdf/10.1007/s00211-015-0718-5.pdf`.

Diening:2013:CHP

[DKS13] Lars Diening, Christian Kreuzer, and Sebastian Schwarzacher. Convex hull property and maximum principle for finite element minimisers of general convex functionals. *Numerische Mathematik*, 124(4):685–700, August 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0527-7`.

Dieci:2011:SMD

[DL11] Luca Dieci and Luciano Lopez. Sliding motion on discontinuity surfaces of high co-dimension. A construction for selecting a Filippov vector field. *Numerische Mathematik*, 117(4):779–811, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=779`.

Droniou:2015:GSL

[DL15] Jérôme Droniou and Bishnu P. Lamichhane. Gradient schemes for linear and non-linear elasticity equations. *Numerische Mathematik*, 129(2):251–277, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0636-y`.

Dopico:2018:BKL

[DLPV18] Froilán M. Dopico, Piers W. Lawrence, Javier Pérez, and Paul Van Dooren. Block Kronecker linearizations of matrix polynomi-

als and their backward errors. *Numerische Mathematik*, 140(2): 373–426, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0969-z`.

Duan:2012:CEG

[DLT12] Huoyuan Duan, Ping Lin, and Roger C. E. Tan. C^0 elements for generalized indefinite Maxwell equations. *Numerische Mathematik*, 122(1):61–99, September 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=1&spage=61`.

Duan:2013:ACF

[DLT13] Huoyuan Duan, Ping Lin, and Roger C. E. Tan. Analysis of a continuous finite element method for $H(\mathrm{curl}, \mathrm{div})$-elliptic interface problem. *Numerische Mathematik*, 123(4):671–707, April 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0500-x`.

Digne:2014:NAD

[DM14] Julie Digne and Jean-Michel Morel. Numerical analysis of differential operators on raw point clouds. *Numerische Mathematik*, 127(2):255–289, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0584-y`.

Dedner:2016:ADG

[DM16] Andreas Dedner and Pravin Madhavan. Adaptive discontinuous Galerkin methods on surfaces. *Numerische Mathematik*, 132(2): 369–398, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0719-4`.

Dereich:2019:GMA

[DMG19] Steffen Dereich and Thomas Müller-Gronbach. General multilevel adaptations for stochastic approximation algorithms of Robbins–Monro and Polyak–Ruppert type. *Numerische Mathematik*, 142 (2):279–328, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01024-y`.

Drineas:2011:FLS

[DMMS11]   Petros Drineas, Michael W. Mahoney, S. Muthukrishnan, and Tamás Sarlós. Faster least squares approximation. *Numerische Mathematik*, 117(2):219–249, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=2&spage=`219.

DeBonis:2012:GQR

[DMN12]   M. C. De Bonis, G. Mastroianni, and I. Notarangelo. Gaussian quadrature rules with exponential weights on $(-1, 1)$. *Numerische Mathematik*, 120(3):433–464, March 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=3&spage=433`.

Dick:2014:LRN

[DNP14]   Josef Dick, Dirk Nuyens, and Friedrich Pillichshammer. Lattice rules for nonperiodic smooth integrands. *Numerische Mathematik*, 126(2):259–291, February 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0566-0`.

Discacciati:2017:CMF

[DO17]   Marco Discacciati and Ricardo Oyarzúa. A conforming mixed finite element method for the Navier–Stokes/Darcy coupled problem. *Numerische Mathematik*, 135(2):571–606, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0811-4`; `http://link.springer.com/article/10.1007/s00211-016-0811-4`.

Dopico:2016:SEC

[DP16]   Froilán M. Dopico and Kenet Pomés. Structured eigenvalue condition numbers for parameterized quasiseparable matrices. *Numerische Mathematik*, 134(3):473–512, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0779-5`; `http://link.springer.com/article/10.1007/s00211-015-0779-5`.

Driver:2012:IZG

[Dri12]   Kathy Driver. Interlacing of zeros of Gegenbauer polynomials of non-consecutive degree from different sequences. *Numerische Mathematik*, 120(1):35–44, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=35`.

Dijkema:2010:SLT

[DS10]   Tammo Jan Dijkema and Rob Stevenson. A sparse Laplacian in tensor product wavelet coordinates. *Numerische Mathematik*, 115(3):433–449, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=433`.

Demlow:2011:CQO

[DS11]   Alan Demlow and Rob Stevenson. Convergence and quasi-optimality of an adaptive finite element method for controlling L_2 errors. *Numerische Mathematik*, 117(2):185–218, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=2&spage=185`.

Davydov:2016:EBK

[DS16]   Oleg Davydov and Robert Schaback. Error bounds for kernel-based numerical differentiation. *Numerische Mathematik*, 132(2): 243–269, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0722-9`.

Davydov:2018:MND

[DS18a]   Oleg Davydov and Robert Schaback. Minimal numerical differentiation formulas. *Numerische Mathematik*, 140(3):555–592, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0973-3`.

delaCalleYsern:2018:MSP

[dS18b]   B. de la Calle Ysern and M. M. Spalević. Modified Stieltjes polynomials and Gauss–Kronrod quadrature rules. *Numerische Mathematik*, 138(1):1–35, January 2018. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0901-y`.

Deckelnick:2018:SEA

[DS18c]   Klaus Deckelnick and Vanessa Styles. Stability and error analysis for a diffuse interface approach to an advection–diffusion equation on a moving surface. *Numerische Mathematik*, 139(3):709–741, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0946-6`; `https://link.springer.com/content/pdf/10.1007/s00211-018-0946-6.pdf`.

Du:2016:RBP

[DSX16]   Shaohong Du, Shuyu Sun, and Xiaoping Xie. Residual-based a posteriori error estimation for multipoint flux mixed finite element methods. *Numerische Mathematik*, 134(1):197–222, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0770-1`; `http://link.springer.com/article/10.1007/s00211-015-0770-1`.

Dione:2015:PFE

[DU15]   Ibrahima Dione and José M. Urquiza. Penalty: finite element approximation of Stokes equations with slip boundary conditions. *Numerische Mathematik*, 129(3):587–610, March 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0646-9`.

DeMicheli:2011:NRL

[DV11]   Enrico De Micheli and Giovanni A. Viano. Numerical recovery of location and residue of poles of meromorphic functions. *Numerische Mathematik*, 117(1):147–183, January 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=1&spage=147`.

daVeiga:2016:CVE

[dVBMR16]   L. Beirão da Veiga, F. Brezzi, L. D. Marini, and A. Russo. $H(\mathrm{div})$ and $H(\mathbf{curl})$-conforming virtual element methods. *Numerische Mathematik*, 133(2):303–332, June 2016. CODEN NUMMA7.

ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0746-1`.

daVeiga:2011:SEH

[dVBRS11] L. Beirão da Veiga, A. Buffa, J. Rivas, and G. Sangalli. Some estimates for h-p-k-refinement in Isogeometric Analysis. *Numerische Mathematik*, 118(2):271–305, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=271`.

daVeiga:2018:ECH

[dVCMR18] L. Beirão da Veiga, A. Chernov, L. Mascotto, and A. Russo. Exponential convergence of the hp virtual element method in presence of corner singularities. *Numerische Mathematik*, 138(3):581–613, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0921-7`; `https://link.springer.com/content/pdf/10.1007/s00211-017-0921-7.pdf`.

daVeiga:2011:MDR

[dVM11] L. Beirão da Veiga and D. Mora. A mimetic discretization of the Reissner–Mindlin plate bending problem. *Numerische Mathematik*, 117(3):425–462, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=425`.

daVeiga:2019:PEE

[dVMM19] L. Beirão da Veiga, G. Manzini, and L. Mascotto. A posteriori error estimation and adaptivity in hp virtual elements. *Numerische Mathematik*, 143(1):139–175, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01054-6`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01054-6.pdf`.

daVeiga:2017:VEM

[dVMRR17] Lourenço Beirão da Veiga, David Mora, Gonzalo Rivera, and Rodolfo Rodríguez. A virtual element method for the acoustic vibration problem. *Numerische Mathematik*, 136(3):725–763, July

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

Diegel:2017:CAE

[DWWW17]   Amanda E. Diegel, Cheng Wang, Xiaoming Wang, and Steven M. Wise. Convergence analysis and error estimates for a second order accurate finite element method for the Cahn–Hilliard–Navier–Stokes system. *Numerische Mathematik*, 137(3):495–534, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0887-5`.

Egger:2019:SPA

[Egg19]   H. Egger. Structure preserving approximation of dissipative evolution problems. *Numerische Mathematik*, 143(1):85–106, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01050-w`.

Elfverson:2015:MMP

[EGH15]   Daniel Elfverson, Victor Ginting, and Patrick Henning. On multiscale methods in Petrov–Galerkin formulation. *Numerische Mathematik*, 131(4):643–682, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0703-z`.

Estatico:2017:CGL

[EGLTP17]   Claudio Estatico, Serge Gratton, Flavia Lenti, and David Titley-Peloquin. A conjugate gradient like method for p-norm minimization in functional spaces. *Numerische Mathematik*, 137(4):895–922, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0893-7`.

Espig:2012:RNM

[EH12]   Mike Espig and Wolfgang Hackbusch. A regularized Newton method for the efficient approximation of tensors represented in the canonical tensor format. *Numerische Mathematik*, 122(3):489–525, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=489`.

Evans:2013:ETI

[EH13]   John A. Evans and Thomas J. R. Hughes. Explicit trace inequalities for isogeometric analysis and parametric hexahedral finite elements. *Numerische Mathematik*, 123(2):259–290, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0484-6`.

Eisenmann:2018:CAD

[EH18]   Monika Eisenmann and Eskil Hansen. Convergence analysis of domain decomposition based time integrators for degenerate parabolic equations. *Numerische Mathematik*, 140 (4):913–938, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0985-z`; `https://link.springer.com/content/pdf/10.1007/s00211-018-0985-z.pdf`.

Espig:2012:VCS

[EHRS12]   Mike Espig, Wolfgang Hackbusch, Thorsten Rohwedder, and Reinhold Schneider. Variational calculus with sums of elementary tensors of fixed rank. *Numerische Mathematik*, 122 (3):469–488, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=469`.

Egger:2018:DWS

[EK18]   H. Egger and T. Kugler. Damped wave systems on networks: exponential stability and uniform approximations. *Numerische Mathematik*, 138(4):839–867, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0924-4`.

Erb:2016:BLI

[EKAB16]   Wolfgang Erb, Christian Kaethner, Mandy Ahlborg, and Thorsten M. Buzug. Bivariate Lagrange interpolation at the node points of non-degenerate Lissajous curves. *Numerische Mathematik*, 133(4):685–705, August 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0762-1`; `http://link.springer.com/article/10.1007/s00211-015-0762-1`.

Ekeland:2010:ACS

[EMB10] Ivar Ekeland and Santiago Moreno-Bromberg. An algorithm for computing solutions of variational problems with global convexity constraints. *Numerische Mathematik*, 115 (1):45–69, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=45`.

Eikeland:2019:OSM

[EMR19] Erik Eikeland, Leszek Marcinkowski, and Talal Rahman. Overlapping Schwarz methods with adaptive coarse spaces for multiscale problems in 3D. *Numerische Mathematik*, 142(1):103–128, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1008-9; https://link.springer.com/content/pdf/10.1007/s00211-018-1008-9.pdf`.

Engstrom:2014:SAQ

[Eng14] Christian Engström. Spectral approximation of quadratic operator polynomials arising in photonic band structure calculations. *Numerische Mathematik*, 126(3):413–440, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0568-y`.

Ecevit:2017:FAG

[EÖ17] Fatih Ecevit and Hasan Çagan Özen. Frequency-adapted Galerkin boundary element methods for convex scattering problems. *Numerische Mathematik*, 135(1):27–71, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0800-7; http://link.springer.com/article/10.1007/s00211-016-0800-7`.

Erath:2017:NSC

[EOS17] Christoph Erath, Günther Of, and Francisco-Javier Sayas. A non-symmetric coupling of the finite volume method and the boundary element method. *Numerische Mathematik*, 135(3):895–922, March 2017. CODEN NUMMA7. ISSN 0029-599X (print),

0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0820-3`; `http://link.springer.com/article/10.1007/s00211-016-0820-3`.

Eigel:2017:ASG

[EPS17] Martin Eigel, Max Pfeffer, and Reinhold Schneider. Adaptive stochastic Galerkin FEM with hierarchical tensor representations. *Numerische Mathematik*, 136(3):765–803, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Elliott:2015:ESF

[ER15] Charles M. Elliott and Thomas Ranner. Evolving surface finite element method for the Cahn–Hilliard equation. *Numerische Mathematik*, 129(3):483–534, March 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0644-y`.

Egger:2018:SCP

[ER18] Herbert Egger and Bogdan Radu. Super-convergence and post-processing for mixed finite element approximations of the wave equation. *Numerische Mathematik*, 140(2):427–447, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0966-2`.

Erath:2015:NPE

[Era15] Christoph Erath. A nonconforming a posteriori estimator for the coupling of cell-centered finite volume and boundary element methods. *Numerische Mathematik*, 131(3):425–451, November 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0694-1`.

Ervedoza:2015:TTO

[EZ15] Sylvain Ervedoza and Enrique Zuazua. Transmutation techniques and observability for time-discrete approximation schemes of conservative systems. *Numerische Mathematik*, 130(3):425–466, July 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0668-3`.

Fernandez:2013:IDC

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

merische Mathematik, 123(1):21–65, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0481-9`.

Ferretti:2013:RBS

[Fer13b] Roberto Ferretti. On the relationship between Semi–Lagrangian and Lagrange–Galerkin schemes. *Numerische Mathematik*, 124 (1):31–56, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0505-5`.

Feischl:2015:SSN

[FFKP15] M. Feischl, T. Führer, M. Karkulik, and D. Praetorius. Stability of symmetric and nonsymmetric FEM–BEM couplings for nonlinear elasticity problems. *Numerische Mathematik*, 130(2):199–223, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0662-9`.

Feischl:2016:ABE

[FGH+16] Michael Feischl, Gregor Gantner, Alexander Haberl, Dirk Praetorius, and Thomas Führer. Adaptive boundary element methods for optimal convergence of point errors. *Numerische Mathematik*, 132(3):541–567, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0727-4`.

Feischl:2017:OCA

[FGHP17] Michael Feischl, Gregor Gantner, Alexander Haberl, and Dirk Praetorius. Optimal convergence for adaptive IGA boundary element methods for weakly-singular integral equations. *Numerische Mathematik*, 136(1):147–182, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/content/pdf/10.1007/s00211-016-0836-8.pdf`.

Fiebach:2014:UGB

[FGL14] André Fiebach, Annegret Glitzky, and Alexander Linke. Uniform global bounds for solutions of an implicit Voronoi finite volume method for reaction–diffusion problems. *Numerische Mathematik*, 128(1):31–72, September 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0604-6`.

Faou:2010:BNFa

[FGP10a] Erwan Faou, Benoît Grébert, and Eric Paturel. Birkhoff normal form for splitting methods applied to semilinear Hamiltonian PDEs. Part I. Finite-dimensional discretization. *Numerische Mathematik*, 114(3):429–458, January 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=3&spage=429`.

Faou:2010:BNFb

[FGP10b] Erwan Faou, Benoît Grébert, and Eric Paturel. Birkhoff normal form for splitting methods applied to semilinear Hamiltonian PDEs. Part II. Abstract splitting. *Numerische Mathematik*, 114(3):459–490, January 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=3&spage=459`.

Filbet:2017:FVS

[FH17] Francis Filbet and Maxime Herda. A finite volume scheme for boundary-driven convection–diffusion equations with relative entropy structure. *Numerische Mathematik*, 137(3):535–577, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0885-7`.

Fuselier:2014:KBQ

[FHN$^+$14] E. Fuselier, T. Hangelbroek, F. J. Narcowich, J. D. Ward, and G. B. Wright. Kernel based quadrature on spheres and other homogeneous spaces. *Numerische Mathematik*, 127(1):57–92, May 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0581-1`.

Fuhrer:2019:ABI

[FHPS19] Thomas Führer, Alexander Haberl, Dirk Praetorius, and Stefan Schimanko. Adaptive BEM with inexact PCG solver yields almost optimal computational costs. *Numerische Mathematik*, 141(4):967–1008, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1011-1`; `https://link.springer.com/content/pdf/10.1007/s00211-018-1011-1.pdf`.

Feireisl:2016:CNM

[FKM16] Eduard Feireisl, Trygve Karper, and Martin Michálek. Convergence of a numerical method for the compressible Navier–Stokes system on general domains. *Numerische Mathematik*, 134(4):667–704, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http:/ /link.springer.com/accesspage/article/10.1007/s00211- 015-0786-6; http://link.springer.com/article/10.1007/ s00211-015-0786-6.

Feistauer:2011:AST

[FKNP11] Miloslav Feistauer, Václav Kucera, Karel Najzar, and Jaroslava Prokopová. Analysis of space–time discontinuous Galerkin method for nonlinear convection-diffusion problems. *Numerische Mathematik*, 117(2):251–288, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp? genre=article&issn=0029-599X&volume=117&issue=2&spage= 251.

Feischl:2018:FRF

[FKS18] Michael Feischl, Frances Y. Kuo, and Ian H. Sloan. Fast random field generation with H-matrices. *Numerische Mathematik*, 140(3):639–676, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link. springer.com/article/10.1007/s00211-018-0974-2. See correction [FKS19].

Feischl:2019:CFR

[FKS19] Michael Feischl, Frances Y. Kuo, and Ian H. Sloan. Correction to: Fast random field generation with H-matrices. *Numerische Mathematik*, 142(3):787, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211- 019-01033-x; https://link.springer.com/content/pdf/ 10.1007/s00211-019-01033-x.pdf. See [FKS18].

Fermo:2015:NMB

[FL15] Luisa Fermo and Concetta Laurita. A Nyström method for a boundary integral equation related to the Dirichlet problem on domains with corners. *Numerische Mathematik*, 130(1):35–71, May 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-

3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0657-6.

Ferraz-Leite:2012:NQE

[FLMP12] Samuel Ferraz-Leite, Jens Markus Melenk, and Dirk Praetorius. Numerical quadratic energy minimization bound to convex constraints in thin-film micromagnetics. *Numerische Mathematik*, 122(1):101–131, September 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=1&spage=101.

Ferraz-Leite:2010:CSA

[FLOP10] S. Ferraz-Leite, C. Ortner, and D. Praetorius. Convergence of simple adaptive Galerkin schemes based on h–$h/2$ error estimators. *Numerische Mathematik*, 116(2):291–316, August 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=291.

Fornasier:2010:COD

[FLS10] Massimo Fornasier, Andreas Langer, and Carola-Bibiane Schönlieb. A convergent overlapping domain decomposition method for total variation minimization. *Numerische Mathematik*, 116(4):645–685, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=4&spage=645.

Friedland:2019:GCN

[FLZ19] Shmuel Friedland, Lek-Heng Lim, and Jinjie Zhang. Grothendieck constant is norm of Strassen matrix multiplication tensor. *Numerische Mathematik*, 143(4):905–922, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01070-6.

Faustmann:2018:LCB

[FM18] Markus Faustmann and Jens Markus Melenk. Local convergence of the boundary element method on polyhedral domains. *Numerische Mathematik*, 140(3):593–637, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL

https://link.springer.com/article/10.1007/s00211-018-0975-1; https://link.springer.com/content/pdf/10.1007/s00211-018-0975-1.pdf.

Faustmann:2015:MAI

[FMP15]   Markus Faustmann, Jens Markus Melenk, and Dirk Praetorius. $\mathcal{H}$-matrix approximability of the inverses of FEM matrices. *Numerische Mathematik*, 131(4):615–642, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0706-9.

Falco:2012:PGD

[FN12]   Antonio Falcó and Anthony Nouy. Proper generalized decomposition for nonlinear convex problems in tensor Banach spaces. *Numerische Mathematik*, 121(3):503–530, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=503.

Ferreira:2012:SEU

[FPD12]   Carla Ferreira, Beresford Parlett, and Froilán M. Dopico. Sensitivity of eigenvalues of an unsymmetric tridiagonal matrix. *Numerische Mathematik*, 122(3):527–555, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=527.

Fornberg:2019:IGL

[FR19]   Bengt Fornberg and Jonah A. Reeger. An improved Gregory-like method for 1-D quadrature. *Numerische Mathematik*, 141(1):1–19, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0992-0.

Fritz:2015:NRD

[Fri15]   Hans Fritz. Numerical Ricci–DeTurck flow. *Numerische Mathematik*, 131(2):241–271, October 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0690-5.

Froese:2018:MFD

[Fro18]   Brittany D. Froese. Meshfree finite difference approximations for functions of the eigenvalues of the Hessian. *Numerische Mathematik*, 138(1):75–99, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0898-2.

Faou:2014:APS

[FS14]   Erwan Faou and Katharina Schratz. Asymptotic preserving schemes for the Klein–Gordon equation in the non-relativistic limit regime. *Numerische Mathematik*, 126(3):441–469, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0567-z.

Fathi:2017:IDP

[FS17]   M. Fathi and G. Stoltz. Improving dynamical properties of metropolized discretizations of overdamped Langevin dynamics. *Numerische Mathematik*, 136(2):545–602, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Ferre:2019:EEE

[FS19]   Grégoire Ferré and Gabriel Stoltz. Error estimates on ergodic properties of discretized Feynman–Kac semigroups. *Numerische Mathematik*, 143(2):261–313, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01059-1.

Fukushima:2010:FCI

[Fuk10]   Toshio Fukushima. Fast computation of incomplete elliptic integral of first kind by half argument transformation. *Numerische Mathematik*, 116(4):687–719, October 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=4&spage=687.

Fukushima:2013:PFC

[Fuk13]   Toshio Fukushima. Precise and fast computation of Jacobian elliptic functions by conditional duplication. *Numerische Mathematik*, 123(4):585–605, April 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0498-0.

Fasshauer:2011:RKG

[FY11]   Gregory E. Fasshauer and Qi Ye. Reproducing kernels of generalized Sobolev spaces via a Green function approach with distributional operators. *Numerische Mathematik*, 119 (3):585–611, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=585`.

Greenhalgh:2013:PDP

[GAB13]   Scott Greenhalgh, Vincent Acary, and Bernard Brogliato. On preserving dissipativity properties of linear complementarity dynamical systems with the θ-method. *Numerische Mathematik*, 125(4): 601–637, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0553-5`.

Gallistl:2015:OAF

[Gal15]   Dietmar Gallistl. An optimal adaptive FEM for eigenvalue clusters. *Numerische Mathematik*, 130(3):467–496, July 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0671-8`.

Gantumur:2013:ABE

[Gan13]   Tsogtgerel Gantumur. Adaptive boundary element methods with convergence rates. *Numerische Mathematik*, 124(3):471–516, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0524-x`.

Gauckler:2018:SMZ

[Gau18]   Ludwig Gauckler. On a splitting method for the Zakharov system. *Numerische Mathematik*, 139(2):349–379, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0942-2`.

Gray:2017:DTA

[GEEF17]   W. Steven Gray, Luis A. Duffaut Espinosa, and Kurusch Ebrahimi-Fard. Discrete-time approximations of Fliess operators. *Numerische Mathematik*, 137(1):35–62, September 2017.

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

Giani:2012:AFE

[GG12]   S. Giani and I. G. Graham. Adaptive finite element methods for computing band gaps in photonic crystals. *Numerische Mathematik*, 121(1):31–64, May 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=31.

Guillen-Gonzalez:2011:EEL

[GGGS11]   Francisco Guillén-González and Juan Vicente Gutiérrez-Santacreu. Error estimates of a linear decoupled Euler–FEM scheme for a mass diffusion model. *Numerische Mathematik*, 117(2): 333–371, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=2&spage=333.

Guillen-Gonzalez:2019:CMA

[GGGS19]   Francisco Guillén-González and Juan Vicente Gutiérrez-Santacreu. From a cell model with active motion to a Hele–Shaw-like system: a numerical approach. *Numerische Mathematik*, 143(1): 107–137, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01053-7.

Gilbert:2019:AQM

[GGK+19]   A. D. Gilbert, I. G. Graham, F. Y. Kuo, R. Scheichl, and I. H. Sloan. Analysis of quasi-Monte Carlo methods for elliptic eigenvalue problems with stochastic coefficients. *Numerische Mathematik*, 142(4):863–915, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01046-6.

Gatica:2014:APB

[GGM14]   Gabriel N. Gatica, Luis F. Gatica, and Antonio Márquez. Analysis of a pseudostress-based mixed finite element method for the Brinkman model of porous media flow. *Numerische Mathematik*, 126(4):635–677, April 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0577-x.

Giani:2016:REE

[GGMO16]   Stefano Giani, Luka Grubisić, Agnieszka Miedlar, and Jeffrey S. Ovall. Robust error estimates for approximations of non-self-adjoint eigenvalue problems. *Numerische Mathematik*, 133(3): 471–495, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0752-3`; `http://link.springer.com/article/10.1007/s00211-015-0752-3`.

Guillen-Gonzalez:2015:AHS

[GGRG15]   F. Guillén-González and J. R. Rodríguez-Galván. Analysis of the hydrostatic Stokes problem and finite-element approximation in unstructured meshes. *Numerische Mathematik*, 130(2):225–256, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0663-8`.

Gander:2015:AGH

[GGS15]   M. J. Gander, I. G. Graham, and E. A. Spence. Applying GMRES to the Helmholtz equation with shifted Laplacian preconditioning: what is the largest shift for which wavenumber-independent convergence is guaranteed? *Numerische Mathematik*, 131(3): 567–614, November 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0700-2`.

Georgieva:2014:IHF

[GH14a]   Irina Georgieva and Clemens Hofreither. Interpolation of harmonic functions based on Radon projections. *Numerische Mathematik*, 127(3):423–445, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0592-y`.

Gradinaru:2014:CSW

[GH14b]   Vasile Gradinaru and George A. Hagedorn. Convergence of a semiclassical wavepacket based time-splitting for the Schrödinger equation. *Numerische Mathematik*, 126(1):53–73, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0560-6`.

Gallistl:2017:SRR

[GHP17] D. Gallistl, P. Huber, and D. Peterseim. On the stability of the Rayleigh–Ritz method for eigenvalues. *Numerische Mathematik*, 137(2):339–351, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0876-8`.

Gatica:2012:RHB

[GHS12] Gabriel N. Gatica, George C. Hsiao, and Francisco-Javier Sayas. Relaxing the hypotheses of Bielak–MacCamy's BEM-FEM coupling. *Numerische Mathematik*, 120(3):465–487, March 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=3&spage=`█`465`.

Gittelson:2014:AWM

[Git14] Claude Jeffrey Gittelson. Adaptive wavelet methods for elliptic partial differential equations with random operators. *Numerische Mathematik*, 126(3):471–513, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0572-2`.

Grasedyck:2019:SAT

[GK19a] Lars Grasedyck and Sebastian Krämer. Stable ALS approximation in the TT-format for rank-adaptive tensor completion. *Numerische Mathematik*, 143(4):855–904, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01072-4`.

Guerand:2019:EEF

[GK19b] Jessica Guerand and Marwa Koumaiha. Error estimates for a finite difference scheme associated with Hamilton–Jacobi equations on a junction. *Numerische Mathematik*, 142(3):525–575, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01043-9`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01043-9.pdf`.

Guglielmi:2015:LRD

[GKL15] Nicola Guglielmi, Daniel Kressner, and Christian Lubich. Low rank differential equations for Hamiltonian matrix nearness prob-

lems. *Numerische Mathematik*, 129(2):279–319, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0637-x`.

Goudon:2019:DMN

[GKL19] Thierry Goudon, Stella Krell, and Giulia Lissoni. DDFV method for Navier–Stokes problem with outflow boundary conditions. *Numerische Mathematik*, 142(1):55–102, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1014-y`.

Graham:2015:QMC

[GKN+15] I. G. Graham, F. Y. Kuo, J. A. Nichols, R. Scheichl, and Ch. Schwab. Quasi-Monte Carlo finite element methods for elliptic PDEs with lognormal random coefficients. *Numerische Mathematik*, 131(2):329–368, October 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0689-y`.

Graham:2018:CEQ

[GKN+18] Ivan G. Graham, Frances Y. Kuo, Dirk Nuyens, Rob Scheichl, and Ian H. Sloan. Circulant embedding with QMC: analysis for elliptic PDE with lognormal coefficients. *Numerische Mathematik*, 140(2):479–511, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0968-0`; `https://link.springer.com/content/pdf/10.1007/s00211-018-0968-0.pdf`.

Gittelson:2013:MLM

[GKSS13] Claude J. Gittelson, Juho Könnö, Christoph Schwab, and Rolf Stenberg. The multi-level Monte Carlo finite element method for a stochastic Brinkman Problem. *Numerische Mathematik*, 125(2): 347–386, October 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0537-5`.

Gameiro:2011:RCS

[GL11] Marcio Gameiro and Jean-Philippe Lessard. Rigorous computation of smooth branches of equilibria for the three dimensional Cahn–Hilliard equation. *Numerische Mathematik*,

117(4):753–778, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=753`.

Gao:2017:SCF

[GLS17] Huadong Gao, Buyang Li, and Weiwei Sun. Stability and convergence of fully discrete Galerkin FEMs for the nonlinear thermistor equations in a nonconvex polygon. *Numerische Mathematik*, 136 (2):383–409, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Gunzburger:2019:CFE

[GLW19] Max Gunzburger, Buyang Li, and Jilu Wang. Convergence of finite element solutions of stochastic partial integro-differential equations driven by white noise. *Numerische Mathematik*, 141 (4):1043–1077, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01028-8`.

Giesselmann:2014:GEF

[GM14] Jan Giesselmann and Thomas Müller. Geometric error of finite volume schemes for conservation laws on evolving surfaces. *Numerische Mathematik*, 128(3):489–516, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0621-5`.

Gallouet:2019:EEI

[GMN19] Thierry Gallouët, David Maltese, and Antonin Novotny. Error estimates for the implicit MAC scheme for the compressible Navier–Stokes equations. *Numerische Mathematik*, 141(2): 495–567, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1007-x`.

Gimperlein:2018:BEM

[GMÖ+18] Heiko Gimperlein, Fabian Meyer, Ceyhun Özdemir, David Stark, and Ernst P. Stephan. Boundary elements with mesh refinements for the wave equation. *Numerische Mathematik*, 139(4):867–912, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0954-6`.

Garoni:2014:SSM

[GMP⁺14] Carlo Garoni, Carla Manni, Francesca Pelosi, Stefano Serra-Capizzano, and Hendrik Speleers. On the spectrum of stiffness matrices arising from isogeometric analysis. *Numerische Mathematik*, 127(4):751–799, August 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0600-2`.

Galkowski:2019:WEA

[GMS19] Jeffrey Galkowski, Eike H. Müller, and Euan A. Spence. Wavenumber-explicit analysis for the Helmholtz h-BEM: error estimates and iteration counts for the Dirichlet problem. *Numerische Mathematik*, 142(2):329–357, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01032-y`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01032-y.pdf`.

Gimperlein:2011:AFC

[GMSS11] Heiko Gimperlein, Matthias Maischak, Elmar Schrohe, and Ernst P. Stephan. Adaptive FE–BE coupling for strongly nonlinear transmission problems with Coulomb friction. *Numerische Mathematik*, 117(2):307–332, February 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=2&spage=`█`307`.

Gratton:2011:SRB

[GMT11] Serge Gratton, Mélodie Mouffe, and Philippe L. Toint. Stopping rules and backward error analysis for bound-constrained optimization. *Numerische Mathematik*, 119(1):163–187, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=`█`163`.

Guzman:2014:SCM

[GN14] Johnny Guzmán and Michael Neilan. Symmetric and conforming mixed finite elements for plane elasticity using rational bubble functions. *Numerische Mathematik*, 126(1):153–171, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-

3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0557-1`.

Girault:2015:MNE

[GNS15] V. Girault, R. H. Nochetto, and L. R. Scott. Max-norm estimates for Stokes and Navier–Stokes approximations in convex polyhedra. *Numerische Mathematik*, 131(4):771–822, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0707-8`.

Graf:2011:CSD

[GP11] Manuel Gräf and Daniel Potts. On the computation of spherical designs by a new optimization approach based on fast spherical Fourier transforms. *Numerische Mathematik*, 119 (4):699–724, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=4&spage=699`.

Gajardo:2013:SIC

[GS13] Pedro Gajardo and Alberto Seeger. Solving inverse cone-constrained eigenvalue problems. *Numerische Mathematik*, 123 (2):309–331, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0487-3`.

Gunther:2016:MGA

[GS16] Michael Günther and Adrian Sandu. Multirate generalized additive Runge–Kutta methods. *Numerische Mathematik*, 133(3): 497–524, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0756-z`; `http://link.springer.com/article/10.1007/s00211-015-0756-z`.

Garde:2017:CRM

[GS17] Henrik Garde and Stratos Staboulis. Convergence and regularization for monotonicity-based shape reconstruction in electrical impedance tomography. *Numerische Mathematik*, 135(4):1221–1251, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0830-1`; `http://link.springer.com/article/10.1007/s00211-016-0830-1`.

Gil:2019:FRU

[GST19]   Amparo Gil, Javier Segura, and Nico M. Temme. Fast, reliable and unrestricted iterative computation of Gauss–Hermite and Gauss–Laguerre quadratures. *Numerische Mathematik*, 143(3): 649–682, November 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01066-2`.

Gustafsson:2019:EAN

[GSV19]   Tom Gustafsson, Rolf Stenberg, and Juha Videman. Error analysis of Nitsche's mortar method. *Numerische Mathematik*, 142(4):973–994, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01039-5`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01039-5.pdf`.

Grohs:2017:SMV

[GSY17]   Philipp Grohs, Markus Sprecher, and Thomas Yu. Scattered manifold-valued data approximation. *Numerische Mathematik*, 135(4):987–1010, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0823-0`; `http://link.springer.com/content/pdf/10.1007/s00211-016-0823-0.pdf`.

Goda:2019:LRN

[GSY19]   Takashi Goda, Kosuke Suzuki, and Takehito Yoshiki. Lattice rules in non-periodic subspaces of Sobolev spaces. *Numerische Mathematik*, 141(2):399–427, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1003-1`.

Garvie:2014:TLF

[GT14]   Marcus R. Garvie and Catalin Trenchea. A three level finite element approximation of a pattern formation model in developmental biology. *Numerische Mathematik*, 127(3):397–422, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0591-z`.

Gopal:2019:RCM

[GT19] Abinand Gopal and Lloyd N. Trefethen. Representation of conformal maps by rational functions. *Numerische Mathematik*, 142 (2):359–382, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01023-z`.

Gigante:2015:AOG

[GV15] Giacomo Gigante and Christian Vergara. Analysis and optimization of the generalized Schwarz method for elliptic problems with application to fluid-structure interaction. *Numerische Mathematik*, 131(2):369–404, October 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0693-2`.

Gosse:2019:SEK

[GV19] Laurent Gosse and Nicolas Vauchelet. Some examples of kinetic schemes whose diffusion limit is Il'in's exponential-fitting. *Numerische Mathematik*, 141(3):627–680, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-01020-8`.

Girault:2014:MMF

[GVY14] Vivette Girault, Danail Vassilev, and Ivan Yotov. Mortar multiscale finite element methods for Stokes–Darcy flows. *Numerische Mathematik*, 127(1):93–165, May 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0583-z`.

Gander:2019:CAP

[GW19] Martin J. Gander and Shu-Lin Wu. Convergence analysis of a periodic-like waveform relaxation method for initial-value problems via the diagonalization technique. *Numerische Mathematik*, 143(2):489–527, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01060-8`.

Gong:2010:NAS

[GWCH10] Rongfang Gong, Ge Wang, Xiaoliang Cheng, and Weimin Han. A novel approach for studies of multispectral bioluminescence tomography. *Numerische Mathematik*, 115(4):

553–583, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=553`.

Guan:2014:CCS

[GWW14] Zhen Guan, Cheng Wang, and Steven M. Wise. A convergent convex splitting scheme for the periodic nonlocal Cahn–Hilliard equation. *Numerische Mathematik*, 128(2):377–406, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0608-2`.

Grasedyck:2016:NOM

[GWX16] Lars Grasedyck, Lu Wang, and Jinchao Xu. A nearly optimal multigrid method for general unstructured grids. *Numerische Mathematik*, 134(3):637–666, November 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0785-7`; `http://link.springer.com/article/10.1007/s00211-015-0785-7`.

Gong:2019:NHM

[GWX19] Shihua Gong, Shuonan Wu, and Jinchao Xu. New hybridized mixed methods for linear elasticity and optimal multilevel solvers. *Numerische Mathematik*, 141(2):569–604, February 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1001-3`.

Gagelman:2012:SMS

[GY12] Jerry Gagelman and Harry Yserentant. A spectral method for Schrödinger equations with smooth confinement potentials. *Numerische Mathematik*, 122(2):383–398, October 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=2&spage=383`.

Gong:2017:AFE

[GY17] Wei Gong and Ningning Yan. Adaptive finite element method for elliptic optimal control problems: convergence and optimality. *Numerische Mathematik*, 135(4):1121–1170, April 2017. CODEN NUMMA7. ISSN 0029-599X (print),

0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0827-9`; `http://link.springer.com/article/10.1007/s00211-016-0827-9`.

Hackbusch:2011:TVT

[Hac11] Wolfgang Hackbusch. Tensorisation of vectors and their efficient convolution. *Numerische Mathematik*, 119(3):465–488, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=3&spage=465`.

Hackbusch:2013:ETT

[Hac13] Wolfgang Hackbusch. L^∞ estimation of tensor truncations. *Numerische Mathematik*, 125(3):419–440, November 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0544-6`.

Hackbusch:2016:NER

[Hac16] Wolfgang Hackbusch. New estimates for the recursive low-rank truncation of block-structured matrices. *Numerische Mathematik*, 132(2):303–328, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0716-7`.

Huang:2017:IRT

[HAG17] Wen Huang, P.-A. Absil, and K. A. Gallivan. Intrinsic representation of tangent vectors and vector transports on matrix manifolds. *Numerische Mathematik*, 136(2):523–543, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Haji-Ali:2016:MIM

[HANT16] Abdul-Lateef Haji-Ali, Fabio Nobile, and Raúl Tempone. Multi-index Monte Carlo: when sparsity meets sampling. *Numerische Mathematik*, 132(4):767–806, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0734-5`.

Hari:2015:CDF

[Har15] Vjeran Hari. Convergence to diagonal form of block Jacobi-type methods. *Numerische Mathematik*, 129(3):449–481, March 2015.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0647-8.

Hardering:2018:DEB

[Har18]   Hanne Hardering. L^2-discretization error bounds for maps into Riemannian manifolds. *Numerische Mathematik*, 139(2):381–410, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0941-3.

He:2013:EIE

[He13]   Yinnian He. Euler implicit/explicit iterative scheme for the stationary Navier–Stokes equations. *Numerische Mathematik*, 123 (1):67–96, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0482-8.

Horvath:2019:QPD

[HFK19]   Róbert Horváth, István Faragó, and János Karátson. Qualitative properties of discrete nonlinear parabolic operators. *Numerische Mathematik*, 143(3):529–554, November 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-019-01062-6; https://link.springer.com/content/pdf/10.1007/s00211-019-01062-6.pdf.

Huang:2012:IMS

[HFL12]   Y. Huang, P. A. Forsyth, and G. Labahn. Iterative methods for the solution of a singular control formulation of a GMWB pricing problem. *Numerische Mathematik*, 122(1): 133–167, September 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=1&spage=133.

Hochbruck:2010:CRL

[HH10]   Marlis Hochbruck and Michael Hönig. On the convergence of a regularizing Levenberg–Marquardt scheme for nonlinear ill-posed problems. *Numerische Mathematik*, 115(1): 71–79, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=71.

Huang:2011:LPA

[HH11]   Jianguo Huang and Xuehai Huang. Local and parallel algo-
           rithms for fourth order problems discretized by the Morley–
           Wang–Xu element method. *Numerische Mathematik*, 119
           (4):667–697, December 2011. CODEN NUMMA7. ISSN
           0029-599X (print), 0945-3245 (electronic). URL http://www.
           springerlink.com/openurl.asp?genre=article&issn=0029-
           599X&volume=119&issue=4&spage=667.

Harwood:2016:ESO

[HHB16]   Stuart M. Harwood, Kai Höffner, and Paul I. Barton. Effi-
           cient solution of ordinary differential equations with a para-
           metric lexicographic linear program embedded. *Numerische
           Mathematik*, 133(4):623–653, August 2016. CODEN NUMMA7.
           ISSN 0029-599X (print), 0945-3245 (electronic). URL http:/
           /link.springer.com/accesspage/article/10.1007/s00211-
           015-0760-3; http://link.springer.com/article/10.1007/
           s00211-015-0760-3.

Halla:2016:HSI

[HHNS16]   Martin Halla, Thorsten Hohage, Lothar Nannen, and Joachim
           Schöberl. Hardy space infinite elements for time harmonic
           wave equations with phase and group velocities of different
           signs. *Numerische Mathematik*, 133(1):103–139, May 2016. CO-
           DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
           tronic). URL http://link.springer.com/article/10.1007/
           s00211-015-0739-0.

Hanke:2011:CBS

[HHR11]   Martin Hanke, Nuutti Hyvönen, and Stefanie Reusswig. Con-
           vex backscattering support in electric impedance tomography.
           Numerische Mathematik, 117(2):373–396, February 2011. CO-
           DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
           tronic). URL http://www.springerlink.com/openurl.asp?
           genre=article&issn=0029-599X&volume=117&issue=2&spage=
           373.

Hu:2015:CBL

[HHS15]   Jun Hu, Yunqing Huang, and Quan Shen. Constructing both
           lower and upper bounds for the eigenvalues of elliptic operators
           by nonconforming finite element methods. *Numerische Mathe-
           matik*, 131(2):273–302, October 2015. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0688-z`.

He:2019:GGI

[HHX19]   Juncai He, Kaibo Hu, and Jinchao Xu. Generalized Gaffney inequality and discrete compactness for discrete differential forms. *Numerische Mathematik*, 143(4):781–795, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01076-0`.

Han:2014:CDR

[HHYY14]   Deren Han, Hongjin He, Hai Yang, and Xiaoming Yuan. A customized Douglas–Rachford splitting algorithm for separable convex minimization with linear constraints. *Numerische Mathematik*, 127(1):167–200, May 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0580-2`.

Henriquez:2017:BIF

[HJHA17]   Fernando Henríquez, Carlos Jerez-Hanckes, and Fernando Altermatt. Boundary integral formulation and semi-implicit scheme coupling for modeling cells under electrical stimulation. *Numerische Mathematik*, 136(1):101–145, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Hsia:2017:TPS

[HJNS17]   Chun-Hsiung Hsia, Chang-Yeol Jung, Thien Binh Nguyen, and Ming-Cheng Shiue. On time periodic solutions, asymptotic stability and bifurcations of Navier–Stokes equations. *Numerische Mathematik*, 135(2):607–638, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0812-3`; `http://link.springer.com/article/10.1007/s00211-016-0812-3`.

Hochbruck:2015:CAS

[HJS15]   Marlis Hochbruck, Tobias Jahnke, and Roland Schnaubelt. Convergence of an ADI splitting for Maxwell's equations. *Numerische Mathematik*, 129(3):535–561, March 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0642-0`.

Hong:2014:NAS

[HJT14]   Youngjoon Hong, Chang-Yeol Jung, and Roger Temam. On the numerical approximations of stiff convection-diffusion equations in a circle. *Numerische Mathematik*, 127(2):291–313, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0585-x`.

Hakopian:2014:GMC

[HJZ14]   Hakop Hakopian, Kurt Jetter, and Georg Zimmermann. The Gasca–Maeztu conjecture for $n = 5$. *Numerische Mathematik*, 127(4):685–713, August 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0599-4`.

Heuer:2017:DPG

[HK17]   Norbert Heuer and Michael Karkulik. Discontinuous Petrov–Galerkin boundary elements. *Numerische Mathematik*, 135 (4):1011–1043, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0824-z`; `http://link.springer.com/article/10.1007/s00211-016-0824-z`.

Hagstrom:2019:CRB

[HK19a]   Thomas Hagstrom and Seungil Kim. Complete radiation boundary conditions for the Helmholtz equation I: waveguides. *Numerische Mathematik*, 141(4):917–966, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1012-0`.

Hofstatter:2019:NSP

[HK19b]   Harald Hofstätter and Othmar Koch. Non-satisfiability of a positivity condition for commutator-free exponential integrators of order higher than four. *Numerische Mathematik*, 141(3):681–691, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1015-x`.

Hannukainen:2012:MAC

[HKK12]   Antti Hannukainen, Sergey Korotov, and Michal Krízek. The maximum angle condition is not necessary for convergence

of the finite element method. *Numerische Mathematik*, 120 (1):79–88, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=79`.

Hinze:2018:ICE

[HKQ18]   Michael Hinze, Barbara Kaltenbacher, and Tran Nhan Tam Quyen. Identifying conductivity in electrical impedance tomography with total variation regularization. *Numerische Mathematik*, 138(3):723–765, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0920-8`.

Hofstatter:2014:CAH

[HKT14]   Harald Hofstätter, Othmar Koch, and Mechthild Thalhammer. Convergence analysis of high-order time-splitting pseudo-spectral methods for rotational Gross–Pitaevskii equations. *Numerische Mathematik*, 127(2):315–364, June 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0586-9`.

Hong:2016:RMM

[HKXZ16]   Qingguo Hong, Johannes Kraus, Jinchao Xu, and Ludmil Zikatanov. A robust multigrid method for discontinuous Galerkin discretizations of Stokes and linear elasticity equations. *Numerische Mathematik*, 132(1):23–49, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0712-y`.

Hall:2015:SVI

[HL15]   James Hall and Melvin Leok. Spectral variational integrators. *Numerische Mathematik*, 130(4):681–740, August 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0679-0`.

Hairer:2016:LTA

[HL16]   Ernst Hairer and Christian Lubich. Long-term analysis of the Störmer–Verlet method for Hamiltonian systems with a solution-dependent high frequency. *Numerische Mathematik*, 134(1):119–138, September 2016. CODEN NUMMA7.

ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0766-x`; `http://link.springer.com/article/10.1007/s00211-015-0766-x`.

Hu:2018:CRA

[HL18]   Shenglong Hu and Guoyin Li. Convergence rate analysis for the higher order power method in best rank one approximations of tensors. *Numerische Mathematik*, 140(4):993–1031, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0981-3`.

Hakula:2019:ACS

[HL19]   Harri Hakula and Mikael Laaksonen. Asymptotic convergence of spectral inverse iterations for stochastic eigenvalue problems. *Numerische Mathematik*, 142(3):577–609, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01034-w`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01034-w.pdf`.

Huang:2011:PQS

[HLS11]   Tsung-Ming Huang, Wen-Wei Lin, and Wei-Shuo Su. Palindromic quadratization and structure-preserving algorithm for palindromic matrix polynomials of even degree. *Numerische Mathematik*, 118(4):713–735, August 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=4&spage=713`.

Hiptmair:2012:CAF

[HLZ12]   Ralf Hiptmair, Jingzhi Li, and Jun Zou. Convergence analysis of finite element methods for $H(\mathrm{curl};\Omega)$-elliptic interface problems. *Numerische Mathematik*, 122(3):557–578, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=`557.

Heuer:2013:DGB

[HM13]   Norbert Heuer and Salim Meddahi. Discontinuous Galerkin hp-bem with quasi-uniform meshes. *Numerische Mathematik*,

125(4):679–703, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0547-3`.

Hiltebrand:2014:ESS

[HM14] Andreas Hiltebrand and Siddhartha Mishra. Entropy stable shock capturing space–time discontinuous Galerkin schemes for systems of conservation laws. *Numerische Mathematik*, 126(1): 103–151, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0558-0`.

Hu:2016:SBC

[HM16] Jun Hu and Rui Ma. Superconvergence of both the Crouzeix–Raviart and Morley elements. *Numerische Mathematik*, 132(3): 491–509, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0729-2`.

Hyvonen:2018:GLT

[HM18] Nuutti Hyvönen and Lauri Mustonen. Generalized linearization techniques in electrical impedance tomography. *Numerische Mathematik*, 140(1):95–120, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0959-1`.

Hinrichs:2016:OQM

[HMOU16] Aicke Hinrichs, Lev Markhasin, Jens Oettershagen, and Tino Ullrich. Optimal quasi-Monte Carlo rules on order 2 digital nets for the numerical integration of multivariate periodic functions. *Numerische Mathematik*, 134(1):163–196, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0765-y`; `http://link.springer.com/article/10.1007/s00211-015-0765-y`.

Hu:2017:SFE

[HMX17] Kaibo Hu, Yicong Ma, and Jinchao Xu. Stable finite element methods preserving $\nabla \cdot \boldsymbol{B} = 0$ exactly for MHD models. *Numerische Mathematik*, 135(2):371–396, February 2017. CODEN NUMMA7. ISSN 0029-599X (print),

0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0803-4;` `http://link.springer.com/article/10.1007/s00211-016-0803-4`.

Huhtanen:2016:PLI

[HN16]   Marko Huhtanen and Olavi Nevanlinna. Polynomials and lemniscates of indefiniteness. *Numerische Mathematik*, 133(2):233–253, June 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0745-2`.

Heister:2017:ULT

[HOR17a]   Timo Heister, Maxim A. Olshanskii, and Leo G. Rebholz. Unconditional long-time stability of a velocity-vorticity method for the 2D Navier–Stokes equations. *Numerische Mathematik*, 135(1):143–167, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0794-1;` `http://link.springer.com/article/10.1007/s00211-016-0794-1`.

Horsley:2017:BPF

[Hor17b]   David E. Horsley. Bessel phase functions: calculation and application. *Numerische Mathematik*, 136(3):679–702, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Hochbruck:2017:EAI

[HP17]   Marlis Hochbruck and Tomislav Pazur. Error analysis of implicit Euler methods for quasilinear hyperbolic evolution equations. *Numerische Mathematik*, 135(2):547–569, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0810-5;` `http://link.springer.com/article/10.1007/s00211-016-0810-5`.

Harbrecht:2016:ADM

[HPS16]   H. Harbrecht, M. Peters, and M. Siebenmorgen. Analysis of the domain mapping method for elliptic diffusion problems on random domains. *Numerische Mathematik*, 134(4):823–856, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0791-4;` `http://link.springer.com/article/10.1007/s00211-016-0791-4`.

Hochbruck:2018:EAI

[HPS18] Marlis Hochbruck, Tomislav Pazur, and Roland Schnaubelt. Error analysis of implicit Runge–Kutta methods for quasilinear hyperbolic evolution equations. *Numerische Mathematik*, 138(3): 557–579, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0914-6`.

Hao:2012:CRT

[HQ12] Dinh Nho Hào and Tran Nhan Tam Quyen. Convergence rates for Tikhonov regularization of a two-coefficient identification problem in an elliptic boundary value problem. *Numerische Mathematik*, 120(1):45–77, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=45`.

Hild:2010:SLM

[HR10] Patrick Hild and Yves Renard. A stabilized Lagrange multiplier method for the finite element approximation of contact problems in elastostatics. *Numerische Mathematik*, 115 (1):101–129, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=101`.

Haine:2012:RID

[HR12] Ghislain Haine and Karim Ramdani. Reconstructing initial data using observers: error analysis of the semi-discrete and fully discrete approximations. *Numerische Mathematik*, 120(2):307–343, February 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=2&spage=307`.

Haggblad:2014:ASA

[HR14] Jon Häggblad and Olof Runborg. Accuracy of staircase approximations in finite-difference methods for wave propagation. *Numerische Mathematik*, 128(4):741–771, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0625-1`.

Hausenblas:2019:TDS

[HR19]   Erika Hausenblas and Tsiry A. Randrianasolo. Time-discretization of stochastic 2-D Navier–Stokes equations with a penalty-projection method. *Numerische Mathematik*, 143(2):339–378, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01057-3`.

Holtz:2012:MTF

[HRS12]   Sebastian Holtz, Thorsten Rohwedder, and Reinhold Schneider. On manifolds of tensors of fixed TT-rank. *Numerische Mathematik*, 120(4):701–731, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=4&spage=701`.

Halvorsen:2013:SGT

[HS13]   Tore Gunnar Halvorsen and Torquil Macdonald Sørensen. Simplicial gauge theory on spacetime. *Numerische Mathematik*, 125(4):733–760, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0552-6`.

Hasegawa:2015:EEC

[HS15]   Takemitsu Hasegawa and Hiroshi Sugiura. Error estimate for a corrected Clenshaw–Curtis quadrature rule. *Numerische Mathematik*, 130(1):135–149, May 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0660-y`.

Hofmanova:2017:ETI

[HS17]   Martina Hofmanová and Katharina Schratz. An exponential-type integrator for the KdV equation. *Numerische Mathematik*, 136(4):1117–1137, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Hsia:2018:LTS

[HS18]   Chun-Hsiung Hsia and Ming-Cheng Shiue. On the long-time stability of a temporal discretization scheme for the three dimensional viscous primitive equations. *Numerische Mathematik*, 139(1):187–245, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0934-2`.

Han:2019:CAP

[HS19a]   Weimin Han and Mircea Sofonea. Convergence analysis of penalty
            based numerical methods for constrained inequality problems.
            Numerische Mathematik, 142(4):917–940, August 2019. CO-
            DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).
            URL https://link.springer.com/article/10.1007/s00211-
            019-01036-8.

Herrmann:2019:QIL

[HS19b]   Lukas Herrmann and Christoph Schwab. QMC integration for
            lognormal-parametric, elliptic PDEs: local supports and product
            weights. *Numerische Mathematik*, 141(1):63–102, January 2019.
            CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
            tronic). URL https://link.springer.com/article/10.1007/
            s00211-018-0991-1.

Han:2018:NAS

[HSD18]   Weimin Han, Mircea Sofonea, and David Danan.   Numeri-
            cal analysis of stationary variational–hemivariational inequali-
            ties. *Numerische Mathematik*, 139(3):563–592, July 2018. CO-
            DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).
            URL https://link.springer.com/article/10.1007/s00211-
            018-0951-9.

Hernandez-Santamaria:2019:GOC

[HSLZ19]   Víctor Hernández-Santamaría, Martin Lazar, and Enrique
            Zuazua. Greedy optimal control for elliptic problems and its ap-
            plication to turnpike problems. *Numerische Mathematik*, 141(2):
            455–493, February 2019. CODEN NUMMA7. ISSN 0029-599X
            (print), 0945-3245 (electronic). URL https://link.springer.
            com/article/10.1007/s00211-018-1005-z.

Hannukainen:2012:UFP

[HSV12]   Antti Hannukainen, Rolf Stenberg, and Martin Vohralík. A uni-
            fied framework for a posteriori error estimation for the Stokes
            problem. *Numerische Mathematik*, 122(4):725–769, December
            2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
            3245 (electronic). URL http://link.springer.com/article/
            10.1007/s00211-012-0472-x.

Hesse:2017:RBF

[HSW17]   Kerstin Hesse, Ian H. Sloan, and Robert S. Womersley. Radial ba-
            sis function approximation of noisy scattered data on the sphere.

Numerische Mathematik, 137(3):579–605, November 2017. CO-DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0886-6`.

Hu:2012:COA

[HSX12]   Jun Hu, Zhongci Shi, and Jinchao Xu. Convergence and optimality of the adaptive Morley element method. *Numerische Mathematik*, 121(4):731–752, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=731`.

Hu:2013:DWH

[HSZ13]   Qiya Hu, Shi Shu, and Jun Zou. A discrete weighted Helmholtz decomposition and its application. *Numerische Mathematik*, 125(1):153–189, September 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0536-6`.

Harbrecht:2018:FSG

[HT18]   Helmut Harbrecht and Johannes Tausch. A fast sparse grid based space-time boundary element method for the nonstationary heat equation. *Numerische Mathematik*, 140(1):239–264, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0963-5`.

Hackbusch:2017:IBH

[HU17]   Wolfgang Hackbusch and André Uschmajew. On the interconnection between the higher-order singular values of real tensors. *Numerische Mathematik*, 135(3):875–894, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-016-0819-9`; `http://link.springer.com/content/pdf/10.1007/s00211-016-0819-9.pdf`.

Huang:2012:USD

[HV12]   Chengming Huang and Stefan Vandewalle. Unconditionally stable difference methods for delay partial differential equations. *Numerische Mathematik*, 122(3):579–601, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?`

genre=article&issn=0029-599X&volume=122&issue=3&spage=▮
579.

Howell:2011:ISC

[HW11]   Jason S. Howell and Noel J. Walkington. Inf-sup conditions
            for twofold saddle point problems. *Numerische Mathematik*,
            118(4):663–693, August 2011. CODEN NUMMA7. ISSN
            0029-599X (print), 0945-3245 (electronic). URL `http://www.`
            `springerlink.com/openurl.asp?genre=article&issn=0029-`
            `599X&volume=118&issue=4&spage=663`.

Hohage:2013:IRN

[HW13]   Thorsten Hohage and Frank Werner. Iteratively regular-
            ized Newton-type methods for general data misfit function-
            als and applications to Poisson data. *Numerische Math-
            ematik*, 123(4):745–779, April 2013. CODEN NUMMA7.
            ISSN 0029-599X (print), 0945-3245 (electronic). URL `http:/`
            `/link.springer.com/article/10.1007/s00211-012-0499-z;`
            ` http://link.springer.com/content/pdf/10.1007/s00211-`
            `012-0499-z.pdf`.

Holm:2018:CDG

[HW18]   Bärbel Holm and Thomas P. Wihler. Continuous and discontin-
            uous Galerkin time stepping methods for nonlinear initial value
            problems with application to finite time blow-up. *Numerische
            Mathematik*, 138(3):767–799, March 2018. CODEN NUMMA7.
            ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://`
            `link.springer.com/article/10.1007/s00211-017-0918-2`.

He:2015:NEC

[HY15]   Bingsheng He and Xiaoming Yuan. On non-ergodic convergence
            rate of Douglas–Rachford alternating direction method of mul-
            tipliers. *Numerische Mathematik*, 130(3):567–577, July 2015.
            CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
            tronic). URL `http://link.springer.com/article/10.1007/`
            `s00211-014-0673-6`.

He:2018:MNE

[HZZ18]   Wenming He, Zhimin Zhang, and Qingsong Zou. Maximum-
            norms error estimates for high-order finite volume schemes over
            quadrilateral meshes. *Numerische Mathematik*, 138(2):473–500,
            February 2018. CODEN NUMMA7. ISSN 0029-599X (print),
            0945-3245 (electronic). URL `https://link.springer.com/`
            `article/10.1007/s00211-017-0912-8`.

Imbert-Gerard:2015:IPG

[IG15]   Lise-Marie Imbert-Gérard. Interpolation properties of generalized plane waves. *Numerische Mathematik*, 131(4):683–711, December 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0704-y.

Ito:2018:SPR

[IN18]   Shinji Ito and Yuji Nakatsukasa. Stable polefinding and rational least-squares fitting via eigenvalues. *Numerische Mathematik*, 139(3):633–682, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0948-4; https://link.springer.com/content/pdf/10.1007/s00211-018-0948-4.pdf.

Iserles:2011:FSA

[Ise11]   Arieh Iserles. A fast and simple algorithm for the computation of Legendre coefficients. *Numerische Mathematik*, 117(3):529–553, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=529.

Tanaka:2010:FCD

[iTSMM10]   Ken ichiro Tanaka, Masaaki Sugihara, Kazuo Murota, and Masatake Mori. Function classes for double exponential integration formulas. *Numerische Mathematik*, 114(4):631–655, February 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=631.

Jin:2010:RLM

[Jin10]   Qinian Jin. On a regularized Levenberg–Marquardt method for solving nonlinear inverse problems. *Numerische Mathematik*, 115(2):229–259, April 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=229.

Jin:2012:OOR

[Jin12]   Qinian Jin. On the order optimality of the regularization
            via inexact Newton iterations. *Numerische Mathematik*, 121
            (2):237–260, June 2012. CODEN NUMMA7. ISSN 0029-
            599X (print), 0945-3245 (electronic). URL `http://www.`
            `springerlink.com/openurl.asp?genre=article&issn=0029-`
            `599X&volume=121&issue=2&spage=237`.

Jin:2017:HSR

[Jin17]   Qinian Jin. On a heuristic stopping rule for the regularization
            of inverse problems by the augmented Lagrangian method. *Nu-
            merische Mathematik*, 136(4):973–992, August 2017. CODEN
            NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Jooste:2013:ZMP

[JJT13]   A. Jooste, K. Jordaan, and F. Toókos. On the zeros of Meixner
            polynomials. *Numerische Mathematik*, 124(1):57–71, May 2013.
            CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
            tronic). URL `http://link.springer.com/article/10.1007/`
            `s00211-012-0504-6`.

Jia:2013:CNT

[JL13a]   Zhongxiao Jia and Bingyu Li. On the condition number of the
            total least squares problem. *Numerische Mathematik*, 125(1):
            61–87, September 2013. CODEN NUMMA7. ISSN 0029-599X
            (print), 0945-3245 (electronic). URL `http://link.springer.`
            `com/article/10.1007/s00211-013-0533-9`.

Johansson:2013:HOD

[JL13b]   August Johansson and Mats G. Larson. A high order discontinu-
            ous Galerkin Nitsche method for elliptic problems with fictitious
            boundary. *Numerische Mathematik*, 123(4):607–628, April 2013.
            CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
            tronic). URL `http://link.springer.com/article/10.1007/`
            `s00211-012-0497-1`.

Jia:2015:PPI

[JLL15]   Zhongxiao Jia, Wen-Wei Lin, and Ching-Sung Liu. A positiv-
            ity preserving inexact Noda iteration for computing the smallest
            eigenpair of a large irreducible M-matrix. *Numerische Mathe-
            matik*, 130(4):645–679, August 2015. CODEN NUMMA7. ISSN
            0029-599X (print), 0945-3245 (electronic). URL `http://link.`
            `springer.com/article/10.1007/s00211-014-0677-2`.

Jin:2018:DMR

[JLZ18]   Bangti Jin, Buyang Li, and Zhi Zhou. Discrete maximal regularity of time-stepping schemes for fractional evolution equations. *Numerische Mathematik*, 138(1):101–131, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0904-8;` `https://link.springer.com/content/pdf/10.1007/s00211-017-0904-8.pdf`.

Jahnke:2018:AMR

[JM18]   Tobias Jahnke and Marcel Mikl. Adiabatic midpoint rule for the dispersion-managed nonlinear Schrödinger equation. *Numerische Mathematik*, 138(4):975–1009, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0926-2`.

Jarlebring:2012:LEA

[JMM12]   Elias Jarlebring, Wim Michiels, and Karl Meerbergen. A linear eigenvalue algorithm for the nonlinear eigenvalue problem. *Numerische Mathematik*, 122(1):169–195, September 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=1&spage=169`.

Janovska:2010:CCZ

[JO10]   Drahoslava Janovská and Gerhard Opfer. The classification and the computation of the zeros of quaternionic, two-sided polynomials. *Numerische Mathematik*, 115(1):81–100, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=81`.

Jeon:2013:NLC

[JP13]   Youngmok Jeon and Eun-Jae Park. New locally conservative finite element methods on a rectangular mesh. *Numerische Mathematik*, 123(1):97–119, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0477-5`.

John:2018:ECF

[JSW18]   Lorenz John, Piotr Swierczynski, and Barbara Wohlmuth. En-
ergy corrected FEM for optimal Dirichlet boundary control prob-
lems. *Numerische Mathematik*, 139(4):913–938, August 2018.
CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
tronic). URL `https://link.springer.com/article/10.1007/`
`s00211-018-0952-8`.

Jin:2011:INR

[JT11]   Qinian Jin and Ulrich Tautenhahn. Inexact Newton regular-
ization methods in Hilbert scales. *Numerische Mathematik*,
117(3):555–579, March 2011. CODEN NUMMA7. ISSN
0029-599X (print), 0945-3245 (electronic). URL `http://www.`
`springerlink.com/openurl.asp?genre=article&issn=0029-`
`599X&volume=117&issue=3&spage=555`.

Javed:2016:EMG

[JT16]   Mohsin Javed and Lloyd N. Trefethen. Euler–Maclaurin and Gre-
gory interpolants. *Numerische Mathematik*, 132(1):201–216, Jan-
uary 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
3245 (electronic). URL `http://link.springer.com/article/`
`10.1007/s00211-015-0713-x`.

Juntunen:2015:CBS

[Jun15]   Mika Juntunen. On the connection between the stabilized La-
grange multiplier and Nitsche's methods. *Numerische Math-
ematik*, 131(3):453–471, November 2015. CODEN NUMMA7.
ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://`
`link.springer.com/article/10.1007/s00211-015-0701-1`.

Jin:2016:LMM

[JY16]   Qinian Jin and Hongqi Yang. Levenberg–Marquardt method in
Banach spaces with general convex regularization terms. *Nu-
merische Mathematik*, 133(4):655–684, August 2016. CODEN
NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).
URL `http://link.springer.com/accesspage/article/10.`
`1007/s00211-015-0764-z`; `http://link.springer.com/article/`
`10.1007/s00211-015-0764-z`.

Jin:2013:IRG

[JZ13]   Qinian Jin and Min Zhong. On the iteratively regularized Gauss–
Newton method in Banach spaces with applications to param-
eter identification problems. *Numerische Mathematik*, 124(4):

647–683, August 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0529-5`.

Jin:2014:NIT

[JZ14] Qinian Jin and Min Zhong. Nonstationary iterated Tikhonov regularization in Banach spaces with uniformly convex penalty terms. *Numerische Mathematik*, 127(3):485–513, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0594-9`.

Kaltenbacher:2015:IRG

[Kal15] Barbara Kaltenbacher. An iteratively regularized Gauss–Newton-Halley method for solving nonlinear ill-posed problems. *Numerische Mathematik*, 131(1):33–57, September 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0682-5`.

Karper:2013:CFD

[Kar13] Trygve K. Karper. A convergent FEM–DG method for the compressible Navier–Stokes equations. *Numerische Mathematik*, 125(3):441–510, November 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0543-7`.

Kaltenbacher:2018:CAD

[KdS18] Barbara Kaltenbacher and Mario Luiz Previatti de Souza. Convergence and adaptive discretization of the IRGNM Tikhonov and the IRGNM Ivanov method under a tangential cone condition in Banach space. *Numerische Mathematik*, 140(2):449–478, October 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0971-5`; `https://link.springer.com/content/pdf/10.1007/s00211-018-0971-5.pdf`.

Kim:2019:NMC

[Kim19] Yunho Kim. A Newton's method characterization for real eigenvalue problems. *Numerische Mathematik*, 142(4):941–971, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01037-7`.

Kirby:2011:FSF

[Kir11]   Robert C. Kirby. Fast simplicial finite element algorithms using Bernstein polynomials. *Numerische Mathematik*, 117 (4):631–652, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=631`.

Kirby:2017:FIS

[Kir17]   Robert C. Kirby. Fast inversion of the simplicial Bernstein mass matrix. *Numerische Mathematik*, 135(1):73–95, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0795-0`; `http://link.springer.com/article/10.1007/s00211-016-0795-0`.

Kammerer:2011:SHC

[KK11]   Lutz Kämmerer and Stefan Kunis. On the stability of the hyperbolic cross discrete Fourier transform. *Numerische Mathematik*, 117(3):581–600, March 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=3&spage=581`.

Katsaounis:2015:PEC

[KK15a]   Theodoros Katsaounis and Irene Kyza. A posteriori error control and adaptivity for Crank–Nicolson finite element approximations for the linear Schrödinger equation. *Numerische Mathematik*, 129 (1):55–90, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0634-0`.

Kim:2015:NCC

[KK15b]   J. H. Kim and Do Y. Kwak. New curl conforming finite elements on parallelepiped. *Numerische Mathematik*, 131(3):473–488, November 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0696-7`.

Kirby:2015:SMF

[KK15c]   Robert C. Kirby and Thinh Tri Kieu. Symplectic-mixed finite element approximation of linear acoustic wave equations.

Numerische Mathematik, 130(2):257–291, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0667-4`.

Kinoshita:2014:PEI

[KKN14] Takehiko Kinoshita, Takuma Kimura, and Mitsuhiro T. Nakao. On the a posteriori estimates for inverse operators of linear parabolic equations with applications to the numerical enclosure of solutions for nonlinear problems. *Numerische Mathematik*, 126(4):679–701, April 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0575-z; http://link.springer.com/content/pdf/10.1007/s00211-013-0575-z.pdf`.

Karlsen:2012:EEF

[KKR12] K. H. Karlsen, U. Koley, and N. H. Risebro. An error estimate for the finite difference approximation to degenerate convection-diffusion equations. *Numerische Mathematik*, 121(2):367–395, June 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=2&spage=367`.

Kovacs:2017:SCF

[KL17] Balázs Kovács and Christian Lubich. Stable and convergent fully discrete interior–exterior coupling of Maxwell's equations. *Numerische Mathematik*, 137(1):91–117, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). See correction [NKL21].

Kovacs:2018:LIF

[KL18a] Balázs Kovács and Christian Lubich. Linearly implicit full discretization of surface evolution. *Numerische Mathematik*, 140(1):121–152, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0962-6`.

Kovacs:2018:SCT

[KL18b] Balázs Kovács and Christian Lubich. Stability and convergence of time discretizations of quasi-linear evolution equations of Kato type. *Numerische Mathematik*, 138(2):365–388, February 2018.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0909-3`.

Klapproth:2015:CSN

[Kla15] Corinna Klapproth. The contact-stabilized Newmark method: consistency error of a spatiotemporal discretization. *Numerische Mathematik*, 131(1):59–82, September 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0686-1`.

Kovacs:2019:CEF

[KLL19] Balázs Kovács, Buyang Li, and Christian Lubich. A convergent evolving finite element algorithm for mean curvature flow of closed surfaces. *Numerische Mathematik*, 143(4):797–853, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01074-2`.

Kovacs:2017:CFE

[KLLG17] Balázs Kovács, Buyang Li, Christian Lubich, and Christian A. Power Guerra. Convergence of finite elements on an evolving surface driven by diffusion on the surface. *Numerische Mathematik*, 137(3):643–689, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0888-4`.

Kuo:2019:SPF

[KLS19] Yueh-Cheng Kuo, Wen-Wei Lin, and Shih-Feng Shieh. A structure preserving flow for computing Hamiltonian matrix exponential. *Numerische Mathematik*, 143(3):555–582, November 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01065-3`.

Kunemund:2019:HOM

[KNWW19] Jens Künemund, Francis J. Narcowich, Joseph D. Ward, and Holger Wendland. A high-order meshless Galerkin method for semilinear parabolic equations on spheres. *Numerische Mathematik*, 142(2):383–419, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-01021-7`.

Koev:2019:AEE

[Koe19] Plamen Koev. Accurate eigenvalues and exact zero Jordan blocks of totally nonnegative matrices. *Numerische Mathematik*, 141 (3):693–713, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01022-0`.

Kopteva:2017:ENP

[Kop17] Natalia Kopteva. Energy-norm a posteriori error estimates for singularly perturbed reaction-diffusion problems on anisotropic meshes. *Numerische Mathematik*, 137(3):607–642, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0889-3`.

Kashiwabara:2016:PMP

[KOZ16] Takahito Kashiwabara, Issei Oikawa, and Guanyu Zhou. Penalty method with P1/P1 finite element approximation for the Stokes equations under the slip boundary condition. *Numerische Mathematik*, 134(4):705–740, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0790-5; http://link.springer.com/article/10.1007/s00211-016-0790-5`.

Karpinski:2017:AIP

[KP17] Stefan Karpinski and Iuliu Sorin Pop. Analysis of an interior penalty discontinuous Galerkin scheme for two phase flow in porous media with dynamic capillary effects. *Numerische Mathematik*, 136(1):249–286, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Kumar:2014:CAC

[KPR14] K. Kumar, I. S. Pop, and F. A. Radu. Convergence analysis for a conformal discretization of a model for precipitation and dissolution in porous media. *Numerische Mathematik*, 127(4): 715–749, August 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0601-1`.

Kristensen:2016:PAA

[KR16] Jan Kristensen and Filip Rindler. Piecewise affine approximations for functions of bounded variation. *Numerische Mathe-*

matik, 132(2):329–346, February 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0721-x`.

Kress:2017:TIE

[Kre17]   Rainer Kress. On Trefftz' integral equation for the Bernoulli free boundary value problem. *Numerische Mathematik*, 136(2):503–522, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Knizhnerman:2011:CAE

[KS11a]   L. Knizhnerman and V. Simoncini. Convergence analysis of the extended Krylov subspace method for the Lyapunov equation. *Numerische Mathematik*, 118(3):567–586, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=`567.

Kopteva:2011:SAI

[KS11b]   Natalia Kopteva and Martin Stynes. Stabilised approximation of interior-layer solutions of a singularly perturbed semilinear reaction-diffusion problem. *Numerische Mathematik*, 119(4):787–810, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=4&spage=787`.

Kreuzer:2011:DRA

[KS11c]   Christian Kreuzer and Kunibert G. Siebert. Decay rates of adaptive finite elements with Dörfler marking. *Numerische Mathematik*, 117(4):679–716, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=679`.

Kazeev:2018:QTS

[KS18a]   Vladimir Kazeev and Christoph Schwab. Quantized tensor-structured finite elements for second-order elliptic PDEs in two dimensions. *Numerische Mathematik*, 138(1):133–190, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0899-1`.

Kemmochi:2018:DMR

[KS18b] Tomoya Kemmochi and Norikazu Saito. Discrete maximal regularity and the finite element method for parabolic equations. *Numerische Mathematik*, 138(4):905–937, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0929-z.

Klapproth:2010:CRN

[KSD10] Corinna Klapproth, Anton Schiela, and Peter Deuflhard. Consistency results on Newmark methods for dynamical contact problems. *Numerische Mathematik*, 116(1):65–94, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=65.

Klapproth:2011:ATC

[KSD11] Corinna Klapproth, Anton Schiela, and Peter Deuflhard. Adaptive timestep control for the contact-stabilized Newmark method. *Numerische Mathematik*, 119(1):49–81, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=49.

Krendl:2013:SES

[KSZ13] Wolfgang Krendl, Valeria Simoncini, and Walter Zulehner. Stability estimates and structural spectral properties of saddle point problems. *Numerische Mathematik*, 124(1):183–213, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0507-3.

Kirby:2012:FSQ

[KT12] Robert C. Kirby and Kieu Tri Thinh. Fast simplicial quadrature-based finite element operators using Bernstein polynomials. *Numerische Mathematik*, 121(2):261–279, June 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=2&spage=261.

Krause:2015:ERR

[KVW15]   Rolf Krause, Andreas Veeser, and Mirjam Walloth. An effi-
cient and reliable residual-type a posteriori error estimator for
the Signorini problem. *Numerische Mathematik*, 130(1):151–197,
May 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
3245 (electronic). URL `http://link.springer.com/article/`
`10.1007/s00211-014-0655-8`.

Kreusler:2012:MRE

[KY12]   Hans-Christian Kreusler and Harry Yserentant. The mixed
regularity of electronic wave functions in fractional order and
weighted Sobolev spaces. *Numerische Mathematik*, 121(4):
781–802, August 2012. CODEN NUMMA7. ISSN 0029-
599X (print), 0945-3245 (electronic). URL `http://www.`
`springerlink.com/openurl.asp?genre=article&issn=0029-`
`599X&volume=121&issue=4&spage=781`.

Li:2011:SDS

[LA11]   Yuan Li and Rong An. Semi-discrete stabilized finite element
methods for Navier–Stokes equations with nonlinear slip bound-
ary conditions based on regularization procedure. *Numerische
Mathematik*, 117(1):1–36, January 2011. CODEN NUMMA7.
ISSN 0029-599X (print), 0945-3245 (electronic). URL `http:/`
`/www.springerlink.com/openurl.asp?genre=article&issn=`
`0029-599X&volume=117&issue=1&spage=1`.

Li:2014:OTL

[LC14]   Jian Li and Zhangxin Chen. Optimal L^2, H^1 and L^∞ analysis of
finite volume methods for the stationary Navier–Stokes equations
with large data. *Numerische Mathematik*, 126(1):75–101, Jan-
uary 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
3245 (electronic). URL `http://link.springer.com/article/`
`10.1007/s00211-013-0556-2`.

Li:2012:SML

[LCH12]   Jian Li, Zhangxin Chen, and Yinnian He. A stabilized multi-
level method for non-singular finite volume solutions of the
stationary 3D Navier–Stokes equations. *Numerische Mathe-
matik*, 122(2):279–304, October 2012. CODEN NUMMA7. ISSN
0029-599X (print), 0945-3245 (electronic). URL `http://www.`
`springerlink.com/openurl.asp?genre=article&issn=0029-`
`599X&volume=122&issue=2&spage=279`.

Liu:2017:EAM

[LCWW17] Yuan Liu, Wenbin Chen, Cheng Wang, and Steven M. Wise. Error analysis of a mixed finite element method for a Cahn–Hilliard–Hele–Shaw system. *Numerische Mathematik*, 135(3):679–709, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0813-2`; `http://link.springer.com/article/10.1007/s00211-016-0813-2`.

Lesinigo:2011:MDB

[LDQ11] Matteo Lesinigo, Carlo D'Angelo, and Alfio Quarteroni. A multiscale Darcy–Brinkman model for fluid flow in fractured porous media. *Numerische Mathematik*, 117(4):717–752, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=`717.

Lopez-Fernandez:2016:GCQ

[LFS16] M. Lopez-Fernandez and S. Sauter. Generalized convolution quadrature based on Runge–Kutta methods. *Numerische Mathematik*, 133(4):743–779, August 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0761-2`; `http://link.springer.com/article/10.1007/s00211-015-0761-2`.

Li:2014:FSL

[LGC14] Shengguo Li, Ming Gu, and Lizhi Cheng. Fast structured LU factorization for nonsymmetric matrices. *Numerische Mathematik*, 127(1):35–55, May 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0582-0`.

Liu:2017:NNI

[LGL17] Ching-Sung Liu, Chun-Hua Guo, and Wen-Wei Lin. Newton–Noda iteration for finding the Perron pair of a weakly irreducible nonnegative tensor. *Numerische Mathematik*, 137(1):63–90, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Lu:2014:MPL

[LHQ14]   Changna Lu, Weizhang Huang, and Jianxian Qiu. Maximum principle in linear finite element approximations of anisotropic diffusion-convection-reaction problems. *Numerische Mathematik*, 127(3):515–537, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0595-8.

Li:2015:MNS

[Li15]   Buyang Li. Maximum-norm stability and maximal L^p regularity of FEMs for parabolic equations with Lipschitz continuous coefficients. *Numerische Mathematik*, 131(3):489–516, November 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0698-5.

Lin:2017:RES

[Lin17]   Lin Lin. Randomized estimation of spectral densities of large matrices made accurate. *Numerische Mathematik*, 136(1):183–213, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Luthen:2018:IPE

[LJS18]   Nora Lüthen, Mika Juntunen, and Rolf Stenberg. An improved a priori error analysis of Nitsche's method for Robin boundary conditions. *Numerische Mathematik*, 138(4):1011–1026, April 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0927-1.

Lu:2010:EEN

[LL10]   Xiliang Lu and Ping Lin. Error estimate of the P_1 nonconforming finite element method for the penalized unsteady Navier–Stokes equations. *Numerische Mathematik*, 115(2):261–287, April 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=261.

Larsson:2012:CPL

[LL12]   Karl Larsson and Mats G. Larson. Continuous piecewise linear finite elements for the Kirchhoff–Love plate equation. *Numerische Mathematik*, 121(1):65–97, May 2012. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=65`.

Li:2010:SBE

[LLW10] Ren-Cang Li, Wen-Wei Lin, and Chern-Shuh Wang. Structured backward error for palindromic polynomial eigenvalue problems. *Numerische Mathematik*, 116(1):95–122, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=`■ 95.

Liang:2015:FEA

[LLY15] Kewei Liang, Xiliang Lu, and Jerry Zhijian Yang. Finite element approximation to the extremal eigenvalue problem for inhomogeneous materials. *Numerische Mathematik*, 130(4):741–762, August 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0678-1`.

Larson:2011:PEE

[LM11] Mats G. Larson and Axel Målqvist. A posteriori error estimates for mixed finite element approximations of parabolic problems. *Numerische Mathematik*, 118(1):33–48, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=`■ 33.

Lubich:2013:IPE

[LM13] Christian Lubich and Charalambos Makridakis. Interior a posteriori error estimates for time discrete approximations of parabolic problems. *Numerische Mathematik*, 124(3):541–557, July 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0520-1`.

Louka:2015:CES

[LM15] M. A. Louka and N. M. Missirlis. A comparison of the Extrapolated Successive Overrelaxation and the Preconditioned Simultaneous Displacement methods for augmented linear systems. *Numerische Mathematik*, 131(3):517–540, November 2015.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0697-6`.

Li:2017:TRN

[LMcS17] Hongliang Li, Pingbing Ming, and Zhong ci Shi. Two robust nonconforming H^2-elements for linear strain gradient elasticity. *Numerische Mathematik*, 137(3):691–711, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0890-x`.

Lepe:2019:MDG

[LMMR19] Felipe Lepe, Salim Meddahi, David Mora, and Rodolfo Rodríguez. Mixed discontinuous Galerkin approximation of the elasticity eigenproblem. *Numerische Mathematik*, 142(3):749–786, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01035-9`.

Loneland:2016:AAS

[LMR16] A. Loneland, L. Marcinkowski, and T. Rahman. Additive average Schwarz method for a Crouzeix–Raviart finite volume element discretization of elliptic problems with heterogeneous coefficients. *Numerische Mathematik*, 134(1):91–118, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0771-0`; `http://link.springer.com/article/10.1007/s00211-015-0771-0`.

Lederer:2019:RPE

[LMS19] Philip Lukas Lederer, Christian Merdon, and Joachim Schöberl. Refined a posteriori error estimation for classical and pressure-robust Stokes finite element methods. *Numerische Mathematik*, 142(3):713–748, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01049-3`.

Lanza:2017:NNO

[LMSS17] A. Lanza, S. Morigi, I. Selesnick, and F. Sgallari. Nonconvex nonsmooth optimization via convex-nonconvex majorization-minimization. *Numerische Mathematik*, 136(2):343–381, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Li:2018:IEE

[LMY18]   Hengguang Li, Lin Mu, and Xiu Ye. Interior energy error estimates for the weak Galerkin finite element method. *Numerische Mathematik*, 139(2):447–478, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0940-4`.

Li:2015:SBS

[LN15]   Wen Li and Michael K. Ng. Some bounds for the spectral radius of nonnegative tensors. *Numerische Mathematik*, 130(2):315–335, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0666-5`.

Li:2018:RPE

[LN18]   Hengguang Li and Serge Nicaise. Regularity and a priori error analysis on anisotropic meshes of a Dirichlet problem in polyhedral domains. *Numerische Mathematik*, 139(1):47–92, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0936-0`.

Li:2014:PEE

[LO14]   Hengguang Li and Jeffrey S. Ovall. A posteriori error estimation of hierarchical type for the Schrödinger operator with inverse square potential. *Numerische Mathematik*, 128(4):707–740, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0628-y`.

Li:2016:ABA

[LOSV16]   Xingjie Helen Li, Christoph Ortner, Alexander V. Shapeev, and Brian Van Koten. Analysis of blended atomistic/continuum hybrid methods. *Numerische Mathematik*, 134(2):275–326, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0772-z`; `http://link.springer.com/article/10.1007/s00211-015-0772-z`.

Lozinski:2019:PDG

[Loz19]   Alexei Lozinski. A primal discontinuous Galerkin method with static condensation on very general meshes. *Numerische Mathematik*, 143(3):583–604, November 2019. CODEN NUMMA7.

ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01067-1`.

Lu:2011:MPR

[LP11] Shuai Lu and Sergei V. Pereverzev. Multi-parameter regularization and its numerical realization. *Numerische Mathematik*, 118(1):1–31, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=1`.

Liu:2015:LDG

[LP15] Hailiang Liu and Nattapol Ploymaklam. A local discontinuous Galerkin method for the Burgers–Poisson equation. *Numerische Mathematik*, 129(2):321–351, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0641-1`.

Lehrenfeld:2017:OPN

[LR17] Christoph Lehrenfeld and Arnold Reusken. Optimal preconditioners for Nitsche–XFEM discretizations of interface problems. *Numerische Mathematik*, 135(2):313–332, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0801-6`; `http://link.springer.com/article/10.1007/s00211-016-0801-6`.

Lelievre:2019:HMC

[LRS19] Tony Lelièvre, Mathias Rousset, and Gabriel Stoltz. Hybrid Monte Carlo methods for sampling probability measures on submanifolds. *Numerische Mathematik*, 143(2):379–421, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01056-4`. See correction [LRS20].

Lelievre:2020:CHM

[LRS20] Tony Lelièvre, Mathias Rousset, and Gabriel Stoltz. Correction to: Hybrid Monte Carlo methods for sampling probability measures on submanifolds. *Numerische Mathematik*, 144(2):447–449, February 2020. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01086-y`;

https://link.springer.com/content/pdf/10.1007/s00211-019-01086-y.pdf. See [LRS19].

Li:2016:SAY

[LS16]   Jichun Li and Sidney Shields. Superconvergence analysis of Yee scheme for metamaterial Maxwell's equations on non-uniform rectangular meshes. *Numerische Mathematik*, 134(4):741–781, December 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-015-0788-4; http://link.springer.com/article/10.1007/s00211-015-0788-4.

Lasser:2017:DHK

[LS17]   Caroline Lasser and David Sattlegger. Discretising the Herman–Kluk propagator. *Numerische Mathematik*, 137(1):119–157, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Leobacher:2018:CEM

[LS18]   Gunther Leobacher and Michaela Szölgyenyi. Convergence of the Euler–Maruyama method for multidimensional SDEs with discontinuous drift and degenerate diffusion coefficient. *Numerische Mathematik*, 138(1):219–239, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0903-9; https://link.springer.com/content/pdf/10.1007/s00211-017-0903-9.pdf.

LeGia:2011:SPH

[LSW11]   Q. T. Le Gia, I. H. Sloan, and Andrew J. Wathen. Stability and preconditioning for a hybrid approximation on the sphere. *Numerische Mathematik*, 118(4):695–711, August 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=4&spage=695.

LeGia:2012:MRC

[LSW12]   Q. T. Le Gia, I. H. Sloan, and H. Wendland. Multiscale RBF collocation for solving PDEs on spheres. *Numerische Mathematik*, 121(1):99–125, May 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.

springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=99.

Lopez:2010:ANP

[LT10]   José Luis López and Nico M. Temme. Asymptotics and numerics of polynomials used in Tricomi and Buchholz expansions of Kummer functions. *Numerische Mathematik*, 116 (2):269–289, August 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=269.

Lui:2017:LSC

[Lui17]   S. H. Lui. Legendre spectral collocation in space and time for PDEs. *Numerische Mathematik*, 136(1):75–99, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Lang:2013:MOC

[LV13]   J. Lang and J. G. Verwer. *W*-methods in optimal control. *Numerische Mathematik*, 124(2):337–360, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0516-x.

Leykekhman:2017:DMP

[LV17]   Dmitriy Leykekhman and Boris Vexler. Discrete maximal parabolic regularity for Galerkin finite element methods. *Numerische Mathematik*, 135(3):923–952, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0821-2; http://link.springer.com/article/10.1007/s00211-016-0821-2.

Lipnikov:2014:DGM

[LVY14]   Konstantin Lipnikov, Danail Vassilev, and Ivan Yotov. Discontinuous Galerkin and mimetic finite difference methods for coupled Stokes–Darcy flows on polygonal and polyhedral grids. *Numerische Mathematik*, 126(2):321–360, February 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0563-3.

Li:2015:CBL

[LZ15]   Ren-Cang Li and Lei-Hong Zhang. Convergence of the block Lanczos method for eigenvalue clusters. *Numerische Mathematik*, 131(1):83–113, September 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0681-6.

Makridakis:2018:BOA

[Mak18]   Charalambos G. Makridakis. On the Babuska–Osborn approach to finite element analysis: L^2 estimates for unstructured meshes. *Numerische Mathematik*, 139(4):831–844, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0955-5.

Mantica:2013:DIC

[Man13]   Giorgio Mantica. Direct and inverse computation of Jacobi matrices of infinite iterated function systems. *Numerische Mathematik*, 125(4):705–731, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0551-7.

Mansour:2015:GRK

[Man15a]   Dhia Mansour. Gauss–Runge–Kutta time discretization of wave equations on evolving surfaces. *Numerische Mathematik*, 129(1):21–53, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0632-2.

Manton:2015:FGN

[Man15b]   Jonathan H. Manton. A framework for generalising the Newton method and other iterative methods from Euclidean space to manifolds. *Numerische Mathematik*, 129(1):91–125, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0630-4.

Mascarenhas:2014:SBI

[Mas14]   Walter F. Mascarenhas. The stability of barycentric interpolation at the Chebyshev points of the second kind. *Numerische Mathematik*, 128(2):265–300, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0612-6.

Maset:2016:AFN

[Mas16] Stefano Maset. An abstract framework in the numerical solution of boundary value problems for neutral functional differential equations. *Numerische Mathematik*, 133(3):525–555, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/ accesspage/article/10.1007/s00211-015-0754-1; http: //link.springer.com/article/10.1007/s00211-015-0754-1.

Matt:2013:TME

[Mat13] Michael A. Matt. A C^r trivariate macro-element based on the Worsey–Farin split of a tetrahedron. *Numerische Mathematik*, 123(1):121–144, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link. springer.com/article/10.1007/s00211-012-0478-4.

Mazure:2011:HBA

[Maz11a] Marie-Laurence Mazure. How to build all Chebyshevian spline spaces good for geometric design? *Numerische Mathematik*, 119(3):517–556, November 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www. springerlink.com/openurl.asp?genre=article&issn=0029- 599X&volume=119&issue=3&spage=517.

Mazure:2011:QEC

[Maz11b] Marie-Laurence Mazure. Quasi Extended Chebyshev spaces and weight functions. *Numerische Mathematik*, 118(1):79–108, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl. asp?genre=article&issn=0029-599X&volume=118&issue=1&spage= 79.

Mascarenhas:2017:ERE

[MdC17] Walter F. Mascarenhas and André Pierro de Camargo. The effects of rounding errors in the nodes on barycentric interpolation. *Numerische Mathematik*, 135(1):113–141, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/ accesspage/article/10.1007/s00211-016-0798-x; http: //link.springer.com/article/10.1007/s00211-016-0798-x.

Mengi:2011:LNM

[Men11] Emre Mengi. Locating a nearest matrix with an eigenvalue of prespecified algebraic multiplicity. *Numerische Mathematik*, 118(1):109–135, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=109.

He:2017:UHO

[mHZZ17] Wen ming He, Zhimin Zhang, and Qingsong Zou. Ultraconvergence of high order FEMs for elliptic problems with variable coefficients. *Numerische Mathematik*, 136(1):215–248, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Mirebeau:2012:OAM

[Mir12] Jean-Marie Mirebeau. Optimally adapted meshes for finite elements of arbitrary order and $W^{1,p}$ norms. *Numerische Mathematik*, 120(2):271–305, February 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=2&spage=271.

Mirebeau:2014:EFM

[Mir14] Jean-Marie Mirebeau. Efficient fast marching with Finsler metrics. *Numerische Mathematik*, 126(3):515–557, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0571-3.

Mirebeau:2016:AAH

[Mir16] Jean-Marie Mirebeau. Adaptive, anisotropic and hierarchical cones of discrete convex functions. *Numerische Mathematik*, 132 (4):807–853, April 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-015-0732-7.

Massing:2014:SNO

[MLLR14] André Massing, Mats G. Larson, Anders Logg, and Marie E. Rognes. A stabilized Nitsche overlapping mesh method for the Stokes problem. *Numerische Mathematik*, 128(1):73–101, September 2014. CODEN NUMMA7. ISSN 0029-599X

(print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0603-z`.

McLachlan:2016:SME

[MMMKV16] Robert I. McLachlan, Klas Modin, Hans Munthe-Kaas, and Olivier Verdier. *B*-series methods are exactly the affine equivariant methods. *Numerische Mathematik*, 133(3):599–622, July 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0753-2`; `http://link.springer.com/article/10.1007/s00211-015-0753-2`.

Manna:2010:FNA

[MMMS10] Dante V. Manna, Luis A. Medina, Victor H. Moll, and Armin Straub. A fast numerical algorithm for the integration of rational functions. *Numerische Mathematik*, 115 (2):289–307, April 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=289`.

Motamed:2013:SCM

[MNT13] Mohammad Motamed, Fabio Nobile, and Raúl Tempone. A stochastic collocation method for the second order wave equation with a discontinuous random speed. *Numerische Mathematik*, 123 (3):493–536, March 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0493-5`.

Maree:2017:PEE

[MOGO17] S. C. Maree, L. Ortiz-Gracia, and C. W. Oosterlee. Pricing early-exercise and discrete barrier options by Shannon wavelet expansions. *Numerische Mathematik*, 136(4):1035–1070, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Monzon:2019:AIE

[Mon19] Gabriel Monzón. Anisotropic interpolation error estimate for arbitrary quadrilateral isoparametric elements. *Numerische Mathematik*, 143(2):315–338, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01061-7`.

Massoudi:2017:AMB

[MOR17]   Arash Massoudi, Mark R. Opmeer, and Timo Reis. The ADI method for bounded real and positive real Lur'e equations. *Numerische Mathematik*, 135(2):431–458, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0805-2; http://link.springer.com/article/10.1007/s00211-016-0805-2.

Makridakis:2011:PEA

[MOS11]   Charalambos Makridakis, Christoph Ortner, and Endre Süli. A priori error analysis of two force-based atomistic/continuum models of a periodic chain. *Numerische Mathematik*, 119 (1):83–121, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=83.

Maalqvist:2015:CEN

[MP15]   Axel Målqvist and Daniel Peterseim. Computation of eigenvalues by numerical upscaling. *Numerische Mathematik*, 130 (2):337–361, June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0665-6.

Maalqvist:2018:MTP

[MP18a]   Axel Målqvist and Anna Persson. Multiscale techniques for parabolic equations. *Numerische Mathematik*, 138(1):191–217, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0905-7; https://link.springer.com/content/pdf/10.1007/s00211-017-0905-7.pdf.

Moiola:2018:STT

[MP18b]   Andrea Moiola and Ilaria Perugia. A space-time Trefftz discontinuous Galerkin method for the acoustic wave equation in first-order formulation. *Numerische Mathematik*, 138(2):389–435, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0910-x.

Meng:2017:DGM

[MR17]   Xiong Meng and Jennifer K. Ryan. Discontinuous Galerkin methods for nonlinear scalar hyperbolic conservation laws: divided difference estimates and accuracy enhancement. *Numerische Mathematik*, 136(1):27–73, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/content/pdf/10.1007/s00211-016-0833-y.pdf`.

Merrien:2019:GTO

[MS19]   Jean-Louis Merrien and Tomas Sauer. Generalized Taylor operators and polynomial chains for Hermite subdivision schemes. *Numerische Mathematik*, 142(1):167–203, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0996-9`.

Magoules:2017:AOS

[MSV17]   Frédéric Magoulès, Daniel B. Szyld, and Cédric Venet. Asynchronous optimized Schwarz methods with and without overlap. *Numerische Mathematik*, 137(1):199–227, September 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Mardal:2013:USF

[MSW13]   Kent-Andre Mardal, Joachim Schöberl, and Ragnar Winther. A uniformly stable Fortin operator for the Taylor–Hood element. *Numerische Mathematik*, 123(3):537–551, March 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0492-6`.

Murakawa:2017:LFV

[Mur17]   Hideki Murakawa. A linear finite volume method for nonlinear cross-diffusion systems. *Numerische Mathematik*, 136(1):1–26, May 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Mustapha:2015:TSD

[Mus15]   Kassem Mustapha. Time-stepping discontinuous Galerkin methods for fractional diffusion problems. *Numerische Mathematik*, 130(3):497–516, July 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0669-2`.

Mertens:2015:SRC

[MV15]   Clara Mertens and Raf Vandebril. Short recurrences for computing extended Krylov bases for Hermitian and unitary matrices. *Numerische Mathematik*, 131(2):303–328, October 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0692-3`.

Nakatsukasa:2012:CNM

[Nak12]   Yuji Nakatsukasa. On the condition numbers of a multiple eigenvalue of a generalized eigenvalue problem. *Numerische Mathematik*, 121(3):531–544, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=531`.

Nakano:2017:CMC

[Nak17]   Yumiharu Nakano. Convergence of meshfree collocation methods for fully nonlinear parabolic equations. *Numerische Mathematik*, 136(3):703–723, July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Noumir:2014:NEM

[NDL14]   Youness Noumir, François Dubois, and Olivier Lafitte. Numerical Eulerian method for linearized gas dynamics in the high frequency regime. *Numerische Mathematik*, 127(4):641–683, August 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0598-5`.

Neilan:2010:NMF

[Nei10]   Michael Neilan. A nonconforming Morley finite element method for the fully nonlinear Monge–Ampère equation. *Numerische Mathematik*, 115(3):371–394, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=371`.

Niu:2010:MTF

[NGKN10]   Qiang Niu, Laura Grigori, Pawan Kumar, and Frédéric Nataf. Modified tangential frequency filtering decomposition and its Fourier analysis. *Numerische Mathematik*, 116

(1):123–148, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=123`.

Nievergelt:2010:MST

[Nie10] Yves Nievergelt. Median spheres: theory, algorithms, applications. *Numerische Mathematik*, 114(4):573–606, February 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=573`.

Nick:2021:CSC

[NKL21] Jörg Nick, Balázs Kovács, and Christian Lubich. Correction to: Stable and convergent fully discrete interior–exterior coupling of Maxwell's equations. *Numerische Mathematik*, 147(4):997–1000, April 2021. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-021-01196-6`; `https://www.math.utah.edu/pub/tex/bib/nummath2010.bib`; `https://link.springer.com/content/pdf/10.1007/s00211-021-01196-6.pdf`. See [KL17].

Napov:2011:SFO

[NN11] Artem Napov and Yvan Notay. Smoothing factor, order of prolongation and actual multigrid convergence. *Numerische Mathematik*, 118(3):457–483, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=457`.

Nakatsukasa:2015:CCZ

[NNT15] Yuji Nakatsukasa, Vanni Noferini, and Alex Townsend. Computing the common zeros of two bivariate functions via Bézout resultants. *Numerische Mathematik*, 129(1):181–209, January 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0635-z`.

Nochetto:2016:PPI

[NOS16] Ricardo H. Nochetto, Enrique Otárola, and Abner J. Salgado. Piecewise polynomial interpolation in Muckenhoupt weighted

Sobolev spaces and applications. *Numerische Mathematik*, 132 (1):85–130, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0709-6`.

Notaris:2016:CFQ

[Not16a] Sotirios E. Notaris. On a corrected Fejér quadrature formula of the second kind. *Numerische Mathematik*, 133(2):279–302, June 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0750-5`.

Notay:2016:NAM

[Not16b] Yvan Notay. A new algebraic multigrid approach for Stokes problems. *Numerische Mathematik*, 132(1):51–84, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0710-0`.

Notaris:2019:SPR

[Not19] Sotirios E. Notaris. Stieltjes polynomials and related quadrature formulae for a class of weight functions, II. *Numerische Mathematik*, 142(1):129–147, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1009-8`.

Nouy:2019:HOP

[Nou19] Anthony Nouy. Higher-order principal component analysis for the approximation of tensors in tree-based low-rank formats. *Numerische Mathematik*, 141(3):743–789, March 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-1017-8`.

Novati:2014:NAF

[Nov14] P. Novati. Numerical approximation to the fractional derivative operator. *Numerische Mathematik*, 127(3):539–566, July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0596-7`.

Nguyen:2015:CAF

[NP15] Giang T. Nguyen and Federico Poloni. Componentwise accurate fluid queue computations using doubling algorithms. *Numerische*

Mathematik, 130(4):763–792, August 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0675-4`.

Neitzel:2019:SCA

[NPVW19] Ira Neitzel, Konstantin Pieper, Boris Vexler, and Daniel Walter. A sparse control approach to optimal sensor placement in PDE-constrained parameter estimation problems. *Numerische Mathematik*, 143(4):943–984, December 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01073-3`.

Neuenkirch:2014:FOS

[NS14] Andreas Neuenkirch and Lukasz Szpruch. First order strong approximations of scalar SDEs defined in a domain. *Numerische Mathematik*, 128(1):103–136, September 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0606-4`.

Nobile:2016:CQO

[NTT16] F. Nobile, L. Tamellini, and R. Tempone. Convergence of quasi-optimal sparse-grid approximation of Hilbert-space-valued functions: application to random elliptic PDEs. *Numerische Mathematik*, 134(2):343–388, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0773-y`; `http://link.springer.com/article/10.1007/s00211-015-0773-y`.

Nobile:2018:SAM

[NTW18] Fabio Nobile, Raúl Tempone, and Sören Wolfers. Sparse approximation of multilinear problems with applications to kernel-based methods in UQ. *Numerische Mathematik*, 139(1):247–280, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0932-4`.

Neitzel:2012:PEE

[NV12] Ira Neitzel and Boris Vexler. A priori error estimates for space–time finite element discretization of semilinear parabolic optimal control problems. *Numerische Mathematik*, 120(2):

345–386, February 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=2&spage=345`.

Nochetto:2010:PEA

[NvPZ10] Ricardo H. Nochetto, Tobias von Petersdorff, and Chen-Song Zhang. A posteriori error analysis for a class of integral equations and variational inequalities. *Numerische Mathematik*, 116(3):519–552, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=519`.

Neitzel:2018:PLL

[NW18] I. Neitzel and W. Wollner. A priori L^2-discretization error estimates for the state in elliptic optimization problems with pointwise inequality state constraints. *Numerische Mathematik*, 138(2):273–299, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0906-6`.

Nochetto:2019:PRC

[NZ19] Ricardo H. Nochetto and Wujun Zhang. Pointwise rates of convergence for the Oliker–Prussner method for the Monge–Ampère equation. *Numerische Mathematik*, 141(1):253–288, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0988-9`.

Ovcharova:2017:CRA

[OB17] Nina Ovcharova and Lothar Banz. Coupling regularization and adaptive hp-BEM for the solution of a delamination problem. *Numerische Mathematik*, 137(2):303–337, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0879-5`.

Olson:2018:FBA

[OLOV18] Derek Olson, Xingjie Li, Christoph Ortner, and Brian Van Koten. Force-based atomistic/continuum blending for multilattices. *Numerische Mathematik*, 140(3):703–754, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

URL https://link.springer.com/article/10.1007/s00211-018-0979-x.

Olver:2010:SGO

[Olv10] Sheehan Olver. Shifted GMRES for oscillatory integrals. *Numerische Mathematik*, 114(4):607–628, February 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=607.

Olver:2012:GFS

[Olv12] Sheehan Olver. A general framework for solving Riemann–Hilbert problems numerically. *Numerische Mathematik*, 122 (2):305–340, October 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=2&spage=305.

Okayama:2013:EEE

[OMS13] Tomoaki Okayama, Takayasu Matsuo, and Masaaki Sugihara. Error estimates with explicit constants for Sinc approximation, Sinc quadrature and Sinc indefinite integration. *Numerische Mathematik*, 124(2):361–394, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0515-y.

Of:2015:ESF

[OPS15] G. Of, T. X. Phan, and O. Steinbach. An energy space finite element approach for elliptic Dirichlet boundary control problems. *Numerische Mathematik*, 129(4):723–748, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0653-x.

Olshanskii:2010:FEM

[OR10] Maxim A. Olshanskii and Arnold Reusken. A finite element method for surface PDEs: matrix properties. *Numerische Mathematik*, 114(3):491–520, January 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=3&spage=491.

Offner:2013:SCO

[ÖS13]   Philipp Öffner and Thomas Sonar. Spectral convergence for or-
          thogonal polynomials on triangles. *Numerische Mathematik*, 124
          (4):701–721, August 2013. CODEN NUMMA7. ISSN 0029-599X
          (print), 0945-3245 (electronic). URL http://link.springer.
          com/article/10.1007/s00211-013-0530-z.

Of:2014:ECF

[OS14]   G. Of and O. Steinbach. On the ellipticity of coupled finite el-
          ement and one-equation boundary element methods for bound-
          ary value problems. *Numerische Mathematik*, 127(3):567–593,
          July 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
          3245 (electronic). URL http://link.springer.com/article/
          10.1007/s00211-013-0593-x.

Ostermann:2019:TET

[OS19]   Alexander Ostermann and Chunmei Su. Two exponential-type in-
          tegrators for the "good" Boussinesq equation. *Numerische Math-
          ematik*, 143(3):683–712, November 2019. CODEN NUMMA7.
          ISSN 0029-599X (print), 0945-3245 (electronic). URL https://
          link.springer.com/article/10.1007/s00211-019-01064-4.

Okayama:2013:SMA

[OTMS13] Tomoaki Okayama, Ken'ichiro Tanaka, Takayasu Matsuo, and
          Masaaki Sugihara. DE-Sinc methods have almost the same con-
          vergence property as SE–Sinc methods even for a family of func-
          tions fitting the SE–Sinc methods. *Numerische Mathematik*,
          125(3):511–543, November 2013. CODEN NUMMA7. ISSN
          0029-599X (print), 0945-3245 (electronic). URL http://link.
          springer.com/article/10.1007/s00211-013-0540-x.

Ortner:2011:PEE

[OW11]   C. Ortner and W. Wollner. A priori error estimates for
          optimal control problems with pointwise constraints on the
          gradient of the state. *Numerische Mathematik*, 118(3):
          587–600, July 2011. CODEN NUMMA7. ISSN 0029-
          599X (print), 0945-3245 (electronic). URL http://www.
          springerlink.com/openurl.asp?genre=article&issn=0029-
          599X&volume=118&issue=3&spage=587.

Owen:2016:CEQ

[Owe16]   Art B. Owen. A constraint on extensible quadrature rules.
          Numerische Mathematik, 132(3):511–518, March 2016. CO-

DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0724-7`.

Oksa:2017:AQC

[OYV17]   Gabriel Oksa, Yusaku Yamamoto, and Marián Vajtersic. Asymptotic quadratic convergence of the serial block-Jacobi EVD algorithm for Hermitian matrices. *Numerische Mathematik*, 136(4): 1071–1095, August 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Oswald:2017:RRS

[OZ17]   Peter Oswald and Weiqi Zhou. Random reordering in SOR-type methods. *Numerische Mathematik*, 135(4):1207–1220, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0829-7`; `http://link.springer.com/article/10.1007/s00211-016-0829-7`. See correction [OZ23].

Oswald:2023:CRR

[OZ23]   Peter Oswald and Weiqi Zhou. Correction: Random reordering in SOR-type methods. *Numerische Mathematik*, 154(3-4):521–525, August 2023. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-023-01365-9`.

Peterseim:2013:FEN

[PC13]   Daniel Peterseim and Carsten Carstensen. Finite element network approximation of conductivity in particle composites. *Numerische Mathematik*, 124(1):73–97, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0509-1`.

Pinto:2018:CLT

[PCCC18]   Martin Campos Pinto, José A. Carrillo, Frédérique Charles, and Young-Pil Choi. Convergence of a linearly transformed particle method for aggregation equations. *Numerische Mathematik*, 139(4):743–793, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0958-2`; `https://link.springer.com/content/pdf/10.1007/s00211-018-0958-2.pdf`.

Petcu:2012:EDP

[Pet12]   Madalina Petcu. Exponential decay of the power spectrum and finite dimensionality for solutions of the three dimensional primitive equations. *Numerische Mathematik*, 120(1): 89–116, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=89`.

Pearson:2017:FIP

[PG17]   John W. Pearson and Jacek Gondzio. Fast interior point solution of quadratic programming problems arising from PDE-constrained optimization. *Numerische Mathematik*, 137 (4):959–999, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0892-8;` `https://link.springer.com/content/pdf/10.1007/s00211-017-0892-8.pdf`.

Peherstorfer:2018:CAM

[PGW18]   Benjamin Peherstorfer, Max Gunzburger, and Karen Willcox. Convergence analysis of multifidelity Monte Carlo estimation. *Numerische Mathematik*, 139(3):683–707, July 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0945-7`.

Pierre:2018:CEA

[Pie18]   Morgan Pierre. Convergence of exponential attractors for a time semi-discrete reaction-diffusion equation. *Numerische Mathematik*, 139(1):121–153, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0937-z`.

Pinelis:2018:AEM

[Pin18]   Iosif Pinelis. An alternative to the Euler–Maclaurin summation formula: approximating sums by integrals only. *Numerische Mathematik*, 140(3):755–790, November 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0978-y`.

Plaskota:2015:AIU

[Pla15]   Leszek Plaskota.   Automatic integration using asymptotically optimal adaptive Simpson quadrature.   *Numerische Mathematik*, 131(1):173–198, September 2015.   CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).   URL `http://link.springer.com/article/10.1007/s00211-014-0684-3;` `http://link.springer.com/content/pdf/10.1007/s00211-014-0684-3.pdf`.

Pearson:2018:RSP

[PPS18]   John W. Pearson, Jennifer Pestana, and David J. Silvester. Refined saddle-point preconditioners for discretized Stokes problems. *Numerische Mathematik*, 138(2):331–363, February 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0908-4;` `https://link.springer.com/content/pdf/10.1007/s00211-017-0908-4.pdf`.

Pranic:2013:RRO

[PR13]   Miroslav S. Pranić and Lothar Reichel.   Recurrence relations for orthogonal rational functions. *Numerische Mathematik*, 123(4):629–642, April 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).   URL `http://link.springer.com/article/10.1007/s00211-012-0502-8`.

Pruitt:2014:LTS

[Pru14]   Michael Pruitt.   Large time step maximum norm regularity of L-stable difference methods for parabolic equations.   *Numerische Mathematik*, 128(3):551–587, November 2014.   CODEN NUMMA7.   ISSN 0029-599X (print), 0945-3245 (electronic).   URL `http://link.springer.com/article/10.1007/s00211-014-0617-1`.

Pechstein:2011:AFM

[PS11]   Clemens Pechstein and Robert Scheichl. Analysis of FETI methods for multiscale PDEs. Part II: interface variation. *Numerische Mathematik*, 118(3):485–529, July 2011.   CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).   URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=485`.

Park:2013:QME

[PS13]   Chunjae Park and Dongwoo Sheen. A quadrilateral Morley element for biharmonic equations. *Numerische Mathematik*, 124 (2):395–413, June 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0517-9`.

Pejcev:2016:EBG

[PS16]   Aleksandar V. Pejcev and Miodrag M. Spalević. The error bounds of Gauss–Radau quadrature formulae with Bernstein–Szegő weight functions. *Numerische Mathematik*, 133(1):177–201, May 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0740-7`.

Pechstein:2017:TMR

[PS17a]   Astrid S. Pechstein and Joachim Schöberl. The TDNNS method for Reissner–Mindlin plates. *Numerische Mathematik*, 137(3):713–740, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0883-9`; `https://link.springer.com/content/pdf/10.1007/s00211-017-0883-9.pdf`.

Pozzi:2017:CSF

[PS17b]   Paola Pozzi and Björn Stinner. Curve shortening flow coupled to lateral diffusion. *Numerische Mathematik*, 135(4):1171–1205, April 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0828-8`; `http://link.springer.com/article/10.1007/s00211-016-0828-8`.

Pechstein:2018:ATM

[PS18]   Astrid S. Pechstein and Joachim Schöberl. An analysis of the TDNNS method using natural norms. *Numerische Mathematik*, 139(1):93–120, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0933-3`; `https://link.springer.com/content/pdf/10.1007/s00211-017-0933-3.pdf`.

Pazoto:2010:USN

[PSV10]   A. F. Pazoto, M. Sepúlveda, and O. Vera Villagrán. Uniform stabilization of numerical schemes for the critical generalized Korteweg–de Vries equation with damping. *Numerische Mathematik*, 116(2):317–356, August 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=317`.

Papez:2018:ELA

[PSV18]   J. Papez, Z. Strakos, and M. Vohralík. Estimating and localizing the algebraic and total numerical errors using flux reconstructions. *Numerische Mathematik*, 138(3):681–721, March 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0915-5`.

Pytlak:2010:PCG

[PT10]   R. Pytlak and T. Tarnawski. Preconditioned conjugate gradient algorithms for nonconvex problems with box constraints. *Numerische Mathematik*, 116(1):149–175, July 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=1&spage=`149.

Pham:2012:DDM

[PT12]   Duong Pham and Thanh Tran. A domain decomposition method for solving the hypersingular integral equation on the sphere with spherical splines. *Numerische Mathematik*, 120(1):117–151, January 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=1&spage=117`.

Pham:2014:SEP

[PT14]   T. D. Pham and T. Tran. Strongly elliptic pseudodifferential equations on the sphere with radial basis functions. *Numerische Mathematik*, 128(3):589–614, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0614-4`.

Pollock:2018:UDS

[PZ18] Sara Pollock and Yunrong Zhu. Uniqueness of discrete solutions of nonmonotone PDEs without a globally fine mesh condition. *Numerische Mathematik*, 139(4):845–865, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0956-4`.

Quarteroni:2011:AFV

[QRB11] Alfio Quarteroni and Ricardo Ruiz-Baier. Analysis of a finite volume element method for the Stokes problem. *Numerische Mathematik*, 118(4):737–764, August 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=4&spage=737`.

Qiu:2019:TDB

[QRSZ19] Tianyu Qiu, Alexander Rieder, Francisco-Javier Sayas, and Shougui Zhang. Time-domain boundary integral equation modeling of heat transmission problems. *Numerische Mathematik*, 143(1):223–259, September 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01040-y`; `https://link.springer.com/content/pdf/10.1007/s00211-019-01040-y.pdf`.

Rademacher:2019:MMA

[Rad19] Andreas Rademacher. Mesh and model adaptivity for frictional contact problems. *Numerische Mathematik*, 142(3):465–523, July 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01044-8`.

Rafiei:2011:RIF

[RB11] A. Rafiei and M. Bollhöfer. Robust incomplete factorization for nonsymmetric matrices. *Numerische Mathematik*, 118 (2):247–269, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=247`.

Reusken:2014:ATD

[RE14]   Arnold Reusken and Patrick Esser. Analysis of time discretiza-
tion methods for Stokes equations with a nonsmooth forcing
term. *Numerische Mathematik*, 126(2):293–319, February 2014.
CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
tronic). URL `http://link.springer.com/article/10.1007/`
`s00211-013-0564-2`.

Reichmann:2012:OST

[Rei12]   O. Reichmann. Optimal space–time adaptive wavelet meth-
ods for degenerate parabolic PDEs. *Numerische Mathe-
matik*, 121(2):337–365, June 2012. CODEN NUMMA7. ISSN
0029-599X (print), 0945-3245 (electronic). URL `http://www.`
`springerlink.com/openurl.asp?genre=article&issn=0029-`
`599X&volume=121&issue=2&spage=337`.

Renac:2017:RHO

[Ren17]   Florent Renac. A robust high-order Lagrange-projection
like scheme with large time steps for the isentropic Euler
equations. *Numerische Mathematik*, 135(2):493–519, Febru-
ary 2017. CODEN NUMMA7. ISSN 0029-599X (print),
0945-3245 (electronic). URL `http://link.springer.com/`
`accesspage/article/10.1007/s00211-016-0807-0`; `http:`
`//link.springer.com/article/10.1007/s00211-016-0807-0`.

Rozza:2013:RBA

[RHM13]   Gianluigi Rozza, D. B. Phuong Huynh, and Andrea Manzoni.
Reduced basis approximation and a posteriori error estimation
for Stokes flows in parametrized geometries: roles of the inf-
sup stability constants. *Numerische Mathematik*, 125(1):115–
152, September 2013. CODEN NUMMA7. ISSN 0029-599X
(print), 0945-3245 (electronic). URL `http://link.springer.`
`com/article/10.1007/s00211-013-0534-8`.

Ramos:2015:NSS

[RI15]   Alberto Gil C. P. Ramos and Arieh Iserles. Numerical solution of
Sturm–Liouville problems via Fer streamers. *Numerische Math-
ematik*, 131(3):541–565, November 2015. CODEN NUMMA7.
ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://`
`link.springer.com/article/10.1007/s00211-014-0695-0`.

Rieger:2019:PCI

[Rie19]   Janosch Rieger. Provably convergent implementations of the subdivision algorithm for the computation of invariant objects. *Numerische Mathematik*, 142(1):149–165, May 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0997-8.

Roman:2017:SAM

[RMS17]   Fabio Roman, Carla Manni, and Hendrik Speleers. Spectral analysis of matrices in Galerkin methods based on generalized B-splines with high smoothness. *Numerische Mathematik*, 135(1):169–216, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/accesspage/article/10.1007/s00211-016-0796-z; http://link.springer.com/article/10.1007/s00211-016-0796-z.

Respaud:2011:ANC

[RS11]   Thomas Respaud and Eric Sonnendrücker. Analysis of a new class of forward semi-Lagrangian schemes for the 1D Vlasov Poisson equations. *Numerische Mathematik*, 118(2):329–366, June 2011.   CODEN NUMMA7.   ISSN 0029-599X (print), 0945-3245 (electronic).   URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=329.

Rekatsinas:2018:OAW

[RS18]   Nikolaos Rekatsinas and Rob Stevenson. An optimal adaptive wavelet method for first order system least squares. *Numerische Mathematik*, 140(1):191–237, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0961-7; https://link.springer.com/content/pdf/10.1007/s00211-018-0961-7.pdf.

Richter:2013:ENR

[RSV13]   Thomas Richter, Andreas Springer, and Boris Vexler. Efficient numerical realization of discontinuous Galerkin methods for temporal discretization of parabolic problems. *Numerische Mathematik*, 124(1):151–182, May 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0511-7.

Runborg:2014:AHO

[Run14]   Olof Runborg. Analysis of high order fast interface tracking methods. *Numerische Mathematik*, 128(2):339–375, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0613-5`.

Rushai:2010:NSS

[Rus10]   V. D. Rushai. Numerical solution of some partial differential equations by means of a deterministic method of approximate functional integration. *Numerische Mathematik*, 115(1):153–167, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=153`.

Rosch:2012:PEE

[RW12]   Arnd Rösch and Daniel Wachsmuth. A-posteriori error estimates for optimal control problems with state and control constraints. *Numerische Mathematik*, 120(4):733–762, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=4&spage=733`.

Rieger:2017:SIS

[RW17]   Christian Rieger and Holger Wendland. Sampling inequalities for sparse grids. *Numerische Mathematik*, 136(2):439–466, June 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Stewart:2010:OCS

[SA10]   David E. Stewart and Mihai Anitescu. Optimal control of systems with discontinuous differential equations. *Numerische Mathematik*, 114(4):653–695, February 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=653`.

Saibaba:2017:RMF

[SAI17]   Arvind K. Saibaba, Alen Alexanderian, and Ilse C. F. Ipsen. Randomized matrix-free trace and log-determinant estimators.

Numerische Mathematik, 137(2):353–395, October 2017. CO-
DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).
URL `https://link.springer.com/article/10.1007/s00211-017-0880-z`.

Sauer:2017:PMS

[Sau17]   Tomas Sauer. Prony's method in several variables. *Numerische
Mathematik*, 136(2):411–438, June 2017. CODEN NUMMA7.
ISSN 0029-599X (print), 0945-3245 (electronic).

Sayas:2013:EEG

[Say13]   Francisco-Javier Sayas. Energy estimates for Galerkin semidis-
cretizations of time domain boundary integral equations. *Nu-
merische Mathematik*, 124(1):121–149, May 2013. CODEN
NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).
URL `http://link.springer.com/article/10.1007/s00211-012-0506-4`.

Scott:2013:IBSa

[SB13a]   Joseph K. Scott and Paul I. Barton. Interval bounds on the
solutions of semi-explicit index-one DAEs. Part 1: analysis.
Numerische Mathematik, 125(1):1–25, September 2013. CO-
DEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
tronic). URL `http://link.springer.com/article/10.1007/s00211-013-0531-y`.

Scott:2013:IBSb

[SB13b]   Joseph K. Scott and Paul I. Barton. Interval bounds on the
solutions of semi-explicit index-one DAEs. Part 2: computa-
tion. *Numerische Mathematik*, 125(1):27–60, September 2013.
CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-
tronic). URL `http://link.springer.com/article/10.1007/s00211-013-0532-x`.

Schaback:2010:UMM

[Sch10]   Robert Schaback. Unsymmetric meshless methods for operator
equations. *Numerische Mathematik*, 114(4):629–651, February
2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245
(electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=4&spage=629`.

Schweitzer:2011:MPP

[Sch11a] Marc Alexander Schweitzer. Multilevel particle-partition of unity method. *Numerische Mathematik*, 118(2):307–328, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=307`.

Schweitzer:2011:SEL

[Sch11b] Marc Alexander Schweitzer. Stable enrichment and local preconditioning in the particle-partition of unity method. *Numerische Mathematik*, 118(1):137–170, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=137`.

Schaback:2016:AWP

[Sch16] Robert Schaback. All well-posed problems have uniformly stable and convergent discretizations. *Numerische Mathematik*, 132(3):597–630, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0731-8`.

Sun:2013:EMS

[SCHH13] Jian-Qing Sun, Xiang-Ke Chang, Yi He, and Xing-Biao Hu. An extended multistep Shanks transformation and convergence acceleration algorithm with their convergence and stability analysis. *Numerische Mathematik*, 125(4):785–809, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0549-1`.

Spillane:2014:ARC

[SDH+14] N. Spillane, V. Dolean, P. Hauret, F. Nataf, C. Pechstein, and R. Scheichl. Abstract robust coarse spaces for systems of PDEs via generalized eigenproblems in the overlaps. *Numerische Mathematik*, 126(4):741–770, April 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0576-y`.

Segura:2013:CCZ

[Seg13] Javier Segura. Computing the complex zeros of special functions. *Numerische Mathematik*, 124(4):723–752, August 2013.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0528-6.

Schiela:2011:IPA

[SG11]   Anton Schiela and Andreas Günther. An interior point algorithm with inexact step computation in function space for state constrained optimal control. *Numerische Mathematik*, 119(2):373–407, October 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=2&spage=373.

Seidman:2012:FEA

[SG...12]   Thomas I. Seidman, Matthias K. Gobbert, and David W. Trott . . . . Finite element approximation for time-dependent diffusion with measure-valued source. *Numerische Mathematik*, 122(4):709–723, December 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-012-0474-8.

Schmidt:2017:AET

[SH17]   Kersten Schmidt and Ralf Hiptmair. Asymptotic expansion techniques for singularly perturbed boundary integral equations. *Numerische Mathematik*, 137(2):397–415, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-017-0881-y.

Sun:2018:QOC

[SH18]   Pengtao Sun and Xuehai Huang. Quasi-optimal convergence rate for an adaptive hybridizable C^0 discontinuous Galerkin method for Kirchhoff plates. *Numerische Mathematik*, 139(4):795–829, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0953-7.

Sprung:2019:HOC

[SH19]   Benjamin Sprung and Thorsten Hohage. Higher order convergence rates for Bregman iterated variational regularization of inverse problems. *Numerische Mathematik*, 141(1):215–252, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL https://link.springer.com/article/10.1007/s00211-018-0987-x.

Sidi:2011:ACG

[Sid11a]   Avram Sidi. Acceleration of convergence of general linear sequences by the Shanks transformation. *Numerische Mathematik*, 119(4):725–764, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=4&spage=725`.

Sidje:2011:STT

[Sid11b]   Roger B. Sidje. On the simultaneous tridiagonalization of two symmetric matrices. *Numerische Mathematik*, 118(3): 549–566, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=549`.

Singler:2012:BPM

[Sin12]   John R. Singler. Balanced POD for model reduction of linear PDE systems: convergence theory. *Numerische Mathematik*, 121(1):127–164, May 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=127`.

Storath:2019:SSD

[SKW19]   Martin Storath, Lukas Kiefer, and Andreas Weinmann. Smoothing for signals with discontinuities using higher order Mumford–Shah models. *Numerische Mathematik*, 143(2):423–460, October 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01052-8`.

Speleers:2016:EQI

[SM16]   Hendrik Speleers and Carla Manni. Effortless quasi-interpolation in hierarchical spaces. *Numerische Mathematik*, 132(1):155–184, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0711-z`.

Smyrlis:2010:MFM

[Smy10]   Yiorgos-Sokratis Smyrlis. Mathematical foundation of the MFS for certain elliptic systems in linear elasticity. *Numerische Mathematik*, 115(2):319–340, April 2010. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=2&spage=319`.

Sorokina:2010:ISM

[Sor10] T. Sorokina. Intrinsic supersmoothness of multivariate splines. *Numerische Mathematik*, 116(3):421–434, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=`421.

Sousedik:2013:NBS

[Sou13] Bedrich Sousedík. Nested BDDC for a saddle-point problem. *Numerische Mathematik*, 125(4):761–783, December 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0548-2`.

Schwab:2011:FEN

[SS11] Christoph Schwab and Rob Stevenson. Fast evaluation of nonlinear functionals of tensor product wavelet expansions. *Numerische Mathematik*, 119(4):765–786, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=4&spage=`765.

Saad:2015:CFV

[SS15] Bilal Saad and Mazen Saad. A combined finite volume-nonconforming finite element scheme for compressible two phase flow in porous media. *Numerische Mathematik*, 129(4):691–722, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0651-z`.

Smears:2016:DGF

[SS16] Iain Smears and Endre Süli. Discontinuous Galerkin finite element methods for time-dependent Hamilton–Jacobi-Bellman equations with Cordes coefficients. *Numerische Mathematik*, 133 (1):141–176, May 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0741-6`.

Schlichting:2018:AIU

[SS18]   André Schlichting and Christian Seis. Analysis of the implicit up-wind finite volume scheme with rough coefficients. *Numerische Mathematik*, 139(1):155–186, May 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0935-1`.

SanMartin:2012:MLG

[SSS12]   Jorge San Martín, Jean-François Scheid, and Loredana Smaranda. A modified Lagrange–Galerkin method for a fluid-rigid system with discontinuous density. *Numerische Mathematik*, 122(2):341–382, October 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=2&spage=341`.

Shank:2016:ELR

[SSS16]   Stephen D. Shank, Valeria Simoncini, and Daniel B. Szyld. Efficient low-rank solution of generalized Lyapunov equations. *Numerische Mathematik*, 134(2):327–342, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0777-7`; `http://link.springer.com/article/10.1007/s00211-015-0777-7`.

Schroder:2016:BEA

[ST16]   Christian Schröder and Leo Taslaman. Backward error analysis of the shift-and-invert Arnoldi algorithm. *Numerische Mathematik*, 133(4):819–843, August 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0759-9`; `http://link.springer.com/content/pdf/10.1007/s00211-015-0759-9.pdf`.

Stephan:2018:CTP

[ST18]   Ernst P. Stephan and Matthias T. Teltscher. Collocation with trigonometric polynomials for integral equations to the mixed boundary value problem. *Numerische Mathematik*, 140(1):153–190, September 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0960-8`.

Stenberg:2010:NMF

[Ste10] Rolf Stenberg. A nonstandard mixed finite element family. *Numerische Mathematik*, 115(1):131–139, March 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=1&spage=█131.

Steinbach:2014:BEM

[Ste14] O. Steinbach. Boundary element methods for variational inequalities. *Numerische Mathematik*, 126(1):173–197, January 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-013-0554-4.

Stern:2015:BSP

[Ste15] Ari Stern. Banach space projections and Petrov–Galerkin estimates. *Numerische Mathematik*, 130(1):125–133, May 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0658-5.

Stiemer:2010:GMM

[Sti10] Marcus Stiemer. A Galerkin method for mixed parabolic-elliptic partial differential equations. *Numerische Mathematik*, 116(3):435–462, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=435.

Strobach:2015:COO

[Str15] Peter Strobach. Constrained optimization of the overdetermined Zimmermann compressor for nonorthogonal joint matrix diagonalization. *Numerische Mathematik*, 129(3):563–586, March 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL http://link.springer.com/article/10.1007/s00211-014-0645-x.

Sun:2016:MFQ

[Sun16] Jiguang Sun. A mixed FEM for the quad-curl eigenvalue problem. *Numerische Mathematik*, 132(1):185–200, January 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (elec-

tronic). URL `http://link.springer.com/article/10.1007/s00211-015-0708-7`.

Spigler:2012:SFM

[SV12]   Renato Spigler and Marco Vianello. The 'phase function' method to solve second-order asymptotically polynomial differential equations. *Numerische Mathematik*, 121 (3):565–586, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=565`.

Sauter:2013:GMR

[SV13]   S. Sauter and A. Veit. A Galerkin method for retarded boundary integral equations with smooth and compactly supported temporal basis functions. *Numerische Mathematik*, 123(1):145–176, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0483-7`.

Sauter:2016:ATD

[SV16]   S. Sauter and A. Veit. Adaptive time discretization for retarded potentials. *Numerische Mathematik*, 132(3):569–595, March 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0726-5`.

Schumaker:2011:SST

[SW11a]   Larry L. Schumaker and Lujun Wang. Spline spaces on TR-meshes with hanging vertices. *Numerische Mathematik*, 118 (3):531–548, July 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=3&spage=531`.

Steinbach:2011:SBE

[SW11b]   O. Steinbach and M. Windisch. Stable boundary element domain decomposition methods for the Helmholtz equation. *Numerische Mathematik*, 118(1):171–195, May 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=1&spage=171`.

Schumacher:2019:VCD

[SW19]   Henrik Schumacher and Max Wardetzky. Variational convergence of discrete minimal surfaces. *Numerische Mathematik*, 141(1): 173–213, January 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0993-z`.

Si:2016:USE

[SWS16]   Zhiyong Si, Jilu Wang, and Weiwei Sun. Unconditional stability and error estimates of modified characteristics FEMs for the Navier–Stokes equations. *Numerische Mathematik*, 134 (1):139–161, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0767-9`; `http://link.springer.com/article/10.1007/s00211-015-0767-9`.

Szyld:2013:LCA

[SX13]   Daniel B. Szyld and Fei Xue. Local convergence analysis of several inexact Newton-type algorithms for general nonlinear eigenvalue problems. *Numerische Mathematik*, 123(2):333–362, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0489-1`.

Szyld:2015:LCNa

[SX15a]   Daniel B. Szyld and Fei Xue. Local convergence of Newton-like methods for degenerate eigenvalues of nonlinear eigenproblems. I. Classical algorithms. *Numerische Mathematik*, 129(2): 353–381, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0639-8`.

Szyld:2015:LCNb

[SX15b]   Daniel B. Szyld and Fei Xue. Local convergence of Newton-like methods for degenerate eigenvalues of nonlinear eigenproblems: II. Accelerated algorithms. *Numerische Mathematik*, 129(2): 383–403, February 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0640-2`.

Scholz:2017:AEW

[SY17]   Stephan Scholz and Harry Yserentant. On the approximation
          of electronic wavefunctions by anisotropic Gauss and Gauss–
          Hermite functions. *Numerische Mathematik*, 136(3):841–874,
          July 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
          3245 (electronic).

Shi:2013:ERA

[SZ13]   Zhongci Shi and Xuying Zhao. Error reduction of the adap-
          tive conforming and nonconforming finite element methods with
          red-green refinement. *Numerische Mathematik*, 123(3):553–584,
          March 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-
          3245 (electronic). URL `http://link.springer.com/article/`
          `10.1007/s00211-012-0495-3`.

Sun:2012:FDM

[SzS12]   Weiwei Sun and Zhi zhong Sun. Finite difference methods
          for a nonlinear and strongly coupled heat and moisture trans-
          port system in textile materials. *Numerische Mathematik*,
          120(1):153–187, January 2012. CODEN NUMMA7. ISSN
          0029-599X (print), 0945-3245 (electronic). URL `http://www.`
          `springerlink.com/openurl.asp?genre=article&issn=0029-`
          `599X&volume=120&issue=1&spage=153`.

Takacs:2015:RAO

[Tak15]   Stefan Takacs. A robust all-at-once multigrid method for
          the Stokes control problem. *Numerische Mathematik*, 130(3):
          517–540, July 2015. CODEN NUMMA7. ISSN 0029-599X
          (print), 0945-3245 (electronic). URL `http://link.springer.`
          `com/article/10.1007/s00211-014-0674-5`.

Tanaka:2013:SMA

[TOMS13] Ken'ichiro Tanaka, Tomoaki Okayama, Takayasu Matsuo, and
          Masaaki Sugihara. DE-Sinc methods have almost the same con-
          vergence property as SE–Sinc methods even for a family of func-
          tions fitting the SE–Sinc methods. *Numerische Mathematik*,
          125(3):545–568, November 2013. CODEN NUMMA7. ISSN
          0029-599X (print), 0945-3245 (electronic). URL `http://link.`
          `springer.com/article/10.1007/s00211-013-0541-9`.

Towers:2018:COG

[Tow18]   John D. Towers. Convergence via OSLC of the Godunov scheme
          for a scalar conservation law with time and space flux disconti-

nuities. *Numerische Mathematik*, 139(4):939–969, August 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0957-3`.

Teckentrup:2013:FAM

[TSGU13] A. L. Teckentrup, R. Scheichl, M. B. Giles, and E. Ullmann. Further analysis of multilevel Monte Carlo methods for elliptic PDEs with random coefficients. *Numerische Mathematik*, 125(3): 569–600, November 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0546-4`.

Tregubov:2015:GMS

[TT15] I. Tregubov and T. Tran. A Galerkin method with spherical splines for the shallow water equations on a sphere: error analysis. *Numerische Mathematik*, 129(4):783–814, April 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0654-9`.

Tu:2011:TLB

[Tu11] Xuemin Tu. A three-level BDDC algorithm for a saddle point problem. *Numerische Mathematik*, 119(1):189–217, September 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=1&spage=189`.

Tone:2015:LTD

[TWW15] Florentina Tone, Xiaoming Wang, and Djoko Wirosoetisno. Long-time dynamics of 2 d double-diffusive convection: analysis and/of numerics. *Numerische Mathematik*, 130(3):541–566, July 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0670-9`.

Tran:2017:AQO

[TWZ17] Hoang Tran, Clayton G. Webster, and Guannan Zhang. Analysis of quasi-optimal polynomial approximations for parameterized PDEs with deterministic and stochastic coefficients. *Numerische Mathematik*, 137(2):451–493, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0878-6`.

Vandebril:2011:UUS

[VD11] Raf Vandebril and Gianna M. Del Corso. A unification of unitary similarity transforms to compressed representations. *Numerische Mathematik*, 119(4):641–665, December 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=119&issue=4&spage=641`.

Venel:2011:NSC

[Ven11] Juliette Venel. A numerical scheme for a class of sweeping processes. *Numerische Mathematik*, 118(2):367–400, June 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=2&spage=367`.

Verwer:2010:RKM

[Ver10] J. G. Verwer. Runge–Kutta methods and viscous wave equations. *Numerische Mathematik*, 115(3):485–507, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=485`.

Vermeeren:2017:MEV

[Ver17] Mats Vermeeren. Modified equations for variational integrators. *Numerische Mathematik*, 137(4):1001–1037, December 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0896-4`.

Vico:2014:BIE

[VGG14] Felipe Vico, Leslie Greengard, and Zydrunas Gimbutas. Boundary integral equation analysis on the sphere. *Numerische Mathematik*, 128(3):463–487, November 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0619-z`.

Barel:2010:IDS

[VVVF10] Marc Van Barel, Raf Vandebril, Paul Van Dooren, and Katrijn Frederix. Implicit double shift QR-algorithm for companion matrices. *Numerische Mathematik*, 116(2):177–212, August 2010.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=2&spage=177`.

vanyen:2014:ALS

[vyKS14]   Romain Nguyen van yen, Dmitry Kolomenskiy, and Kai Schneider. Approximation of the Laplace and Stokes operators with Dirichlet boundary conditions through volume penalization: a spectral viewpoint. *Numerische Mathematik*, 128(2):301–338, October 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0610-8`.

Wachsmuth:2017:CAC

[Wac17]   Gerd Wachsmuth. Conforming approximation of convex functions with the finite element method. *Numerische Mathematik*, 137(3):741–772, November 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0884-8`.

Wang:2012:ESO

[Wan12]   Xiaoming Wang. An efficient second order in time scheme for approximating long time statistical properties of the two dimensional Navier–Stokes equations. *Numerische Mathematik*, 121(4):753–779, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=753`.

Wang:2018:USC

[Wan18]   Jilu Wang. Unconditional stability and convergence of Crank–Nicolson Galerkin FEMs for a nonlinear Schrödinger–Helmholtz system. *Numerische Mathematik*, 139(2):479–503, June 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0944-0`.

Wulff:2016:RKT

[WE16]   Claudia Wulff and Chris Evans. Runge–Kutta time semidiscretizations of semilinear PDEs with non-smooth data. *Numerische Mathematik*, 134(2):413–440, October 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

URL `http://link.springer.com/article/10.1007/s00211-015-0776-8`; `http://link.springer.com/content/pdf/10.1007/s00211-015-0776-8.pdf`.

Weisser:2011:REE

[Wei11] Steffen Weißer. Residual error estimate for BEM-based FEM on polygonal meshes. *Numerische Mathematik*, 118(4): 765–788, August 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=118&issue=4&spage=765`.

Wendland:2010:MAS

[Wen10] Holger Wendland. Multiscale analysis in Sobolev spaces on bounded domains. *Numerische Mathematik*, 116(3):493–517, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=493`.

Wilkins:2013:MBM

[WG13] Gautam Wilkins and Ming Gu. A modified Brent's method for finding zeros of functions. *Numerische Mathematik*, 123(1): 177–188, January 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0480-x`.

Wang:2014:DGM

[WHC14] Fei Wang, Weimin Han, and Xiaoliang Cheng. Discontinuous Galerkin methods for solving a quasistatic contact problem. *Numerische Mathematik*, 126(4):771–800, April 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0574-0`.

Williams:2019:ADG

[Wil19] David M. Williams. An analysis of discontinuous Galerkin methods for the compressible Euler equations: entropy and L_2 stability. *Numerische Mathematik*, 141(4):1079–1120, April 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01027-9`.

Wu:2010:ASE

[WMS10] Fuke Wu, Xuerong Mao, and Lukas Szpruch. Almost sure exponential stability of numerical solutions for stochastic delay differential equations. *Numerische Mathematik*, 115(4): 681–697, June 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=4&spage=681`.

Wormell:2019:SGM

[Wor19] Caroline Wormell. Spectral Galerkin methods for transfer operators in uniformly expanding dynamics. *Numerische Mathematik*, 142(2):421–463, June 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01031-z`.

Wu:2019:PPH

[WS19] Kailiang Wu and Chi-Wang Shu. Provably positive high-order schemes for ideal magnetohydrodynamics: analysis on general meshes. *Numerische Mathematik*, 142(4):995–1047, August 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01042-w`.

Wang:2012:SNR

[WX12] Feng Wang and Xuejun Xu. Some new residual-based a posteriori error estimators for the mortar finite element methods. *Numerische Mathematik*, 120(3):543–571, March 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=3&spage=543`.

Wheeler:2012:MFM

[WXY12] Mary Wheeler, Guangri Xue, and Ivan Yotov. A multipoint flux mixed finite element method on distorted quadrilaterals and hexahedra. *Numerische Mathematik*, 121(1): 165–204, May 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=1&spage=165`.

Wang:2010:PSI

[WZ10]   Wansheng Wang and Chengjian Zhang. Preserving stability implicit Euler method for nonlinear Volterra and neutral functional differential equations in Banach space. *Numerische Mathematik*, 115(3):451–474, May 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=115&issue=3&spage=451`.

Wang:2013:AEF

[WZH13]   Haiyong Wang, Lun Zhang, and Daan Huybrechs. Asymptotic expansions and fast computation of oscillatory Hilbert transforms. *Numerische Mathematik*, 123(4):709–743, April 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0501-9`.

Xiang:2010:EBA

[XCW10]   Shuhuang Xiang, Xiaojun Chen, and Haiyong Wang. Error bounds for approximation in Chebyshev points. *Numerische Mathematik*, 116(3):463–491, September 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=116&issue=3&spage=`463.

Xue:2017:HAD

[XL17]   Jungong Xue and Ren-Cang Li. Highly accurate doubling algorithms for M-matrix algebraic Riccati equations. *Numerische Mathematik*, 135(3):733–767, March 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0815-0`; `http://link.springer.com/article/10.1007/s00211-016-0815-0`.

Xue:2012:ASMb

[XXL12a] Jungong Xue, Shufang Xu, and Ren-Cang Li. Accurate solutions of M-matrix algebraic Riccati equations. *Numerische Mathematik*, 120(4):671–700, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=4&spage=671`.

Xue:2012:ASMa

[XXL12b] Jungong Xue, Shufang Xu, and Ren-Cang Li. Accurate solutions of M-matrix Sylvester equations. *Numerische Mathematik*, 120(4):639–670, April 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=120&issue=4&spage=639`.

Xu:2010:ALQ

[XZ10] Jinchao Xu and Qingsong Zou. Analysis of linear and quadratic simplicial finite volume methods for elliptic equations. *Numerische Mathematik*, 114(3):469–492, January 2010. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=114&issue=3&spage=469`.

Yuan:2014:SCM

[YBTB14] Jing Yuan, Egil Bae, Xue-Cheng Tai, and Yuri Boykov. A spatially continuous max-flow and min-cut framework for binary labeling problems. *Numerische Mathematik*, 126(3):559–587, March 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0569-x`.

Yang:2013:DGM

[YS13] Yang Yang and Chi-Wang Shu. Discontinuous Galerkin method for hyperbolic equations involving δ-singularities: negative-order norm error estimates and applications. *Numerische Mathematik*, 124(4):753–781, August 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0526-8`.

Yin:2014:CFM

[YWY14] Li Yin, Jiming Wu, and Yanzhong Yao. A cell functional minimization scheme for domain decomposition method on nonorthogonal and non-matching meshes. *Numerische Mathematik*, 128(4):773–804, December 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0623-3`.

Zampini:2013:BNN

[Zam13]   Stefano Zampini. Balancing Neumann–Neumann methods for the cardiac bidomain model. *Numerische Mathematik*, 123(2): 363–393, February 2013. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-012-0488-2`.

Zhang:2014:HOS

[ZBB14]   Qinghui Zhang, Uday Banerjee, and Ivo Babuska. Higher order stable generalized finite element method. *Numerische Mathematik*, 128(1):1–29, September 2014. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0609-1`.

Zhao:2018:RIN

[ZBJ18]   Zhi Zhao, Zheng-Jian Bai, and Xiao-Qing Jin. A Riemannian inexact Newton–CG method for constructing a nonnegative matrix with prescribed realizable spectrum. *Numerische Mathematik*, 140(4):827–855, December 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-018-0982-2`.

Zhu:2017:IAP

[ZDQ17]   Shengfeng Zhu, Luca Dedè, and Alfio Quarteroni. Isogeometric analysis and proper orthogonal decomposition for parabolic problems. *Numerische Mathematik*, 135(2):333–370, February 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0802-5`; `http://link.springer.com/article/10.1007/s00211-016-0802-5`.

Zhang:2016:ADG

[Zha16a]   Sheng Zhang. Analysis of a discontinuous Galerkin method for the bending problem of Koiter shell. *Numerische Mathematik*, 133(2):333–370, June 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0747-0`.

Zhang:2016:SFE

[Zha16b]   Shuo Zhang. Stable finite element pair for Stokes problem and discrete Stokes complex on quadrilateral grids. *Numerische Mathematik*, 133(2):371–408, June 2016. CODEN NUMMA7. ISSN

0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-015-0749-y`.

Zhang:2018:RDF

[Zha18]   Shuo Zhang. Regular decomposition and a framework of order reduced methods for fourth order problems. *Numerische Mathematik*, 138(1):241–271, January 2018. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0902-x`.

Zeng:2012:CQM

[ZLL⁺12]   Wei Zeng, Lok Ming Lui, Feng Luo, Tony Fan-Cheong Chan, Shing-Tung Yau, et al. Computing quasiconformal maps using an auxiliary metric and discrete curvature flow. *Numerische Mathematik*, 121(4):671–703, August 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=4&spage=671`.

Zhang:2016:SWC

[ZRK16]   Zhongqiang Zhang, Boris Rozovskii, and George Em Karniadakis. Strong and weak convergence order of finite element methods for stochastic PDEs with spatial white noise. *Numerische Mathematik*, 134(1):61–89, September 2016. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-015-0768-8`; `http://link.springer.com/article/10.1007/s00211-015-0768-8`.

Zhang:2012:MEP

[ZS12]   Xiangxiong Zhang and Chi-Wang Shu. A minimum entropy principle of high order schemes for gas dynamics equations. *Numerische Mathematik*, 121(3):545–563, July 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=121&issue=3&spage=545`.

Zhang:2014:EET

[ZS14]   Qiang Zhang and Chi-Wang Shu. Error estimates for the third order explicit Runge–Kutta discontinuous Galerkin method for a linear hyperbolic equation in one-dimension with discontinuous initial data. *Numerische Mathematik*, 126(4):703–740, April 2014.

CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-013-0573-1`.

Zhou:2017:FVM

[ZS17]   Guanyu Zhou and Norikazu Saito. Finite volume methods for a Keller–Segel system: discrete energy, error estimates and numerical blow-up analysis. *Numerische Mathematik*, 135(1):265–311, January 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/accesspage/article/10.1007/s00211-016-0793-2`; `http://link.springer.com/article/10.1007/s00211-016-0793-2`.

Zelati:2012:MAT

[ZT12]   Michele Coti Zelati and Florentina Tone. Multivalued attractors and their approximation: applications to the Navier–Stokes equations. *Numerische Mathematik*, 122(3):421–441, November 2012. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=122&issue=3&spage=`▉421.

Zou:2011:HEE

[ZVKG11] Qingsong Zou, Andreas Veeser, Ralf Kornhuber, and Carsten Gräser. Hierarchical error estimates for the energy functional in obstacle problems. *Numerische Mathematik*, 117(4):653–677, April 2011. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0029-599X&volume=117&issue=4&spage=653`.

Zhong:2019:RIP

[ZWJ19]   Min Zhong, Wei Wang, and Qinian Jin. Regularization of inverse problems by two-point gradient methods in Banach spaces. *Numerische Mathematik*, 143(3):713–747, November 2019. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-019-01068-0`.

Zhang:2015:VCF

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

June 2015. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.com/article/10.1007/s00211-014-0664-7`.