A Bibliography of Publications about the Fast Multipole Method

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26 March 2019
Version 2.132

Title word cross-reference

1 [TPKP12]. $\mathbf{S15K}$ [WGL+98]. 2 [GROZ04, Lab98, Liu8, ON08a, RS94, VGZB09, WYW05, WXQL08]. 3 [BDMN03b, BHR04, BHGR04, CDM98, DDL13, Dar02, GP08, GD03, JMC97, NW89, NH97, ON08b, PG94, QCG15, Sar03, TCD17, WY05, WLL+07, WZC+17, iYNK02, YB01, ZY05]. $\mathbf{S50/Mflop}$ [WSB+97]. $\mathbf{S7.3/Mflops}$ [KFM99]. $^3$ [PG96b]. $h = 0$ [DNS90]. $^K$ [MG05, CK95b]. $\mathbf{LU}$ [MG07]. $\mathbf{R^N}$ [CBR02]. $N$ [Aar85, Alu94, APG94, Alu96, AGPS98, AAL+01, And99, Ano94a, Ano94c, ADB94, ADBGP99, Bag02, Bar86, BADP96, BAAD+97, BADG00, BAD01, BS97, BN97, BOX00, Bor86, BDD07, BME90, BME93, BEM94, DH86, Dem95, Dem96a, Dem96b, DHM03, FRE+08, FM95, FM96, FQG+92, HTG02, HJ96, IFM09, ILM05, Kat89, KFM99, KMT00, KMT94, LKM02, Liu94, MIES90, MTES94, MT95, MD12, MG05, MMC99, McD97, NMH02, Oku96, PGB05, Per99, PRL03, SWW94, Sal96, Sha06, SP99, Sin92, SHG95, SHT+95, SRK+12, TMES94, TWYC06, TYON12, TYNO12, Ten98, TL14, WPM+02, WS92, WS93, WN14, WSWL95, WSH+12, Xu95, Yin15, YF05, Ano94b, CK95a, CK95b, GKS94, GKS98, Gre90b, HNY+09, HN10, HS95, KK95, Xue98]. $N \log N$ [AO10, DYP93, ADO11]. $\nu$ [SH07]. $O(\log_2 n)$ [JBL02]. $O(N)$ [BSL11, Deh02, DTG96, OKF14, Xue98]. $O(N \log N)$ [BH86, FGM11, PJY95]. $r^{-\lambda}$ [CJ05]. $R^{-\nu}$ [SH07]. $r \pm 1_{12}$ [Pan95].
Body [Ano94b, CK95b, GKS94, KK95, BEM94, GKS98, Gre90b, HNY+99, HN10, HS95, Xue98, AGPS98, AAL+01, And99, AD894, Bag02, BADG00, BS97, BN97, BOX00, FM96, HTG02, HN10, KFM99, KFMT00, SWW94, SHG95, SHT+95, Ten98, WPM+02, WS93, Xu95, Yin15, YF05, Aar85, Alu94, APG94, Alu96, Ano94a, Ano94c, ADBGP99, Bar86, BADP96, BAAD+97, BAD01, BSO70, BME90, BME93, CK95a, DHI86, Dem95, Dem96a, Dem96b, DHM03, FRE+98, FM95, FQG+92, IFM90, IOM05, Kats89, KMT94, LKM02, Liu94, MIES90, MTES94, MT95, NH86, Oku96, PGB05, Per99, PRL03, Sal96, Sha06, SP99, Sin92, SR+12, TMS94, TWYC06, TYON12, TYO12, TL14, WS92, WN14, WSL95, WSH+12].

- Dimensional [Lab98].
- Means [MG05].


3 [OME+92]. 3-D [YW07a]. 3051-66 [YB97]. 3rd [IEE92a]. 3D [LO96b].

4 [Ano94a, FM95, FM96, MTES94, MT95, TMES94]. 42 [HNY+09].

5 [KFM99, KFMT00]. 512 [MHI07]. 512-core [MHI07]. 512-Gflops [MHI07].

6 [MKF00, MKF01, MKFD02, MFKN03].

8 [MD12]. '88 [KK88]. 8th [BGPW00].

90 [IEE00]. '91 [Wel91]. '92 [IEE92b]. '93 [IEE93]. '94 [IEE94c]. '96 [ACM96]. 967 [MB16]. 98 [BGPW00]. 98 [Ano97b].

A-posteriori [XTH09]. above [GSC01].

Accelerate [CS08b, LSCM96, LKM02, TYNO12].

Accelerated [BCL+92, EB96, SH07, WZC+17, WN14, AC17, BHE+94, BHER94, EB94, EG01, GD09, GODZ10, GAD13, Ham11, JH08, LCM07, MR07, QCG15, Tak14, WLL+07, ZD05].

Accelerating [GHRW98, MG09, WC94a]. Acceleration [CKE90, LCZ07, SWW99, VCM00, BK96, KCF+05, SGD+04].

accelerator [ATMK03, MD12]. accomplishments [Ano90]. Accuracy [CDCD97, DY98, CB09, GL96, JP89].

Accurate [SRPD06, AHLP93, Dac06, EG09a, EG13, HKPK99, ZGD+16].

achieves [WGL+98]. Achieving [SSF96].

ACM [IEE02, Kar95]. ACM/IEEE [Kar95, ACM97].

acoustic [AD05, BSL09, BN07, CWK08, GF06b, GF06a, HW10, TCW08, WJYO06, ZGD+16].

acoustic-structure [GF06b, GF06a].

acoustics [FPG05, OLL04]. Acta [Ise97].

Adaptation [McK96]. Adapted [NT96, NT94]. adaption [BLA05].
Adaptive [BT95, BSL09, BS97, BFO99, GE13, GP08, HEGH14, KK95, NPR93, PD15, SHHG93, SHT+95, Ten98, ZT07, AC17, BCP08, CGR88, CGR99, CHL06, CFR10, FOCEB96, GY08, GL06, GCH+18, HJZ09, LCL+12, LB92a, LCHM10, LCHM13, PRL03, YBZ04, ZHPS10]. addition [HC08, KSC99]. address [HS95]. Advanced [HM86, Win95, dCGQS06, TYON12]. Advances [BLA05, SM05]. advantage [Ano92]. Adventures [CDCD97]. anomalies [KSS10]. AFMPB [LCHM10, LCHM13]. after [ZQSW94]. Algebraic [Car90, YTK14, Of08, PRT92]. Algorithm [BS00, Bor86, BFO99, CDM98, CSMCxx, Deh02, DD95, EB96, JMC97, JMBC98, KK95, Lea92, LO96a, MBS+00, MG11, MPPA96, NPR93, OKF14, SLC96, SLC97, WC94b, WS93, WN14, YR99, ZBS15, AR91, Alu96, AP99, ATR+12, BH86, Bar86, BJWS96, BS97, BCL+92, BP03, BCOY94, BP93, CGR88, CG04, CC13, CGR99, DRS96, EGHT97, EB94, EG08, EG09a, EG09b, Erg11, EG13, GH08, GDDC08, GKD09, GR87, GR88b, HS08, HSA91, HC10, HR98, JMBMC98, KM00, KK16, KS98a, LM02, LDB96, LB91, LB92a, LB92b, LSL04, LH08, LC93, LC94, LWM+92, MG07, MG09, MCBB07, NW89, NKV94, NT09, OR99, OLL03, OLL04, PJY95, PRL03, Rah06, RCVW07, Sar03, ST02, SK04, Sud04, TCVW08, TC09, WK18, WJY006, WL96, Xue98, YRGS13, YB204, Yin96, YB12]. algorithm [ZCG00, ZBS11, ZCL+98, ZB95, ZD05, Lea92, MB16]. Algorithms [APG94, AGPS98, Ano94c, ADBG99, BF78, Bha97, BN97, Boy92a, CK95a, DS00, DGR96, LCE+06, Liu94, MBS+00, MBS15, Pri94, Ten98, BC08, BHE+94, BHER94, BME93, BEM94, DMH03, Eas95, Gre94, K+96, Mak93, PRT92, Pel98, Win95, YB95]. ALiCE [HTG02]. All-to-All [HP95]. almost [FL13]. Alpha [WGL+98]. Alpha/Linux [WGL+98]. Alternative [AD05, CL91]. AMBER [DK93]. AMBERCUBE [DK93]. AMS [RSS96]. Analyse [Ano97b]. analyses [Ham11, XWY+08]. Analysis [AP99, AP00, BHH98, ERT12, HAS02, Hol12, JMBC98, LCK11, Sat10, VTG91, Ano97b, Car07, Car09, Dar00a, EG13, JMBMC98, JKJC08, KSC99, NH97, OC03, OLL04, Pe98, RC97, RSS96, SGd+04, SS07, Sud04, WY05, WY07b, WY07a]. Analytic [ABD04, BSSF96a, LCD14, BSSF96b, DDL13]. Analytical [Gus98, LBGS16, CC13]. analyze [SHM98]. Analyzing [CSON00, JMC97]. Angeles [AG88, Rod89]. Anger [CC04]. angular [GY08, WHG96b]. Animated [BT95]. Ankara [Ano97b]. Annual [Ano95b, Ano96, Ano97a, IEE92a, Mak93, PA02]. anomalies [ON09a]. Antennas [IEE94a, IEE95, IEE96a, IEE97, MI95]. anterpolation [Sar03]. Appendix [Ano90]. Application [LSCM96, Lj96b, Lj96a, NH97, SGG+04, TCD17, VOD08, WSW+95, DHM03, ERS01, GROZ04, HNO06, LWM+02, SGd+04, YR98]. Applications [CK95b, CCLKL09, OSW05, BHER94, HNY+09, LGG+13, Ot07, ON08b, PD89, ZY05, dCGQS06, TDBEE11]. Applied [BGPW00, HDG+15, RSS96, Ano95b, Ano96, Ano97a, BN07, JdR+18, MB05, OMC08]. Approach [ÁC94, SHMC97, WC94a, AHLP93, BWS+95, KAN95, KAN96, PGB05, SHM98, WJG96a, YS18]. Approximate [Beb06, CDGS03, CDGS05, CPD17, FPG05, Rei99, MG09, PRT92, YGSR01]. approximating [LX17]. Approximation [ADO11, LSCM06, AO10, GP08, ST06]. approximations [DC07, HW11, Lem04, RŠŽ09]. Apr [Dem95, Dem96a, Dem96b]. April [PA02, Web91]. Aquous [GP93]. Arbitrary [LS93, WZC+17, EIM+92, GSC01, GL96,
KS98b, LM02, Tau03b, YRGS13.
Architectural [DRS96]. Architecture [Lea92, NMH06, Sin92, TYON12, TYNO12].
Architectures [SHG95, HGD11, LCL+12, MMC99].

arithmetic [LKM02], armed [KLM+09],
array [CKS91]. article [Dac10]. ASCI [WSB+97]. aspects [CHJN03]. assemblies [CPP93, LDB96]. Astrophysical [Ano94a, KFM99, MTE94, MT95, MFK03, WS92, HN10, TME94].
Astrophysics [FQG+92, HNY+99].
Asymptotic [BK96, Dar00a]. atom [DKG92, FRE+08]. Atomic [AC94, DKG92a, Kon93]. Atoms [McD97, Pie93]. August [IEE96b, RSS96].
Australian [Ano92]. Automatic [RGK12]. Autotuning [HEGH14].

Avalon [WGL+98]. Axial [SMC97, SM97].

B [Ano90], balance [BAAD+97], Balanced [PD99]. Balancing [SHT+95, Ten98, FG96, MG05, PGd+15].

Baltimore [IEE96a, IEE02]. Banff [ER92]. Barnes [AAL+01, Ano94b, BJWS96, BGLM05, GKS94, GKS98, SHT+95, WSF+12, ZBS11, ZBS15]. barrier [WHG96b]. Based [AAB+17, CD13, GSS98a, GSS00, MPPA96, YB01, AO10, BLA05, BN98, BHGR05, FMI+93, GRO04, GKD09, GP08, HHKP09, HLL08, HLL+18, LM02, LDB96, Liu98, NN12, Sud04, Tak14, WL96, ZHP9811, ZGD+16].

bases [FBHJ04, TW03]. basis [BLA05, BL97, BN98, BCR01, Buh03, CN02, GH08, GDC08, GD07a, LCZ07, Yin06].

BE [SGP+04]. Beach [IEE95]. Behaviour [ON09a]. Beltrami [SHMC97, SM97, SMC97].

BEM [And08, BN07, FP0005, GF06b, GF06a, HKS05, MB05, NH97, Tau03a, WYW05, XWT09, TX09, XY08, hYtWbWL08, YBK+11, ZY05, ZGD+16]. BEM-FEM [MB05]. Beowulf [WWF02]. Between [AAB+17, Pie93, CDM90, RŠŽ09]. beyond [ZB14]. Bianisotropic [SHMC97, SHM98].


Biomolecular [SRP06, YBK+11, GCH+18, KPS99, LCM07, LCHM10, LCHM13, SK93].


block-diagonal [CG04]. blocking [TSIM16]. Blue [FRE+08]. BO12 [LB91].

board [ATMK01]. Bodies [BT95]. Body [APG98, AAL+01, And99, Ano94b, ADB94, Bag02, BADG00, BS97, BN97, BOX00, CK95b, FM96, GKS94, HP95, HTG02, HJ96, KFM99, KFMT00, KK95, Pie93, SWW94, SHG95, SHT+95, Ten98, WPM+02, WZC+17, WS93, Xu95, Yin15, YF05, Aar85, Alu94, AP94, Alu96, Ano94a, Ano94c, ADBP99, App85, Bar86, BAP96, BAAD+97, BAD01, BDS07, BME90, BME93, BEM94, CK95a, DH96, Dem95, Dem96a, Dem96b, DHM03, EIM+92, EFT+93, FRE+08, FM95, FQG+92, GKS98, Gre90b, HFKM98, HNY+99, HN10, HS95, IFM90, IHM05, Kat89, KMT94, LKM02, Liu94, MIES90, MTE94, MT95, MD12, MG05, MCM99, NMO96, OME+92, Oku96, PGB95, Pers99, PG96a, PRL03, Sal96, Sha06, SP99, Sin92, SRK+12, SCM+90, TME94, TW06, YON12, TNO12, TL14, WS92, WN14, WSL95, WSH+12]. body [Xue98, ZBG15]. Bologna [Ano95a].

Boltzmann [BH03, LCHM10, LCHM13].

Book [Gav11]. Born [ADO11, HCO10].

Boston [K+96]. both [HN+99].

Boulevard [ACM99]. boundaries [Mil98].

Boundary [BH03, BR93, Br04, LJR96b, LJR96a, MBA97, OSW06b, SS07, WZC+17, WSW+95, AP03, Atk97, BSL09, Bes00, BWS+95, BHR04].
BHGR04, Car06, Car07, CWHG97, CWK08, Gas97, GBMN06, Gav11, GOS99, GP08, GD09, GODZ10, GAD13, Ham11, KMC09, KCF+05, LS05, LOSZ07a, LOSZ07b, LCQF18, LHL08, Lin95, Liu08, Liu09, LC94, Mil08, OSW05, OSW06a, O08, OKS09, ON08a, ON09a, ON09b, PN95, QCG15, RZ09, SGG+04, Sat10, SKT93, Sin95, Tak14, TCD17, TW03, Tan04, VZG09, WY05, WY07b, WY07a, WSWL95, XJM08, Yin09, iYNK02, YAO18, YSM05, BR93].

Boundary-Integral [LJ96b].
boundary-value [Lin95].
Bounds [GSS98a, GSS00, WK18].
box [FD09].
breast [ES04].
Breit [JdR+18].
Bridging [AAB+17].
Broadband [WJYO06, GD09].
Brownian [DHM03].
Building [TD09].
buried [ESRS01, GSC01].

C [BGLM05].
CA [B+95, Ano95b, Ano96, Ano97a, Kar95, Wel91]. Calculate [BVW96, BV96b, BV96a, BM09].
calculated [DM90, YA018]. calculates [ATMK03].
Calculating [BF099, DM90, LCHM10, LCHM13, SKT94].
Calculation [Deh02, HA17, NT96, BJ86, BH03, FGM11, LDB96, ON08a, ON09a, ON09b, PN95, QCG15, RZ09, SGG+04, Sat10, SKT93, Sin95, Tak14, TCD17, TW03, Tan04, VZG09, WY05, WY07b, WY07a, WSWL95, XJM08, Yin09, iYNK02, YA018, YSM05, BR93].

Boundary-Integral [LJ96b].
boundary-value [Lin95].
Bounds [GSS98a, GSS00, WK18].
box [FD09].
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Breit [JdR+18].
Bridging [AAB+17].
Broadband [WJYO06, GD09].
Brownian [DHM03].
Building [TD09].
buried [ESRS01, GSC01].

C [BGLM05].
CA [B+95, Ano95b, Ano96, Ano97a, Kar95, Wel91]. Calculate [BVW96, BV96b, BV96a, BM09].
calculated [DM90, YA018]. calculates [ATMK03].
Calculating [BF099, DM90, LCHM10, LCHM13, SKT94].
Calculation [Deh02, HA17, NT96, BJ86, BH03, FGM11, LDB96, ON08a, ON09a, ON09b, PN95, QCG15, RZ09, SGG+04, Sat10, SKT93, Sin95, Tak14, TCD17, TW03, Tan04, VZG09, WY05, WY07b, WY07a, WSWL95, XJM08, Yin09, iYNK02, YA018, YSM05, BR93].

Boundary-Integral [LJ96b].
boundary-value [Lin95].
Bounds [GSS98a, GSS00, WK18].
box [FD09].
breast [ES04].
Breit [JdR+18].
Bridging [AAB+17].
Broadband [WJYO06, GD09].
Brownian [DHM03].
Building [TD09].
buried [ESRS01, GSC01].

C [BGLM05].
CA [B+95, Ano95b, Ano96, Ano97a, Kar95, Wel91]. Calculate [BVW96, BV96b, BV96a, BM09].
calculated [DM90, YA018]. calculates [ATMK03].
Calculating [BF099, DM90, LCHM10, LCHM13, SKT94].
Calculation [Deh02, HA17, NT96, BJ86, BH03, FGM11, LDB96, ON08a, ON09a, ON09b, PN95, QCG15, RZ09, SGG+04, Sat10, SKT93, Sin95, Tak14, TCD17, TW03, Tan04, VZG09, WY05, WY07b, WY07a, WSWL95, XJM08, Yin09, iYNK02, YA018, YSM05, BR93].

Boundary-Integral [LJ96b].
boundary-value [Lin95].
Bounds [GSS98a, GSS00, WK18].
box [FD09].
breast [ES04].
Breit [JdR+18].
Bridging [AAB+17].
Broadband [WJYO06, GD09].
Brownian [DHM03].
Building [TD09].
buried [ESRS01, GSC01].
competitive [Ano92]. Complement [MG11].
Complex [CSMCxx, MGM95, MBS15, SLC96, SLC97, SyI03, AC17, BGGC06, CC10, CC12, NW89, Rei99, TW03, ZB95]. complexes [KSS10].

Complexity
[JBL02, Pan92, YTK14, Dur00a].

Component [CKB11, JKCGJ08].

Composite [EG13, GM94]. Composites [SMC97, GH98, WY05, WY07a]. Comprehensive [AC94]. compressible [ECL99].

Comput [BEM94]. Computation [Gue97, GD03, GD05, GODZ10, McD97, MSV92, Pie93, YRGS13, ATMK03, AO10, FOCB96]. Computational [BEM94]. Computations [ERT12, Pan92, KAN95, KAN96, OKS09, SyI03, VOD08, WJGH96a, YF98].

Computer [AT87, Ano94a, BGGT90, BP88, CKE08, FM96, HE88, IEE92a, KFMT00, MTE94, MFKN03, Bar86, EIM92, EFT93, FMI93, FM95, HFKM98, HG90, KMT94, MIE980, MT95, MHI07, OMH94, OYK94, OME92, SCM90, TMES94].


Correlations [ZQSW94]. Cosmological [Bag02, BH88, IMF09, YF05, Spr05].

Coulomb [ADG96, BFO99, CFH89, DNS90, DK92a, DK92b, DK92c, DTG96, GGM01, GH02, HJZ09, KMT94, MIE980, MT95, MHI07, OMH94, OYK94, OME92, SCM90, TMES94].

Coupling [BDMN03a, BDMN03b, Dar02, DM07, GBMN06, MB05].

Coulombic [HA17, PG96b, SKT93]. Coupled [LS05, MBS15, PNB94, SMD94, NMDK99].

Coupling [BDMN03a, BDMN03b, Dar02, DM07, GBMN06, MB05].

CPU [HEGH14]. crack [iYNK02]. cracks [ON08a, WY05]. CRAY [BAAD97].

Creeping [Kro99, Kro01, Kro02]. Cross [Gue97, GP08]. Crystal [MPPA96].

crystals [ON08b]. CS [Dem95, Dem96a, Dem96b]. Cubic [WWF02]. cultura [Ano95a]. Current [CG97, Les96]. curved [GH08]. curves [STZ14]. Custom [PA02]. cutoff [KLM09].

cutoffs [DK92b]. cylinders [CG97, ZCG00]. Cylindrical [SHMC97, SMC97, SM97, SHM98].
DREAM-1A [OMH+94]. driven [BSL11, LY14]. drops [ZD05]. dual [CCKL09, LCQF18, Liu08]. dual-level [LCQF18]. Dynamic [HEGH14, BAAD+97, CK95a, FG96, MG05]. Dynamical [SWW94, WSWL95]. Dynamics [BGGT90, BHGS90, BP88, CDCD97, HM86, JBL02, LCP93, MPPA96, NT96, OKF14, Sch94, TDGEE11, WLMP99, ATMK03, BSL11, BAL91, BSS97, BCL+92, BHE+94, BHER94, BCOY93, BCOY94, BP93, CvHM94, DK93, EGHT97, FMI+93, GDK89, GKZ07, HGS90, Ich02, KM00, KP05a, LM02, LBC91, LBI+97, LMCPP92, LWM+02, LRJ+99, NKV94, OKF14, OMH+94, OYK+14, OP07, PGB05, SF18, Ske89, VGZB09, VCM00, WS91, Win95, ZB95]. DynamO [BSL11]. Economization [LRW95]. Editor [GW98]. Editors [MBS+00, DS00]. EEG [KCF+05]. effects [AB95, BPK85]. efficiency [HLL+18, KK16]. Efficient [BS97, DH04a, EG08, HS08, NT96, RS06, SKT93, Ami00, App85, Bar86, BHR04, CL91, CCZ97, CWD08, EG09b, GR88b, KM00, Kro01, KS98a, LDB96, OI08, PN95, TSM16, WL96, WHG94, YF98, ZGD+16]. eigendecomposition [CG04]. eigensolver [ZGD+16]. Eighth [HTA+97]. elastic [CCZ97, TC09]. elasticity [GKM96]. elastodynamic [CB14]. elastoplastic [FY07b]. Elastostatic [WZC+17, GG16, GH98, HLL08, Liu08, MB05, iYNK02, ZY05]. elastostatics [OSW05, PN95]. Electric [Gus98, PBN94, ZZ93, ABD04, CS82, FH92, WFC08]. Electrically [HAS02, GDDC08]. Electrode [HB93]. Electrode-Electrolyte [HB93]. Electromagnetic [CSMCxx, EMRV92, GA96a, GA96b, SLC97, BGCC06, Car09, ESR01, ES04, GH08, MG07, MD98]. Electromagnetics [Ano95b, Ano96, Ano97a, CML+97, Erg11, Gib08, LZL04, OMC08]. Electromagnetism [CDGS03, CDGS05, BDMN03a, BDMN03b, Car06, Car07, DM07, Sy103]. electron [GS98, NH97]. electronic [Goe99, Kon93, KS98a, SSF96]. Electrostatic [CFH89, NT96, Pei98, BAL91, BHR04, BHR05, CC13, CG97, DM90, EGHT97, FOCB96, GB11, GM94, LCM07, NT94, OKS09, PA14, SGD+04, SKT94, YAO18]. Electrostatics [SRPD06, BWS+95, FGM11, LCM10, LCM13, YBK+11]. Element [BR93, LJ96b, LJ96a, MBA97, WZC+17, WSW+95, BSL09, Beb06, BWS+95, BH03, BHR04, BHR04, CWK08, Gav11, GP08, GD09, GODZ10, Ham11, KMC09, KCF+05, LS05, LOSZ07a, LOSZ07b, LCQF18, LHL08, Liu08, Liu09, OSW05, OSW06b, Of08, OKS09, PN95, SG+04, Sat10, SS07, TCD17, VW02, VCM00, WY05, WY07b, WY07a, WSWL95, XJM08, YSM05]. Element-Boundary [LJ96a, SG+04]. elements [BR93, Bre04, FST05, GAD13, Ros06]. Elizabeth [IEE97]. elliptic [A+97, Beb06, FST05, LC14]. elliptical [Ros06]. Elongation [KLM+09]. embedded [SHM98]. EMC [HU97]. energetic [BPK85]. energies [DTG96, FGM11]. energy [BSSF96a, BSSF96b, CC13, CPP93, FOCB96]. energy-conserving [CC13]. Engineering [MBS15, SM05]. Ensemble [LCP93]. entire [LC07]. entirely [Sar03]. Equation [CD13, GHRW98, GD03, MG11, Nii04, SC95, Sta95a, AP03, ABD04, BH03, CHL06, CGG+06a, CGG+06b, CC10, CC12, CRW93, DDL13, Dar02, EG09a, GM93, GKM96, GR97, GK04, GD06, GD09, GAD13, Kro09, LHL08, LC94, MCB07, MMNB06, NN12, OLL04, ON08a, ON09a, QCG15, RS97, Rok98, Sta95b, Tak14, WLL+07, WFC08, iYNK02, ZC00, ZKL+07]. Equations [DY98, AHL93, AD05, Atk97, BDMN03a, BDMN03b, Car06, Car07,
CCZ97, DH04b, Fuj98, Gas97, GBMN06, GOS99, GD07b, Hav03, LZL04, LC14, LC93, NT09, ON08b, ON09a, ON09b, RSZ09, RO04, Rok85, Rok90, RS94, Tan04, TG08, VW02, WLL+07, Yin09, ZX19, ZC00.
equispaced [DR95].

Erratum [BEM94, FLZB97a, SL97a].

Error [BH89, CC04, CC05, GKD09, GSS98a, GSS00, KSC99, OC05, PSPS95, PSS95, SP97, Dac09, Dac10, OC03, Pel98, WK18, Dar00a].

error-controlled [Dac09, Dac10].

Error-estimates [PSS95].

errors [AP00].
estimates [CC04, CC05, PSPS95, PSS95, SP97].

Euler [RS94].

Eulerian [NMDK99].

EuMC [Ano95a].

European [Ano95a].

Evaluate [CDM98].

Evaluated [ZZ93].

Evaluating [CS98b].

Evaluations [CS98b].
event [BSL11].
event-driven [BSL11].

evolution [SWJ+05].

Ewald [Ami00, BAL91, CL91, DYP93, DNS90, FMI+93, KM00, LS93, PG96b, SL97b, SKPP95].

exascale [YB12].

Excitation [GIS98].

execution [BDS07, LY14, YF98].

exhibition [Ano95a].

Existence [YSM05].

Expansion [Le 97, OC05, Pan95, SPS96, AHL93, OC03, WL96, WXQLO8, WK18].

Expansions [Boy92b, C05, McD97, RGKM12, AR91, GB11, Len08, MD08, SH07].

explicit [JP89, Pud16].

exponential [TWYC06].

Expressions [Pan95, CS82].

extended [KS11].

Extending [CDJ07, DC07].

Extension [GY08, TYON12].

eXtensions [TYON12].

exterior [AP03].

Extraction [YB01, JC04, NW89].

extreme [WSH+12].

extreme-scale [WSH+12].

facility [RTZ+96].

FAMUSAMM [EGHT97].

Far [LSCM96, HW11].

Far-Field [LSCM96, HW11].

Fast [And92, BT95, BL97, BN98, BCR01, BPT07, BK15, BPT+14, BF78, BCP08, BMK09, BW96, BV96b, BS00, BL98, BL05, BFO99, Boy92a, BHR04, BHGR04, BHGR05, CDM98, CDGS03, CDGS05, CL12, CC15, CSMCx, CC297, CS98a, CS98b, CWA14, CN02, CJL+97, CC10, CC12, CPD17, CKB11, Dac06, Dar97, DYZ8, Dem95, Dem96a, Dem96b, DD95, DR95, DGR06, EB94, EB96, EMRV92, ESM98, EG13, FOCD96, Gas97, Gav11, GSC01, GP93, Gre94, GHRW98, GW98, Gue97, GD06, GD07a, GD08, GAD13, GA96a, GA96b, GS98b, HOST95, HAS02, HC10, HA17, HEGH14, JMC97, JMC98, JBM98, KLZ+06, KMK09, KKF+05, LCD14, LHL08, Liu09, LX17, LC93, LSCM96, LJ96b, LJ96a, LO96a, LRW95, M95, M96, MBS+00, Mak04, MG11, MB16, MB05, MGM95, MK96].

Fast [MPPA96, MMNB06, NW89, NT96, Nil04, NPR93, O07, OKS90, PSN04, PD15, Pri94, QCG15, RRR05, RW94, RS94, SSVW94, Sch94, SG97, SHMC97, SMCG97, SHHG93, SHT+95, SC94, SC95, SLC96, SLC97, Sta95a, Sp01, STZ14, WC94a, WC94b, WLMP99, WY05, WY07b, WXQLO8, WZC+17, WS95, WXY+08, XJM08, YR99, Yin09, Yin15, YNS+09, YB01, ZY05, AHL93, AR91, AGR88a, AGR88b, AP99, AP00, Ami00, ATMK03, ATNR+12, AC17, BDMN03a, BDMN03b, BSL09, BG97, BW8+95, BV96a, BSS97, BCL+92, BP03, BSSF96a, BSSF96b, BK96, CD07, CC04, CC05, Car09, CGR88, CWHG97, CDF10, CWK08, CCKL09, CGR99, C0L06, CCG+06b, CRG01, CPP93, CWD08, CRW93, CFR08, CB09, Dac09, Dac10, Dar02, DM07, DM12, Dar00a, Dar00b, DH04a, DH04b, DC07, DRS96, ESR01, ES04].

fast [Eng11, EG08, EG09a, EG09b, Erg11, EG01,
FGM11, FLZB97a, FLZB97b, FPG05, FD09, Fuji98, GDDC08, GBMN06, GF06b, GF06a, GIS98, GYO8, GR02, G16, GROZ04, GKZ09, GE13, GR87, GR88b, GG89, GG90, G91, GH02, GCH, G+18, GD05, GD09, GODZ10, Ham11, HHKP09, HS08, Hav03, HLL08, HW10, HW11, HU97, HR98, HGD11, HJZ09, HLL+18, IYK16, Kan15, KM00, KS10, KS11, Kon93, KLM+09, KS98a, KS98b, KS04, KP05a, KP05b, KP08, KAN95, KAN96, Lab98, LOSZ07b, LCL+12, LBS16, LB91, LB92a, LB92b, LJ98, LZL04, LCQF18, LGG+13, LC14, Liu08, LY14, LCZ07, LCM07, LCHM10, LCHM13, LWM+02, Mak99, MG07, MG09, MR07, MRH14, NT09, NN12, NH97, OR98, OSW07, OW06a, O08, OCK+03, OK+14, OMC08, OLL03, OLL04, OFH+08, OP07, ON09a, PJY96, PSPS94]. Fast [PSPS95, PSS95, PA14, Rah96, RRR03, RSZ09, RTZ+96, RO04, RTA+08, RS97, RS06, RCW07, SGG+04, Sar03, Sat10, SL97a, SL97b, ST06, SWW99, SM97, SHM98, SH07, SKT94, Sim95, SKPP95, SP97, Sta95b, SB96, ST02, SK04, Sud04, Sy03, Tak14, T3IM16, TCD17, Tau03b, Tau04, T08, T09, TD09, VOD08, W18, WJY06, WL96, W05, W07a, WLL+07, WFC08, WH94, WJGH96a, WH96a, WJGH96b, WH96b, WSL95, XWT09, YRGS13, yTvlWl08, Y98, YB97, YBZ03, YBZ04, Yn06, YBK+11, YBYN12, YBY12, YBYN13, iYNK2, YAO18, YSM05, ZCG00, ZT07, ZHPS10, ZHPS11, ZB14, ZX19, ZCL+98, ZKl+07, ZGD+16, ZB95, AAB+17, Boy92b, CD13, CB14, CKE08, CFR10, DDL13, EMT09, FL13, GR97, G98a, Lec92, LCP93, RGK912, SL91, SLCL98a, SLCL98b, YTK14]. Fast-multipole [Dar97, EG01, Tak14, ZCL+98]. FCCM [PA02]. FE [SGD+04]. February [B+95]. FEM [MB05]. FFT [TPKP12]. FTTM [HLL08, LHL08, OLL04]. fiber [WY07a]. fiber-reinforced [WY07a]. Field [LSCM96, PA02, ABD04, BHR04, BHGR05, HW11, MD98, OKS09, WFC08, Xue98]. Field-Programmable [PA02]. Fields [CK95b, Gre87, SHMC97, SM97, SB08, YR99, CK95a, CG97, DC07, ESM98, GG16, Gre88, GR88a, GM94, GH98, HR98, OLL03, Pe98, ST06, SM97, VOD08]. Fifth [An09, IEE96b, MC92, IEE98]. filtering [BP03, YR98]. Fine [Bar86]. Fine [Bar86]. Finite [FST05, LJ96b, LJ96a, Beb06, Ich02, LS05, LCZ07, SGG+04, Sat10, WV02]. Finite-Element [LJ96b]. finite-sized [Sat10]. First [OKF14, AHLP93]. First-Principles [OKF14]. FISC [SLCL98a, SLCL98b]. Fitted [AC94]. fitting [LBGS16, TWY06]. Flexibly [YS18]. floating [LKM02]. floating-point [LKM02]. Flow [Pri94, ECL02, Gre90a, GKM96, G04, NMDK99, Tau03a]. Flows [GCC+99, WSW+95, BCH93, Kro99, Kro01, Kro02]. Fluid [SWW94, TDBE01, Bat03, OMH+94, VGBD09, WSL95]. fluids [Ang17, BPK85, LRJ+99, ZB14]. FLY [BAD01, BCD06]. FM [BN07]. FN-BEM [BN07]. FMA [LOG96]. FMBEM [CWK08]. FMD [LWM+02]. FMM [CCG+06a, EMR92, HNO06, JH90, MRH14, ON08a, ON08b, ON09b, PG96b, SGG+04, SB98, YS18, ZHPS10]. Fock [KAN96, WJGHG96a, KAN95]. Fokker [Lem98, Lem04]. Force [Deh02, BH86, EIM+92, JP99, KK16, Xue98, YRGS13]. force-calculation [BH86]. Forces [BP88, CDM98, NT96, Pie93, WZC+17, BH03, C5K91, DM90, LDB96]. Form [CJ05, AP99, BCP08, SH07]. Formation [FM96, FM95, SWJ+05]. forms [KSC99, Rah96, Rok98]. Formula [CL12]. formulae [NN12]. Formulation [AAL+01, JBL02, CB14, CWK08, CCKL09, CFR08, CCR10, DM07, GD07b, Liu08, OSW06a, DM12]. Formulations
Fortran [GDK89]. Foundations [IEE92a].

Fourier [Boy92b, EMT99, Boy92a, CD13, DR95, EB94, EB96, HLL08, HW10, LHL08, OLLL03, OLL04, Sar03, ZHPS11].

Fourier-Based [CD13].


Fredholm [AHL093]. free [BSL11, BKM09, Car06]. Frequencies [GHRW98, DH04b, ZC00]. Frequency [Nil04, BK96, DH04a, KMC09, QC015, TSIM16, ZC00].

Functional [DRS96, KAN95, KAN96, LBS16, WJGHG96a, WJGHG96b].

Functions [Boy92b, BL97, BN98, BCR01, Buh03, CBN02, KMC09, LCZ07, Tau03b, Yin06].

Future [EMT99].

GADGET [Spr05]. GADGET-2 [Spr05]. galactic [MFK00]. galaxies [SWJ+05].

Galaxy [FM96, FM95]. Galerkin [AHL93, AP03, HS95, OSW05, XWT09].

Gap [ABB+17]. Gauss [GS98a, GS91].

Gaussian [BSSF96a, BSSF96b, KS98a, Le 97, Ros06, Sal96]. Gegenbauer [CC05].

General [LCD14, McD97, BSL11, FG96].

Generalization [Boy92b]. Generalized [ADO11, CBG02, GR02, KAN95, KAN96, ST06, SK04, WJGHG96a, YR96].

Generation [HL15, Sal96]. geometric [CDF10].

Geometries [MGM95, AC17, KS98b, NW89]. Geometry [SC94, TW03].

Ggflips [MHI07, WGL+98]. giant [RTZ+96]. gigaflops [WSB+97].

GMRES [BGGC06]. Good [Ten98].

GOTPM [DKPH04]. GPU [GE13, Ham11, HL15, HEGH14, Kan15, WN14].

GPM accelerate [Ham11]. GPUs [HN+F09, HN10, YNS^+09, YBK^+11, YB0Y12, YB0Y13]. gradients [BSSF96a, LBS16]. grain [Bar06]. grained [PA14].

graining [GB11]. granularities [BEM93, BEM94]. GRAPE [Ano94a, CKE08, EIM^+92, EFT^+93, FM95, FM96, KFM99, KFMT00, MIE90].

MTES94, MT95, MT98, MKF00, MKF01, MKF02, MFK03, Mak04, MHI07, MD12, OME^+92, TMS94, TYN012, YF05].

GRAPE-2A [EIM^+92]. GRAPE-3 [OME^+92]. GRAPE-4 [Ano94a, FM95, FM96, MTE94, MT95, TM9S94].

GRAPE-5 [KFM99, KFMT00]. GRAPE-6 [MKF00, MFK01, MKF02, MFK03].

GRAPE-8 [MD12]. GRAPE-DR [MHI07].

graphics [GD98]. gratings [Sat10].

gravitating [TYON12]. Gravitational [CDM98, SWW94, WM99, DHM03, MD12, OME^+92, SCM^+90]. Gravity [BOX90, Xu95].

GreeM [IFM99]. Green [BKM09, Tau03b].

Greengard [Ahu94, Alu96, HM95, SB98]. Green’s [CB14]. Grid [Ber95, Bor86, Boy92a, HTG02, Bes00, Car06, DM90, ZGI^+10].

grid-calculated [DM90]. Grid-Multipole [Ber95].

gridded [HW11]. Gridless [AGR88a, AGR88]. grids [GOS99, HW10].

ground [TCW08]. Group [Wz091]. groups [AB95, Kan15]. Guest [DS00, GW98].

guided [Sat10]. guided-mode [Sat10].

Guidelines [BV96b, BV96a]. guns [NH97].

GvFMM [BSSF96a, BSSF96b].

half [BSL90, CB14, GSC01, GG16].

half-space [BSL90, CB14, GG16]. Halos [ZQSW94]. Hamiltonian [CDF10].

Hanover [Mak93]. hardware [ATE93].

Harmonic [CAJ09, GD07b, GD07].

harmonics [PJY96, ST02, WL96, YR98].

HARP [KMT94]. HARP-1 [KMT94].

Hartree [KAN96, WJGHG96a, KAN95].

Hashed [WS93]. Haskell [TL14]. head
head-related \cite{GODZ10, KMC09}.

heavy \cite{RTZ09}.

Held \cite{HTA97, HM86, AG88, Ano97b, K+96, Rod89}.

Helmholtz \cite{AP03, BKM09, CD13, CC15, CHL06, CCG06a, CCG06b, CC10, CC12, DDL13, Dar02, GHRW98, GD03, GD09, GAD13, GKS94, GKS98, KL97, Rok98, Sta95b, Sta95a, TCD17, VW02}.

Hermite \cite{KMT94, NMH06}.

Heterogeneous \cite{ADB94, HGD11, LCL12}.

Hierarchical \cite{Alu94, APG94, AGPS98, Ano94c, SB98, MR07, YS18, YBZL03, ZB04, Yin06, ZHPS11}.

Hilton \cite{IEE97}.

Hub \cite{HL15}.

Hub \cite{AAL01, Ano94b, BJWS96, BGLM05, GKS94, GKS98, SHT+95, WSH+12, ZBS11, ZBS15}.

Hybrid \cite{HEGH14, JMC97, WN16, DKPH04, LZL04, LC93, OFH+08, SGG+04}.

Hydrodynamics \cite{GCH+18}.

Hyglac \cite{WSB97}.

Hyper \cite{DHH03}.

Hyper-systolic \cite{DHH03}.

Hypercube \cite{BME93, BEM94, BME90, DK93}.

hypercubes \cite{SS89}.

I/O \cite{Mak93}.

ICCAM \cite{BGPW00}.

ICCAM-98 \cite{BGPW00}.

ICS \cite{KK88}.

IEEE \cite{IEE96b, IEE02, PA02, ACM97, Kar95}.

Igniting \cite{ACM03}.

II \cite{CC13}.

Illinois \cite{SLCL98a, SLCL98b}.

image \cite{DC07}.

imaging \cite{Ano97b}.

impact \cite{GIS98}.

Implementation \cite{And92, HJ96, Liu94, MPPA96, NPR93, OP07, YB01, AHLP93, Bes00, BJWS96, Bha97, CCG06a, Dar00b, GR88b, HV93, KP05b, KP08, LO96b, Mak93, OCK+03, RS06, Sin95, WHG94}.

Implementations \cite{BS97, WLMP99, Buh03, TL14}.

Implementing \cite{KN95, SL91, MRH14, SL97a}.

Implications \cite{Sin92, SHG95, DRS96}.

implicit \cite{CC13}.

imposing \cite{YS18}.

Improve \cite{HLL18}.

Improvement \cite{MPPA96, YR99, HR98, PRT92, PA14}.

Improvement \cite{IYK16}.

Inexact \cite{LOSZ07a, LOSZ07b}.

inextensible \cite{VGZB09}.

Infinite \cite{MC97, SM97, CL91, SHM98}.

Innovation \cite{ACM03}.

Insight \cite{IEE02}.

Institute \cite{BR93, HM86}.

Instruction \cite{TYON12, TYNO12}.

Integral \cite{CL12, GKM96, GKS94, Kro99, L96b, L96a, MG11, SC95, ZC00, PO03, AB04, AD05, Atk97, BDMN03a, BDMN03b, Bes00, Car06, Car07, CCZ97, CCKL09, DM07, EG09a, Fuj98, Gas97, GKS94, GOS99, LZL04, LC93, LC94, NT09, OSW06a, ON09a, RZ09, Rok85, Rok90, Ros06, Tak14, TW03, Tau04, VGZB09, WLL+07, WFC08}.
Yin09, iYNK02, ZX19, ZGD+16.

Integral-Equation [MG11, EG09a].
Integrals [BL05, Gus98, ZZ93, BL98].
Integration [DGR96, Oku96, WZC+17, NMH06].
integrations [CDF10]. Integrator [Per99, SP99, KM00, KMT94]. integrators [FLZB97a, FLZB97b, Sha06].
Integral [FQG+92]. Interacting [BP88, BP93].
interaction [GF06b, GF06a, HLL+18, Kan15, YAO18, ZD05]. Interactions [BFO99, DD95, GGM01, LS93, ATMK03, AO10, BAL91, BPK85, CFH89, CKB11, DKG92a, DKG92b, DKG92c, EGHT97, Ess95, GH02, HJJZ09, NT94, PJY95, SKT93, SKT94, ZHPS11].
Integrator [Per99, SP99, KM00, KMT94]. integrators [FLZB97a, FLZB97b, Sha06].
Integrator [Per99, SP99, KM00, KMT94].
integrators [FLZB97a, FLZB97b, Sha06].
Integrating [DGR96, Oku96, WZC+17, NMH06].
infrared [Per99, SP99, KM00, KMT94]. Integrators [FLZB97a, FLZB97b, Sha06].
integration [DGR96, Oku96, WZC+17, NMH06].
Integrations [DGR96, Oku96, WZC+17, NMH06].
integration [DGR96, Oku96, WZC+17, NMH06].
integrations [DGR96, Oku96, WZC+17, NMH06].
Integral [FQG+92]. Interacting [BP88, BP93].
interaction [GF06b, GF06a, HLL+18, Kan15, YAO18, ZD05]. Interactions [BFO99, DD95, GGM01, LS93, ATMK03, AO10, BAL91, BPK85, CFH89, CKB11, DKG92a, DKG92b, DKG92c, EGHT97, Ess95, GH02, HJJZ09, NT94, PJY95, SKT93, SKT94, ZHPS11].
DM12, Dar97, Dar00a, Dar00b. **method** [DH04a, DH04b, DC07, DRS96, DKG92a, DKG92c, ERSRS01, ECL02, FGM11, FOCE96, FLZB97a, FLZB97b, FD09, Fuj98, FMI+93, GDC08, GSC01, Gib08, GR02, GRO04, GKS98, GG16, GROZ04, GKS98, GG90, GH02, GP08, GCH+18, GD05, GD06, GD09, GODZ10, Ham11, HM95, HC10, HW10, HW11, HU97, HJZ09, HLL+18, Ich02, JH08, JC04, Kan15, KM00, KSS10, KS11, KLM+09, KMC09, Kro01, KS98b, KS04, KP05b, KN95, KCF+05, Lab08, LCL+12, LBGS16, LJ98, LCQF18, LGG+13, LHL08, LC14, Liu08, Liu09, LCZ07, LCM07, MI95, Mak99, MB05, MR07, Mil08, MRH14, MNMN06, NT94, NH97, OSW05, OSW06a, O808, OKS90, OCK+03, OMY+14, OMC08, OFG+08, OP07, ON09a, PN95, PFS94, PFS95, PSS95, PG96b, PA14, QC15, RRO03, RO04, RTA+08, RSG97, RS06, SGG+04.

**method** [SF18, Sat10, SL97a, SL97b, SM97, SH07, Sin95, SKPP95, SP97, Sta95b, SK04, Sud04, Sy03, Tak14, TSIM16, TCD17, Tau03b, Tau04, TG08, VW02, VOD08, VGB09, VCM00, VY05, WY07a, WFC08, WH94, WHG96a, WJGHG96b, WHG96b, WSL195, XJM08, YR98, Y979, YBZL03, YB12, YBON13, iYNK02, YAO01, YSM05, ZT07, ZHP510, ZHP511, ZB14, ZKL+07, ZGD+16, ZB95, AAB+17, CD13, CKE08, CC10, C12, CFR10, DDL13, FL13, GR07, LCP93, RGK12, SL91, YTK14, Gav11].

**Method-Ecient** [NT96]. Methods [Aar85, Alu94, AG88, BS93, BS97, BR93, DY98, Dem95, Dem96a, Dem96b, FQG+92, GHWW98, GW98, HEGH14, HJ96, LRW95, MBA97, SRP06, SHG95, SHT+95, TDBE11, V1T91, WSW+95, YF05, A+97, MLA05, BHC93, BL97, BG97, BN98, BCR01, Bes00, BDS07, Car07, CB02, CIL+97, CWD08, CK00, Eng11, Gas97, GBMN06, GY08, GCC+99, Goe99, GE13, GKM96, GKO4, GD08, HS95, HGD11, IYK16, Kro99, Kro02, KP05a, KP08, LS05, LOSZ07a, LOSZ07b, LOG12, Lin95, LX17, LY14, MC92, NN12, OSW06b, O070, Oku96, PJY96, PG96a, RS94, ST06, SKT94, SM05, Sin92, SB96, TD09, YGSR01, aYZ97, YNS+09, YBNY12, ZX19, MC92].


Models [AC94, HB93]. MN [IEE92b]. Modification [SB98]. Modified [Bar90, BADG00, CHL06, LCQF18]. module [DK93]. Molecular [AC94, BGGT90, BAL91, BHGS90, BP88, CDCD97, Gus98, HGS90, LBC91, LBI+97, LCMP09, MPPA96, OKF14, WLMP09, WS91, ATM03, BSL11, BWS+95, BSS97, BCL+92, BHE+94, BHER94, BCOY93, BCOY94, BP93, CvHMS94, DK93, EGHT97, GDK89, GZK07, KM00, LM02, LBGS16, LWM+02, NKV94, OMY+14, OP07, PGB05, PA14, SF18, SWW09, Win95, ZB95]. molecular-dynamics [BCL+92, BP93].

[ESRS01]. Monterey
[Ano95b, Ano96, Ano97a]. Montréal
[IEE97]. motion
[DHM03, Kro01].
Mountain [MC92], mover [CC13], MPI
[IEE96c, BCAD06, LO96b, Per99, SP99].
MPI-2 [BCAD06]. MPSim [LBI +97]. MR
[BE94]. Multi
[AP03, Ang17, BAD01, Liu08, WSH +12].
multi-disciplinary [WSH +12]. multi-domain [Liu08].
multi-level [AP03]. multi-platform [BAD01]. Multi-scale
[Ang17]. Multibody
[BGI +99, JBL02, LOG12].
Multicomputers [YB01]. Multicore
[HEGH14, ZBS15]. Multidimensional
[CK95b, BCP08, BL98]. multigrid
[Gas97, IHM05, MC92, OF08]. Multilevel
[CSMCxx, GS98b, MG11, SLC96, SLC97,
TCW08, TC09, A+97, ATR+12, BDMN03b,
DM12, EG08, EG09a, EG09b, Erg11, EG13,
GDDC08, GKD09, HS08, HC10, LCL04,
LC94, MG07, MG09, RCWY07, Sar03,
WJYO06, YRGS13]. Multiple [BS93,
BSS97, FLZB97a, FLZB97b, KM00, Kro02].
multiplication [XWT09]. multiply
[GGM93]. multipoint [PR92].
Multi-polar [LS93]. Multipole
[AAB+17, And92, BT03, BK15, BPT+14,
Ber95, BV96, BS00, BL05, BF099,
Boy92b, CDM98, CDGS03, CDGS05, CL12,
CD13, CC15, CSMCxx, CKE08, CS09b,
CC10, CC12, CJ05, CFR10, CPD17, CKB11,
DDL13, DY98, EB96, EMRV92, FL13, GP93,
GSS98a, GSS00, GR97, GHRW98, GW98,
Gue97, GD03, GA96a, GA96b, Gsu98, GS98b,
HOST05, HAS02, HA17, HEGH14, JMC97,
JMB98, Kon93, KLZ+06, KK95, Le 97,
Lea92, Lem98, LCD14, Lin95, LSCM96,
LJ96b, LJ96a, LO96a, LCF93, LRW95, MI96,
MBS+00, MG11, MB16, McD97, Mck96,
MPPA96, NT96, NIl04, NPR93, OC05,
Pan95, PN94, PD15, RRR05, RGKM12,
RW94, SRPD06, SPS96, SL91, SL97b, Sch94,
SG97, SHMC97, SMC97, SHHG93, SHT+95,
SC94, SC95, SLC96, SLC97, Sta95a, SP01].
Multipole
[WC94a, WC94b, WLMP99, WZC+17,
YR99, Yin15, YTK14, YB01, ZJ91, ZZ93,
AHLP93, AGR88a, AGR88b, AP99, AP00,
AP03, Ami00, AMT03, ATR+12, AC17,
BDMN03a, BDMN03b, BSL09, BG97,
BWS+95, BV96a, BS97, BCL+92, BHE+94,
BHVR94, BL98, BH03, BHGR04, BHGR05,
BSSF96a, BSSF96b, BK96, CDJ07, CC04,
CC05, Car09, CR988, CSA95, CWG97,
CDF10, CC297, CKW08, CCKL09, CCR99,
CCG+06b, CRG01, CPP93, CS82, CWD08,
CRW93, CFR08, CR09, Dac06, Dac09, Dac10,
Dar02, DM07, DM12, Dar07, Dar00a, Dar00b,
DH04a, DH04b, DC07, DS06, DK92a,
DKG92c, ESRS01, ES04, EB94, Eng11,
EG08, EG09a, EG09b, Erg11, EG13, EG01,
FOCB96, FLZB97a, FLZB97b, FFG05, FD09,
Fu98, GDDC08, Gsg97, GBMN06, GF06b,
GF06a, Gav11, GSC01, GIS98, GY08, GR02].
multipole [GG16, GROZ04, GKD90, GE13,
GB11, GR88b, GG98, GG99, GH02,
GCH+18, GD05, GD06, GD08, GD09,
GODZ10, GAD13, Ham11, HHHK99, HS08,
Hav03, HC10, HW10, HW11, HF92, HU97,
HR98, HDG11, HJZ09, HLL+18, IYK16,
Kan15, KM00, KSS10, KS11, KLM+09,
KMC09, KS98a, KS98b, KS04, KP05a,
KP05b, KP08, KAN95, KN95, KAN96,
KCF+05, Lab98, LM02, LDB96, LOSZ07b,
LCL+12, LBGS16, LB91, LB92a, LB92b,
LJ98, LSL04, LOG12, Lem04, LCQF18,
LGG+13, LCL04, Liu09, LX17, LY14,
LCZ07, LCM07, LCHM10, LCHM13,
LWM+02, MI95, Mak99, MG07, MG09,
MD98, MB05. MR07. MRH14. MMNB06,
NW89, NT09, NT94, NN12, NH97, OSW05,
OSW06a, OF07, OF08, OKS09, OCK+03,
OYK+14, OC03. OMC08, OFH+08, OP07,
ON09a, PRT92, PN95, PJJY96, PSPS94].
multipole [PSP95, PSS95, PA14, QCG15, Ral96,
RSZ09, RTZ+96, RO04, RTA+08, RS97,
RS06, RCWY07, SGG$^+$04, SF18, Sar03, Sat10, SL97a, ST06, SWW99, SM97, SHM98, SRT94, Sin95, SKP95, SPP97, Sta95b, SB96, SK04, Sud04, STZ14, Sy103, Tak14, TSIM16, TCD17, Tau03b, Tau04, TCV08, TC09, TG08, TD09, VOD08, WJYO06, WL96, WYW05, YR98, YB97, YBZ03, YBZ04, Yi96, YNS09, YBK11, YBNY12, YB12, YBNY13, YNY02, YAO18, YSM05, ZCG00, ZT07, ZHPS10, ZHPS11, ZX19, ZCL98, ZY05, ZKL07, ZGD16, ZB95, ZD05, CB14, multipole-accelerated
[BHE$^+$94, BHER94, ZD].

Multipole-Based
[BHE$^+$94, BHER94, ZD05].

Multipole-Based
[GSS98a, GSS00, YB01, LDB96].

Multipole-to-local
[CFR08, YS18].

Multipoles
[And92, AC94, GSS98b, HLL08, Mak99, OLLL03, OLL04].

Multiprocessor
[SHG95, LMCPP92, Sin92, Ske89].

Multiprocessors
[BB87, HS95].

multiquadrics
[CBN02].

Multiresolution
[NKV94].

Multiscale
[ERT12, TW03].

Multithreaded
[ZBS15].

Multivariable
[BL05].

Napa
[PA02], natural
[AO10].

Near
[Bor86, CAJ09, ON09a, Re99], near-rigid
[CAJ09].

Nearest
[CK95b].

Neighbor
[Bor86].

Neighbors
[CK95b].

Neptune
[MKF02].

network
[LB91].

Networking
[ACM97, Hol12, LCK11].

networks
[Kan15, LJ98].

Neumann
[GG16].

New-version-fast-multipole-method
[LCM07].

Newport
[IEE95].

News
[Kan15].

NH
[Mak93], no
[BEM94].

Node
[BK15, FRE$^+$08].

Node-Level
[BK15].

Non
[BB87, BCP08, DR95].

non-equispaced
[DR95].

non-standard
[BCP08].

Non-Uniform
[BB87].

nonbond
[DKG92a].

nonbonded
[ATMK03].

nonlinear
[CAJ09].

nonlinearly
[CC13].

nonoscillatory
[GR02].

nonplanar
[YB97].

nonsmooth
[Beb06].

normal
[GG16].

Nose
[BVW96].

Notre
[IEE96c].

November
[ACM96, ACM97, ACM99, ACM03, Hol12, IEE90, IEE92b, IEE93, IEE94c, IEE02, K$^+$96, LCK11].

nuclear
[PGB05].

number
[DGK99, Ieh02].

numbers
[JdR$^+$18, WYW05].

numerica
[Ise97].

Numerical
[CL91, GKZ07, Kro02, Pri94, TDBE11, dCGQS06, Atek97, BCM02, BCH93, CDF10, CG97, CHJN03, Dar00b, GCG$^+$99, Gre90b, GM94, GH08, KSC99, Kro01, OR89, PRT92, RSS96, TYNO12, Wam99, ERT12].

O
[Mak93].

Object
[BT95, SHMC97, ESR01, SM97, SHM98].

Objects
[BVW96, BV96b, SL96, SLC97, BV96a, EG09a, Erg11, TC09].

Oblique
[SM97, CCKL09].

obstacles
[Mak93].

Oct
[WS93].

Oct-Tree
[WS93].

October
[An097b, HB93, IEE92a].

Off
[HL15, DH86].

Off-Loading
[HL15].

one-dimensional
[SK04, YR98].

One
[An094a, MTES94, WWF02, FRE$^+$08, HM95, MR07, SK04, YR98].

OpenMP
[AO10].

opening
[CBK11].

operator
[CR08, Lem98, Lem04, YS18].

Operators
[CFR08, LEM98, LEM04, YM98].

Opportunities
[AO10].

Optical
[FL97].

Optimality
[DKG92b, HHP09, BWS$^+$95, BME90, CRG01, MG05, PRL03].

Optimization
[BM15, MB15].

Optimizing
[PD15, ZBS15].

Order
[Bor86, LS93, RRR05, ALu96, DC07, GH08, GBMN06, GL96, PRL03, TWY06, Tau03a, Tau04].

Oregon
[ACM99, IEE93].

organic
[CKS1].

organization
[AO10].
organizations [TD09]. Origin [Le 97]. orthotropic [ON09b]. oscillatory [ZX19]. other [ZB95]. overlapping [KP05a]. overview [SB96].

P [PG96b]. PA [ACM96]. pair [CK95a]. Pairwise [BP88, CKS91]. Palazzo [Ano95a]. Panel [Ano97b, RRR03]. Panels [RRR05]. Paper [HOST95]. Papers [Ano97b, IEE92a]. parabolic [JH08]. paradigms [MMC99]. Parallel [AAL+01, Ano94b, ADB94, ADBGP99, B+95, BADG00, BPT+14, Bha97, BS97, BP88, CDDC97, GKS94, GCH+18, HAS02, HTA+97, HP95, HJ96, IFM09, IHO5, JBL02, JKCGJ08, Liu94, LO96a, LO96b, LCP93, MFKN03, Mak04, Mat95, MBS15, NMR93, OFK14, Pri99, Pri94, SWW94, SP99, Sin95, SHHG93, Ten98, TDBEE11, WS93, WS+W+95, Xu95, YB01, Z91, Bar96, BADP96, BAAD+97, BAD01, BCAD06, BJWS96, BCL+92, BSD07, BCOY94, Car07, CRG01, CWD08, CKB11, DKB96, DKPH04, Erg11, EG13, GLS06, GKS98, GGS98, GG90, Hav03, HGS90, K+96, KK95, KP05b, LCL+12, LB92b, LJ98, LBI+97, LC14, Mak93, MI+07, MG05, NKV94, OCK+03, RC97, SRK+12, Sta95b, TMES94, WLL+07, WS95b, WS95a, WS+W+95, WS+W+12, YF98, YBZLO3, YBNY13, Mak93, Rod98, TL14, TDBEE11]. Parallelism [BGLM05].

Parallelization [LB91, Lea92, BCOY93, DK93, EG08, EG09b, SWW99]. parallelized [OMF+92]. Parallelizing [CvHMS94, Sta95a]. parameter [CRG01]. Parametric [SC94]. Park [RS98]. Part [Dem96a, Dem96b]. Particle [BOX00, DYP93, Gre87, MFKN03, Pri94, VTC91, ARR89a, CRG88, CC13, CB90, CKB11, DKPH04, ECL02, FMI+93, GY08, GR87, Gre88, KM00, KK16, Kro99, KP05a, LRJ+99, PJY95, WY05, WS95b, YGSR01]. particle-in-cell [CC13]. Particle-Mesh [BOX00, DKPH04]. particle-particle [PJY95]. particle-reinforced [WY05].


Performance [ACM97, BGI+99, BK15, Car07, FM99, HL15, Hol12, IEE94b, IEE96b, IEE98, LCK11, LWM+02, MKF01, NH06, RC97, SF18, SHT94, WM+02, CFF08, CFR08, CFR10, IYK16, MD12, Sha06, WS+W+97].

Perform [Sar03]. Periodic [CWHG97, RO04, RW94, AM00, CPP93, CF89, DK92c, FLB97a, GK04, HM95, HNO06, KS98a, KS98b, KS04, LDB96, LBGS16, LCZ07, NN12, ON08a, ON08b, ON09a, ON09b, PG96b, SHT93, Sin95, YB97, YAO18]. periodicity [YS18].


PMD [Win95]. Point [CK95b, LKM02, Rei99]. points [STZ14]. Poisson [AC17, BH03, EG01, GL96, LJ98, LCHM10, LCHM13, MCB07, MGM95, Mil08, RŚ90, VTG91]. polar [BPK85]. polarisable [HHKP09]. Polarizability [PNB94]. polyelectrolyte [FOCB96].
Polygons [BT03]. polyharmonic [BL97, BCR01, BPT07]. polymers [BCOY94]. Polynomial [DGR96, PRT92, Rei99]. Polynomials [Pan92]. Polytechnic [BR93]. Portable [BK15, BS97, OCK03, WS95b, WS95a]. Portland [ACM99, IEE93]. posed [HM95]. posteriori [XTH09]. Potential [CK95b, Gre87, Gre90a, HA17, SPS96, YR99, CK95a, GB11, Gre88, GR88a, GD07b, HHHK09, HF92, HR98, LCQF18, Mi08, OLLL03, PA14, Rok85, Tau03a, WXQL08]. Potentials [CJ05, MB16, McK96, Pie93, DM00, DB96, SH07]. Polynomial [DGR96, PRT92, Rei99]. Polynomials [Pan92]. Polytechnic [BR93]. Portable [BK15, BS97, OCK03, WS95b, WS95a]. Portland [ACM99, IEE93]. posed [HM95]. posteriori [XTH09]. Potential [CK95b, Gre87, Gre90a, HA17, SPS96, YR99, CK95a, GB11, Gre88, GR88a, GD07b, HHHK09, HF92, HR98, LCQF18, Mi08, OLLL03, PA14, Rok85, Tau03a, WXQL08]. Potentials [CJ05, MB16, McK96, Pie93, DM00, DB96, SH07]. power [PRT92]. PPPM [YF05, ZB14]. Practical [BN97, Pan95, CAJ09, Mak93]. practice [CK00]. Prager [GCH18, LGG13]. pragmatic [SB96]. Precise [Ami00]. preconditioned [BGCC06, GD07a]. Preconditioner [CDGS03, CDGS05, CPD17, Car06, DDL13, OF08, TCD17]. Preconditioning [MG11, ARD04, Car09]. Preconditioning [NN12, Beb06, FPG05, LZZ04, MG07, MG09, RCWY07]. predictor [TWYC06]. predictor-corrector [TWYC06]. preeminent [YB12]. preprocessing [SK04]. Prescription [GS98b, CRW93]. presented [Ano97b]. Pressure [YAO18, YRGS13]. Price [WSB97]. Price/performance [WSB97]. Princeton [HM86, HDG15]. Principles [OKF14]. Pro [WSB97]. Problem [APG94, AGPS98, Ano94a, Ano94c, Dem95, Dem96a, Dem96b, HTG02, MTE94, Yin15, CKKL09, DH86, DHM03, Gre90b, IHH05, Kat89, KS98a, Mi08, Pud16, SSF96, TL14, WXQL08]. Problems [BB87, EMV92, GA96b, KK95, LJ96b, LJ96a, MG11, MBS15, SW94, SG97, WZC+17, AP00, AD05, ATR+12, BSL09, Bes00, BCP08, BHGR04, BHGR05, BGCC06, CC04, CC05, Car09, EG08, EG09a, Erg11, FST05, Fuj98, GDDC08, GLS06, HM95, HNO06, HU97, JH08, Lab98, LCQF18, Lin95, Liu08, MIES90, Oku96, ON08a, ON08b, ON09b, Rah96, RO04, SCM+90, TWYC06, WJYO06, WY07b, WSWL95, XWY+08, XJMO08, iYNK02, ZY05]. Proceedings [ACM96, ACM97, AG88, ERT12, Hol12, HM86, IEE92, Kar95, LCK11, Rod89, Ano92, Ano95a, IEE92a, IEE98, KK88, PA02, WSB97, B+95, BGPW00, HB93, HTA+97, IE90, IE92b, IEE93, IE94b, IEE94c, IE96b]. Proceedings. [IEE96c]. process [JdR+18]. processes [Sal96]. Processing [B+95, HTA+97, BCOY94, Rod89]. Processor [WWF02, FL13, DHL07]. processors [GD08]. produced [Kon93]. products [And08]. Professor [Wil00]. Program [CDCD97, YB01, App85, LBI+97, WS95b, Win95]. Programmable [PA02, HFKM98]. programming [MRH14]. Programs [BGLM05, RC97]. PROGRAPE [HFKM98]. PROGRAPE-1 [HFKM98]. Progress [Ano95b, Ano96, Ano97a]. Prolate [KLZ+06]. Propagation [Ano97b, IEE94a, IEE95, IEE96a, IEE97, WC94a, WC94b, CHJN03, GLS06]. propagator [ZB95]. properties [WY05, WY07a]. Property [NT96, Kan15, KSS10, KS11, NT94]. protein-protein [KSS10]. proteins [ZB95]. protonatable [Kan15]. Provably [Ten98]. pseudo [CKS91, OFH+08]. pseudo-pairwise [CKS91]. pseudo-spectral [OFH+08]. pseudoparticle [Mak99]. Pseudospectral [Boy92b, KLZ+06]. Purpose [Ano94a, BGGT90, CKE08, FM96, FH99, KFMT00, MTE94, MT98, MFKN03, EIM+92, EFT+93, FM+93, FM95, HFKM98, KMT94, MIES90, MT95, OMH+94, OME+92, SCM+90, TMES94]. Quadrature [WK18]. Quantum [SPS96, KLM+09, SSF96]. quartic


Sham [BSSF96b]. shape [LM02]. shaped [YRG813]. shared [HS95, RC97, Ske89].


Sides [BT03]. signature [Ano97b].

Siloxane [MPPA96]. Siloxane-Based [MPPA96]. SIMD [TYON12, TYNO12]. simple [AB95, PJY95]. Simulating [ZBG15, ZGI+10, VGZB90, ZB95].

Simulation [AT87, An99, BADG00, CKS91, FM96, HE88, KFM99, LCE+06, MF96, Ten98, WF9+02, AGR88a, App85, BCM02, BAAD+97, BCL+92, DRS96, FLZB97a, FLZB97b, FMI+93, FM95, GF06b, GKS07, HN10, HGS90, KMT94, LM02, IWM+02, MI95, MFK00, MKFD02, MD12, OYK+94, OMC08, PG94, SWW99, Spr05, TYON12, TYNO12, WYW05, Win95, YB97, YNS+99, YBNY13]. Simulations [Aar85, AAL+01, Ano94b, ADBGP99, Bag02, BHGS90, BHS88, GP93, GKS94, HP95, IFM09, KTM00, LR+99, MT98, MKFN03, MPPA96, OKF14, SRPD06, SWJ+05, WLMPI99, WN14, YF05, AGR88b, ATM03, AB95, BAL91, BDS07, BCOY93, BCOY94, CL91, CGR88, CWD08, CB09, DKG92a, EIM+92, EFT+93, EGTH97, ERS01, FOCC06, FRE+08, GF06a, GKS98, GR87, GDK89, GCH+18, HFKM98, HNY+99, KM00, K+96, Kro99, KP08, LBC91, LKM02, MT95, MG05, MMC99, OME+92, PA14, SA196, SHA06, SKT93, SKT94, TMES94, VCM00, WAM99, WS92, WSH+12, XUE98].


Skeletons [SW94]. Slater [Gus98, ZZ93].

Slater-Type [Gus98, ZZ93]. slightly [ZD05]. Society [IEE95, IEE96a, IEE97].

Software [Kan15, TDBE11, SF18, TYNO12]. solid [Bat03, PJY96, WL96, lYtWBWL08]. solids [WYW05]. Solution [ATR+12, GA96a, LJ96b, LJ96a, SG97, SC94, SC95, AHL93, AP03, AD05, ATK97, BH03, BHR04, BHR05, CJL+97, EG08, EG99a, FLZB97a, FLZB97b, GDDC08, Gas97, GLS06, Gre90b, HW10, PN95, Rok85, Rok90, WFC08, WSWL95, YS95, ZC00].


Solver [BOX00, CPD17, MGM95, SLCL98a, SLCL98b, Xu95, AC17, BE90, CCZ97, CHL06, EG01, GL96, GP08, HLL08, Kan15, L98, LCHM10, LCHM13, SRK+12].

Solvers [GSS98b, BEM93, BM94].

Solving [HTG02, VDI91, Car06, Car07, LC93, LC94, MCBB07, MNBN97, OL04, XJM08, ZCL+98]. some [Sha06]. sound [CAJ09]. Source [SB98, CKB11]. Space [BT95, YF98, BSL09, BKM09, CB14, GSC01, GG16, HM95, H95, SRK+12].

space-time [SRK+12]. Space/time [YF98].

Space/time-efficient [YF98]. Spaces [BF78]. Spanning [BF78]. Sparse [GOS99, LZZ14, RO85, TAU03a, LOSZ07a, MG09, RZ09, TW03].

sparse-approximate-inverse [MG09].

Spatial [BT95, BLA05, CVHMS94, ZT07].

Special [Ano94a, BGT90, CKE98, FM96, FHM99, KTM00, MTE94, MT98, MKFN03, EIM+92, EFT+93, FMI+93, FNM95, HFKM98, KMT94, MIES90, MT95, OMH+94, OME+92, SC10, TME94, MC92].
Special-Purpose
[Ano94a, CKE08, FM96, FHM99, KFMT00, MTES94, MT98, MFKN03, FM95, HFKM98, KMT94, MIES90, MT95, OMH+94, OME+92, SCM+90, TMES94]. spectra [ES04]. Spectral
RCWY07, OFH+08, PN95]. speeding [AO10]. sphere
BP03, CDJ07, DC07, Lin95]. spheres [GD05]. spherical
GODZ10, KSC99, PJY96, ST02, YR98]. Spline
CS98b, DKG92b]. Splines
CS98a, BL97, BCR01, BPT07]. Square
GGM01]. Stability
[Nil04, Sud04]. stable
DH04b]. standard
BCP08]. statistical
VOD08]. Station
ERT12]. statistical
Kan15]. Steepest
JMC97, JMBc98, ERS01].
steeped
ZCL+98]. Stress
GG16]. Strips
GA96a]. strong
Kan15]. Structural
BPK85]. Structure
BADG00, NT96, ZQS94, GF06b, GF06a, Go99, Kat98, KS98a, NT94]. Structures
And99, CSMCxx, GGM01, MI96, RW94, WPM+02, Car09, CWK08, EG13, LCZ07, W92, ZCL+98, ZY05]. studies
RTZ+96]. Study
[BGLM05, HM86, Pri94, Dar97].
study
[Kro01]. sub
[LCZ07].
sub-entire-domain
[LCZ07]. Subdivision
BT95]. Summation
CWA14, LS93, Ami00, BAL91, IHM05, SF18, ZB14]. Summer
[RSS96]. Sums
DNS90, BG94, DYP93, KS04, RO04, SL97b]. Sunnyvale
[Wel91]. Supercomputers
[FQG+92, HM86, BAD01].
Supercomputing
ACM96, Ano92, IEE90, IEE92b, IEE93, IEE94c, Kar95, Ano92, KK88]. Surface
[MG11, CCZ97, ERS01, ZBG15]. Surfaces
[CSMCxx, HAS02, JMC97, JMBC98, GH08, JMBc98]. Surfaces-Wire
[CSMCxx]. suspended
[VGZB99]. Switching
[HL15]. Symbolic
PHe93]. symmetric
[CG04, OSW06a]. Symposium
[Ano97b, HB93, IEE92a, IEE95, IEE96a, IEE96b, IEE97, PA02, K+96, Mak93]. Syracuse
[IEE96b]. System
[BGI+99, RGKM12, BAAD+97, TMES94, ZB95, HTG02]. Systems
AAB+17, CPD17, GP93, Gre87, HEGH14, MT98, VGG91, YF05, AB95, BWS+95, BGGC06, CL91, CDF10, CFH89, DYP93, DKG92c, EIM+92, EFT+93, Gre88, Ich02, KS98a, KS98b, KN95, LM02, LBGS16, LB92a, LBI+97, LCM07, LCHM13, PGB05, PG96b, TYON12, YB12, ZB95].
Stysolic
[BHGS90, DHM03].
T3D
[RAAD+97]. tails
[ADG96]. tangential
[GH08]. Target
[SB98, GSC01]. targets
[Ano97b]. Task
[AAB+17]. Task-Based
[AAB+17]. tearing
[LS05, LOSZ97a, LOSZ97b, OSW06b]. Technique
[CGDS03, CGDS05, PRT92, SWW99].
Telescopical
[LRW95]. Template
[BGLM05]. Tennessee
[IEE94b]. tensor
[CB14, CSA95, GCH+18, HC08, HLL+18, LGG+13, YA018]. Tensors
[PNB94]. Terabytes
[IEE02]. teraFLOPS
[TMES94]. Term
[DNS90]. terms
[JP89]. test
[AB95]. Tcottles
[Ano94a, HUY+09, HN10, MTE94, MFK00, MKF01, MKFD02]. theorems
[KSC99, Lab98]. theorems
[HC08]. Theoretical
[CC15]. theory
[AP99, Buh03, CK00, GD07b, K+96, LBGS16, Pe98, Rok85, Rok90, Tai03a]. thermodynamics
[Kan15]. Thin
[ZCL+98, CAJ09, ZY05]. Thin-stratified
[ZCL+98]. Third
[KK88, Rod89, Bha97].
Thousands [BT03]. Three
[CS98a, JMBC98, LO96a, Nil04, Pie93, Pri94, SL91, SC95, WSW+95, YB97, BS97, BPT07, CWK08, CGR99, CCG+06b, ESR01, ES04, ESM98, GR88a, GR97, GH02, GD06, GD09, LB92b, LCQF18, MCBB07, OLLL03, PSS95, SL97a, Tak14, TSM16, TC09, TG08, WSWL95, YBZ04].

Three-Body [Pie93]. Three-Dimensional [JMBC98, Pri94, WSW+95, YB97, BS97, CWK08, ESR01, ES04, ESM98, LCQF18, OLLL03, PSS95, Tak14, TC09, TG08, WSWL95]. tiers [WHG96a]. Time [BS93, MD98, BSS97, FLZB97a, FLZB97b, GD07b, KM00, OFH+08, RC97, SRK+12, VW02, Xue98]. Time-dependent [MD98]. time-domain [VW02]. time-efficient [YF98]. time-harmonic [GD07b]. time-step [KM00]. Top [DS00, MBS+00]. topological [BN07]. toroidal [CKS91]. Toronto [HB93]. Touchstone [FQG+92]. TPM [Xu95]. traces [HLL+18]. trained [HHKP09]. transfer [GODZ10].

Transform [EB96, EB94, GS91, HL08, HW11, LL08, OLLL03, OLL04, Sar03, ST02, Sud04, Boy92b, EMT99, GS98a]. Transformation [DNS90]. transforms [DR95]. transient [ESM98]. Translation [GD03, ESM98, GD07b, Rah96, Rok98, TSM16]. translator [HS08]. transpose [JH08]. Transputer [Wel91, CKS91, LB91]. Transputers [BHGS09]. Transputing [Wel91]. treatment [KS98a]. Tree [And99, ADB94, ADBGP99, BH89, Bar90, BADG00, BOXX00, BH88, CDMS98, CA14, Jr+18, SWW94, WPM+02, WS93, WN14, WSW+95, BADP96, BAAD+97, BAD01, BAC06, BJWS96, Dub96, GY08, JP89, PD98, PG94, PG96a, Pud16, Wam99, WS92, WSWL95, WSH+12, Xue98, JKCGJ08].

Tree-Code [CDM98]. Treecode [KF99, Mak04, SW94, DKPH04, WS95a, WSB+97]. Treecodes [GSS98a, GSS00]. TreePM [Bag02, IFM09, YF05]. Trees [BF78].

trenches [TCW08]. Trends
[MBS15, Car09, CLG03, Les96]. triangulated [RS94]. Truly
[APG94, Ano94c]. truncated [TCW08]. truncating [BPK85]. Truncation
[OC03, AP00, AB95, CC04, CC05]. tube [Lin95]. tumors [ES04]. tuned [YB12]. tuning [MKF01, NMH06]. turbulence
[HN+09, YNS+09, YBNY13]. Turkey [Ano97b]. Two [LS93, MK96, Pan95, Pie93, RRR05, BL97, Car06, CHL06, CCG+06a, CC10, CC12, ECL02, EG01, GH98, JKCGJ08, Kro01, NT09, PSPS95, RRR03, Rok90, Rok98, RCWY07, SKPP95, WY07b, XJ08, YBZ04]. Two-Center [Pan95].
two-component [JKCGJ08].

Two-Dimensional [LS93, BL97, CC10, CC12, ECL02, GH98, Kro01, NT09, PSPS95, RRR03, WY07b, XJ08]. two-grid [Car06].
two-step [RCWY07]. Type [Gus98, ZZ93].

[MBS15]. Unified [JBL02]. Uniform [BB87]. uniqueness [YMS05]. unit [DKG92c, KS98b]. Universe
[BADG00, ZGI+10, BAD01]. University [IEE94a]. unknowns [YBK+11].

Unrelaxed [PNB94]. unstructured [HKS05, MSV92]. UPC [ZBS11]. Updates
[Kan15]. Updating [HA17]. upon [TD09]. Uranus [MKFD02]. USA [Hol12, HM86, IEE96c, ACM07, IEE02, Kar95, K+96]. Use
[HM86, SP96, Bes00, Mak93, PJY96, RT+08, SM97]. User [Wel91]. Using
[BVW96, BV96b, BP88, CL12, CKE08, CS98b, CPD17, GA96a, HE88, LKM02, LR95, MI96, MPPA96, Per99, SG97, SHMC97, SMC97, SP99, SC94, BV96a, Bor86, BH88, CKS91, CvHMS94, DM07, ESR01, ES04, ESM98, Gas97, GF06b, GF06a, GD05, HC10, HLL+18, Kan15, KM00, LBGS16, LB91, LJ98, LO96b, LC07, LWM+02, MI95].
MRH14, OYK+14, Pri94, RC97, Sat10, Syl03, Tau03a, WY07a, WS92, WSWL95, YB97, YBK+11, YBNY13, ZCG00]. UT [Hol12]. Utah [RSS96].

vacancies [Kon93]. value [Lin95, ON08a, ON09b, RTA+08]. values [LX17]. variable [Tau03a, Tau04]. variables [JP89]. Variants [YTK14, BHER94]. Variational [DM12, DM07]. Vector [CS98a, TYON12, HC08, XWT09]. Vectorized [Bor86, GDK89, BP93]. Velocities [ZQSW94]. versatile [WS95a]. Version [GS98a, NT96, SP01, GG89, GG90, GR97, GH07, LCM07]. very [BSSF96a, BSSF96b, LBI+97, PSSP94].

vesicles [VGZB09]. via [AGR88b, GB11, Gue97, GD07a, WJGHG96b]. videocopiê [Ano97b]. virial [KS11]. virtual [XJ10]. viscous [BLA05, VGZB09]. Vlasov [VTG91]. Vol [Bat03]. Volterra [ZX19]. Volume [MB16, NT09]. Volumetric [ZKL+07, HW10]. Vortex [BCH93, CK00, DD95, RRR95, WSWL95, aYZ97, BLA05, CWD08, ECL02, HM95, Ros06, RS94, WSWL95, AG88].

vortex-in-cell [CWD08]. vorticle [Ang17]. voxel [Ham11].

W [MD12]. WA [LCK11]. Waals [DKG92b]. Washington [IEE94a, IEE94c]. water [BAL91, HHK99]. wave [BSL09, Bes00, BGCG06, CCZ97, CCKL09, CHJN03, CRW93, ESR90, ESM98, GLS06, LC94, MD98, Tak14, TCW08, TC09].


X [Ful97]. X10 [MRH14]. x86 [TYON12, TYNO12]. x86_64 [NMH06]. XV [BR93]. XXVI [Bre04].

Yamakawa [GCH+18, LGG+13]. York [IEE90, IEE90, IEE96b]. Yukawa [BFO99, HJZ09, ZHPS10].

zero [GG16, SF18, ZC00]. zero-multipole [SF18]. Zonal [BDS07].

References

Ainsworth:1997:WMM


Agullo:2017:BGB

Emmanuel Agullo, Olivier
REFERENCES

[Aumage et al. 2017]

[Amor et al. 2001]

[Aarseth 1985]

[Auffinger and Beveridge 1995]

[Antoine et al. 2004]

[Angyan and Chipot 1994]

5614 (print), 1464-3855 (electronic).

**Antonuccio-Delogu:1994:PTB**


**Antonuccio-Delogu:1999:PTA**


**Adamson:1996:CCT**


**Anandakrishnan:2011:GBA**


**Anderson:1988:VMP**


**Aluru:1998:DIH**


**Ambrosiano:1988:FMM**

REFERENCES

**Ambrosiano:1988:GPS**


**Allen:1993:GIM**


**Aluru:1994:DIH**


**Aluru:1996:GBA**


**Amisaki:2000:PEE**


**Anderson:1992:IFM**


**Anderson:1999:TDS**

REFERENCES


[Ano94c] Anonymous. Truly distribution-independent algorithms for the N-body and problem. In IEEE [IEE94c], pages
REFERENCES


Anonymous:1995:ECP


Anonymous:1995:PAC


Anonymous:1996:PAC


Naval Postgraduate School, ???? , 1996. Two volumes.

Anonymous:1997:PAC


Anonymous:1997:RSA


Anandakrishnan:2010:ABN

Ramu Anandakrishnan and Alexey V. Onufriev. An $N \log N$ approximation based on the natural organization of biomolecules for speeding up the computation of long range interactions. Journal of Computational Chemistry, 31(4): 691–706, March 2010. CODEN JCCHDD. ISSN 0192-
REFERENCES

31

8651 (print), 1096-987X (electronic).

Amini:1999:ADF

S. Amini and A. T. J. Proft. Analysis of a diagonal form of
the fast multipole algorithm for scattering theory. *BIT
CODEN BITTEL, NBITAB.
ISSN 0006-3835 (print), 1572-9125 (electronic). URL http://
www.springerlink.com/openurl.asp?genre=article&
issn=0006-3835&volume=39&
issue=4&spage=585.

Amini:2000:ATE

Sia Amini and Anthony
Proft. Analysis of the truncation errors in the fast
multipole method for scattering problems. *Journal
of Computational and Applied Mathematics*, 115(1–
CODEN JCAMDI.
ISSN 0377-0427 (print), 1879-1778
(electronic). URL http://
www.sciencedirect.com/
science/article/pii/S0377042799001752.

Amini:2003:MLF

S. Amini and A. T. J. Proft. Multi-level fast multi-
pole Galerkin method for the boundary integral solution of
the exterior Helmholtz equation. In *Current trends in
scientific computing (Xi’an, 2002)*, volume 329 of *Contemp.
Math.*, pages 13–19.

American Mathematical So-
ciety, Providence, RI, USA,
2003.

Aluru:1994:TDI

S. Aluru, G. M. Prabhu,
and J. Gustafson. Truly
distribution-independent algo-
rithms for the N-body
problem. In IEEE [IEE94c],
pages 420–428. ISBN 0-8186-
6605-6 (paper), 0-8186-6606-
4 (microfiche), 0-8186-6607-
2 (case). ISSN 1063-9535.
LCCN QA76.5 .S894 1994.
duke.edu/School/Reference/
Multipole.html; http:/
/sc94.ameslab.gov/AP/contents.
hmtl. This paper proves that
Greengard’s algorithm is not
O(N) for non-uniform distri-
butions.

Appel:1985:EPM

Andrew W. Appel. An effi-
cient program for many-body
simulation. *SIAM Journal
on Scientific and Statistical
Computing*, 6(1):85–103, January
ISSN 0196-5204.

Alpert:1991:FAE

Bradley K. Alpert and
Vladimir Rokhlin. A fast al-
gorithm for the evaluation of
Legendre expansions. *SIAM
Journal on Scientific and Sta-
tistical Computing*, 12(1):158–
179, January 1991. CO-
DEN SIJCD4. ISSN 0196-
5204. These polynomials are
used in the Fast Multipole
Method, and this paper shows how they can be computed in $O(N)$ time.

Allen:1987:CSL


Atkinson:1997:NSB


Amisaki:2003:DHA


Araujo:2012:SLS


Ying:1997:VM


Bailey:1995:PSS


Becciani:1997:PTC

REFERENCES


REFERENCES


Bathe:2003:CFS


Berger:1987:PSN


Becciani:2006:FMP


Beale:1993:VFR


Board:1992:AMD


Babuska:2002:MMN


REFERENCES


REFERENCES


Berman:1994:RME


Beatson:1997:SCF

Rick Beatson and Leslie Greengard. A short course on fast multipole methods. In Ainsworth et al. [A+97], pages 1–37. ISBN 0-19-850190-0. LCCN QA374 .W38 1997. The Seventh EPSRC Numerical Analysis Summer School was held at the University of Leicester during the summer of 1996, from the 8th to the 19th of July.

Bunse-Gerstner:2006:PGC


Bakker:1990:SPC


Beatson:1997:SCF


Bischof:2005:DPC


Broeckx:2000:PIC

F. Broeckx, M. J. Goovaerts, R. Piessens, and L. Wuytack,

[BH86] J. E. Barnes and P. Hut. A hierarchical $O(N \log N)$ forcecalculation algorithm. *Nature*, 324(6270):446–449, 1986. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). This paper appears to be the origin of fast multipole algorithms; its $O(N \log N)$ complexity was later improved to $O(N)$ [GR87]. See also [App85], which might predate this work.


REFERENCES


REFERENCES

References


REFERENCES

Brunet:1993:HAD


Blelloch:1997:PCB


Beatson:1998:FER


Bonnet:2007:FBT


Boris:1986:VNN


Bode:2000:TPM


Boyd:1992:FA

John P. Boyd. A fast algorithms for Chebyshev, Fourier


Benson:2014:PDF


Brebbia:1993:BEX


Brebbia:2004:BEX


Biesiadecki:1993:DMT


Blackston:1997:HPE


Board:2000:FMA


Bapat:2009:AFM

[BSL09] M. S. Bapat, L. Shen, and
REFERENCES


REFERENCES


REFERENCES


REFERENCES

583X (print), 1290-3841 (electronic).

**Carayol:2005:EEF**


**Cho:2010:WFM**


**Cho:2012:RWW**


**Chen:2013:APM**


**Chaillat:2015:WFM**


**Cheng:2006:RIW**

H. Cheng, W. Crutchfield, Z. Gimbutas, L. Green-gard, J. Huang, V. Rokhlin, N. Yarvin, and J. Zhao. Remarks on the implementation of the wideband FMM for the Helmholtz equation in two dimensions. In *Inverse problems, multi-scale analysis and
REFERENCES


**Cheng:2006:WFM**


**Chen:2009:ADI**


**Chen:1997:FMM**


**Cecka:2013:FBF**


**Chen:1997:FMM**


**Cecka:2013:FBF**


**Crowley:1997:AIS**


**Chartier:2010:RFM**

REFERENCES

issn=0006-3835&volume=50&issue=1&page=23.

Carpentieri:2003:CFM


Carpentieri:2005:CFM


Cai:2007:EFM


Capuzzo-Dolcetta:1998:CBF


Cichocki:1989:EIP

Coulaud:2008:HPB

1862, 2008. CODEN JCT-PAH. ISSN 0021-9991 (print), 1090-2716 (electronic).

**Coulaud:2010:HPB**


**Cheng:1997:NEE**


**Chandrasekaran:2004:DCA**


**Chen:2003:CTS**


**Carrier:1988:FAM**


**Cheng:1999:FAM**


**Cohen:2003:MNA**

REFERENCES


**Cheng:2006:AFS**


**Chowdhury:2005:SLM**


**Callahan:1995:ADC**


**Callahan:1995:DMP**


**Cottet:2000:VMT**

REFERENCES

[Cruz:2011:FMM]

[Chau:2008:AFM]

[Chynoweth:1991:SOL]

[Caillol:1991:NSH]

[Cecka:2012:FMM]

[Coifman:2006:DW]
REFERENCES


References


Matt Challacombe, Chris White, and Martin Head-Gordon. Periodic boundary conditions and the fast multipole method. Journal of Chemical Physics, 107(23):10131–??, 1997. CO-
DEN JCPA6. ISSN 0021-9606 (print), 1089-7690 (electronic).

Chen:2008:FFM


Dachsel:2006:FAD


Dachsel:2009:ECF


Dachsel:2010:CAE


Darve:1997:FMM


Darve:2000:FMMa


Darve:2000:FMMb


Darrigrand:2002:CFM

Deng:2007:EFM


DeCastro:2006:NMA


Draghicescu:1995:FAV


Darbas:2013:CAP


Dehnen:2002:HFC


Demmel:1995:FHM


Demmel:1996:FHMa


Demmel:1996:FHMb

James Demmel. Fast hierarchical methods for the
REFERENCES


Dutt:1996:FAP


Dejonge:1986:USS


Darve:2004:EFM


Darve:2004:FMM


Dorband:2003:SHS


Debolt:1993:AMP


Ding:1992:ALSb

Hong-Qiang Ding, Naoki Karasawa, and William A. Goddard, III. Atomic level

[Ding:1992:OSC]


[Ding:1992:RCM]


[Darrigrand:2007:CUW]


[Darrigrand:2012:CUW]

Deem:1990:TCS


Dutt:1995:FFT


Dikaiakos:1996:FAS


Dongarra:2000:GEI


Dombroski:1996:KCE


Dubinski:1996:PTC


Dembart:1998:AFM

REFERENCES


REFERENCES


Edelman:1999:FFF


Engblom:2011:WSS


Ergul:2011:SLS


Engquist:2012:NAM


El-Shenawee:2004:RSM


Ergin:1998:FET

El-Shenawee:2001:MCS

Esselink:1995:CAL

Esselink:1995:CAL

Fann:2004:SOM

Fong:2009:BBF

Franklin:1996:GMI

Fedichev:2011:CEM

Fukushige:1999:HPS
Toshiyuki Fukushige, Piet Hut, and Junichiro Makino.
References


T. Fukushige, J. Makino, T. Ito, S. K. Okumura,


H. Fujiwara. The fast multipole method for integral equations of seismic scattering

Ful97


Gurel:1996:ESS


Gurel:1996:FMM


Gumerov:2013:FMA


Gaspar:1997:FSB


Gavrilyuk:2011:BRF


[Gumero:2006:FMM]


[Gumero:2007:FRB]


[Gumero:2007:SPF]


[Gumero:2008:FMM]


[Gumero:2009:BFM]


[Garcia:2008:ISE]


[Grest:1989:VLC]

[GE13] Anders Goude and Stefan
REFERENCES


REFERENCES


Greengard:2004:IEM [GK04]


Ginste:2009:ECP [GKD09]


Greengard:1996:IEM [GKM96]


Grama:1994:SPF [GKS94]


Grama:1998:SPF [GKS98]


Griebel:2007:NSM [GKZ07]

REFERENCES


REFERENCES


Greengard:1991:FAC


Greengard:1990:NSB


Greengard:1990:PF


Greengard:1994:FAC


Ginste:2004:FMM


GS91

GS98a

GS98b
REFERENCES

Geng:2001:FMM

Grama:1998:IEB

Grama:1998:PMD

Groom:1995:IG

Greengard:1998:GEI
Leslie Greengard and Stephen Wandzura. Guest Editor’s introduction: Fast multipole

**Giese:2008:EAT**


**Hoft:2017:FUM**


**Hamada:2011:GAI**


**Hariharan:2002:SPF**


**Have:2003:PIF**


**Halley:1993:PSM**


**He:2008:DVT**


**Hesford:2010:FIS**


**Higham:2015:PCA**


**Hockney:1988:CSU**


**Holm:2014:DAA**


**Hinsen:1992:RDE**


**Hamada:1998:PPS**

REFERENCES

ver Spring, MD 20910, USA, 1998.


**He:2008:FES**


**Huang:2018:IEC**


**Hut:1986:USS**


**Hamilton:1995:RGM**


**Hamada:2010:TAB**


**Houzaki:2006:FPR**


REFERENCES

926x (print), 1558-2221 (electronic).

Hanrahan:1991:RHR


Heath:1997:PES


Ho:2002:SBP


Hoyler:1997:FMM


Hesford:2010:FMM


Hesford:2011:RRA

Andrew J. Hesford and Robert C. Waag. Reduced-rank approximations to the far-field transform in the grid-ded fast multipole method.
REFERENCES


Yao:2008:IFM


Ichiki:2002:ISD


IEEE:1990:PSN


IEEE:1992:ASF


IEEE:1992:PSM

IEEE:1993:PSP


IEEE:1994:IAP


IEEE:1994:PSH


IEEE:1994:PSW


IEEE:1995:IAP

IEEE:1996:IAP


IEEE:1996:PFI


IEEE:1996:PSM


IEEE:1997:IAP


IEEE:1998:FIC


IEEE:2002:STI

[IEE02] IEEE, editor. *SC2002: From Terabytes to Insight. Proceed-


REFERENCES


Jandhyala:1998:FAA


Jiang:2004:NCE


Jansen:2018:TCC


Jia:2008:KDC


Jeon:2008:PTC


Jandhyala:1998:CSD

REFERENCES

Jandhyala:1997:HFS


Jernigan:1989:TCL


Kaxiras:1996:MTS


Kutteh:1995:GFM


Kutteh:1996:RCG


Kantardjiev:2015:SNU

REFERENCES


[KFM99] Atsushi Kawai, Toshiyuki Fukushige, and Junichiro Makino. $7.3/Mflops astrophysical N-body simulation with treecode on GRAPE-5. In ACM [ACM99], page ??


REFERENCES

pean supercomputing accomplishments, and performance and computations — v. 3. Supercomputer design, hardware and software.


Kokubo:1994:HSP


Kutteh:1995:ICM


Kondratyev:1993:MME


Kropinski:1999:IEM

REFERENCES

Kropinski:2001:ENM


Kropinski:2002:NMM


Kudin:1998:FMA


Kudin:1998:FMM


Kudin:2004:RIL


Kim:2011:CSV


Koc:1999:EAN

S. Koc, J. Song, and W. C. Chew. Error analysis for the numerical evaluation of the diagonal forms of the
REFERENCES


**Kim:2010:CBA**


**Labreuche:1998:CTF**


**Leathrum:1991:PFM**


**Leathrum:1992:MAF**


**Leathrum:1992:PFMb**


**Liem:1991:MDS**


**Lazarski:2016:DFT**

REFERENCES


**Lim:1997:MDV**


**Lu:1993:FAS**


**Lu:1994:MAS**


**Liska:2014:PFM**


**Letourneau:2014:CFM**


**Leimkuhler:2006:NAM**

REFERENCES

Lu:2010:AAF


Lu:2013:AAF


Lashuk:2012:MPA


Lu:2007:NVF

Lustig:1993:FMM


Li:2018:MDL


Lu:2007:AFM


Lambert:1996:MBA


LeRouzo:1997:MEC


Leathrum:1992:PFMa


Lemou:1998:MEF


Lemou:2004:MAF

[Lem04] Mohammed Lemou. On multipole approximations of the

Leszczynski:1996:CCR

Liang:2013:FMM

Liu:2008:FFT
Kian Meng Lim, Xuefei He, and Siak Piang Lim. Fast Fourier transform on multipoles (FFTM) algorithm for Laplace equation with direct and indirect boundary ele-

Linton:1995:MMB

Liu:2008:FMB

Liu:2009:FMB

**Lu:1996:AFMb**


**Lu:1996:AFMa**


**Lee:1998:PPS**


**Lienhart:2002:UFP**


**Lakshminarasimhulu:2002:CMB**


**Lin:1992:MDD**


**Lu:1996:MPF**

REFERENCES

Computer Society Press order number PR07582.


ISSN 0020-7608 (print), 1097-461X (electronic).

Langer:2005:CBF

Lu:1996:AFA

Lupo:2002:LSM

Liu:2017:FMM

Ltaief:2014:DDE

Lee:2004:SIP

Makedon:1993:PDA
F. Makedon, editor. Parallel I/O and databases: 2nd Annual symposium on issues and obstacles in the practical implementation of parallel algorithms and the use of parallel machines — June 1993, Hanover, NH, Dartmouth Institute for Advanced Gradu-
ate Studies in Parallel Computation. DIAGS, Hanover, NH, USA, 1993.


REFERENCES

CODEN CSENFA. ISSN 1521-9615 (print), 1558-366X (electronic). URL http://dl.acm.org/citation.cfm?doid=1539481.1539489. See [DS00, BS00].


[MD98] Edwin A. Marengo and Anthony J. Devaney. Time-dependent plane wave and


REFERENCES

Malas:2011:SCP


McKenney:1995:FPS


Makino:2007:GDP


MacDonald:1995:FSM


Macdonald:1996:FSM


Makino:1990:GSP

REFERENCES

org/stamp/stamp.jsp?tp=&arnumber=145455.


REFERENCES

8275 (print), 1095-7197 (electronic).

Milthorp:2014:PFI


Mehrotra:1992:USC


Makino:1998:SSS


Makino:1994:GOT


Makino:1995:ABS


Nishida:1997:AFM

Nilsson:2004:SHF


Nakano:1994:MMD


Najm:1999:CLE


Nitadori:2006:PTB


Niino:2012:PBC


Nyland:1993:DIA


Niedermeier:1994:SAM

REFERENCES


REFERENCES

<table>
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<tr>
<th>Reference</th>
<th>Details</th>
</tr>
</thead>
</table>
REFERENCES


Olyslager:2008:FMM


Okumura:1992:GHP


Otani:2008:FPB


Otani:2008:PFM


Otani:2009:BPF

Y. Otani and N. Nishimura.

Otani:2009:FOP


Ormseth:2007:IFM


ODonnell:1989:FAN


Of:2005:AFM


Of:2006:FMM


Of:2006:BET

REFERENCES


REFERENCES

Pouransari:2015:OAF


Pellegrini:1998:EFS


Pereira:1999:PBI


Pfalzner:1994:HTC


Pfalzner:1996:MBT


Pollock:1996:CPF


Papa:2005:CMD

REFERENCES


Pearce:2015:DLB


Piecuch:1993:MSC


Perez-Jorda:1996:CRS


Peirce:1995:SMM


Pluta:1994:DHE

Pringle:1994:NST


Pruett:2003:ABA


Pan:1992:PCT


Potts:2004:FCR


Petersen:1994:VFM


Petersen:1995:EEFa


Petersen:1995:EEFb

1995. CODEN PRLAAZ. ISSN 0080-4630.

Pudlak:2016:LTC


Qu:2015:FMA


Rahola:1996:DFT


Rajamon:1997:PDS


Rui:2007:STS


Reif:1999:ACP

REFERENCES


REFERENCES

ROSSI:2006:EBS


RAMACHANDRAN:2003:FTD


RAMACHANDRAN:2005:FMM


RUSSO:1994:FTV


ROKHLIN:1997:SFM


RUDBERG:2006:EIF


RENEGAR:1996:MNA

REFERENCES

Ravnik:2009:CBW


Rodriguez:2008:USV


Ringbom:1996:FSG


Salmon:1996:GCC


Sarvas:2003:PIA

REFERENCES


uatuio of the zero-nupoloe
summation method in mod-
erm molecular dynamics soft-
ware. Journal of Compu-
tationa! Chemistry, 39(20): 
1551-1560, July 30, 2018. 
CODEN JCCHDD. ISSN 
0192-8651 (print), 1096-987X 
(electronic).

Sendur:1997:SRP

[SG97] I. K. Sendur and L. Guerel. Solution of radiation prob-
lems using the fast mul-
tiopole method. In IEEE 
[IEE97], pages 4-11. ISBN 
0-7803-4179-1, 0-7803-4178-3, 
0-7803-4180-5, 0-7803-4181-
3. LCCN TK7871.6.139 1997. 
Four volumes. IEEE catalog 
number: 97CH36122.

Sabariego:2004:CME

[SGD+04] R. V. Sabariego, J. Gysel-
linck, P. Dular, J. De 
Coster, F. Henrotte, and 
K. Hameyer. Coupled 
mechanical-electrostatic FE-
BE analysis with FMM ac-
celeration: application to 
a shunt capacitive MEMS 
switch. COMPEL, 23(4):876-
884, 2004. ISSN 0332-1649.

Sabariego:2004:AFM

[SGG+04] R. V. Sabariego, J. Gyselinck, 
C. Geuzaine, P. Dular, and 
W. Legros. Application of the 
fast multipole method to hy-
brid finite element-boundary 
element models. Journal of 
Computational and Ap-
pied Mathematics, 168(1-

Shanker:2007:ACE

B. Shanker and H. Huang. Ac-
celerated Cartesian expansions — 
a fast method for comput-
ing of potentials of the form 
R−ν for all real ν. Journal of Computational Physics, 
226(1):732-753, 2007. CO-
DEN JCTPAH. ISSN 0021-
9991 (print), 1090-2716 (elec-
tronic).

Sharp:2006:BSP

Philip W. Sharp. N-body 
simulations: The perfor-
mance of some integrators. 
ACM Transactions on Mathe-
matical Software, 32(3):375-
395, September 2006. CO-
DEN ACMSCU. ISSN 0098-
3500 (print), 1557-7295 (elec-
tronic).

Singh:1995:IHB

Jaswinder Pal Singh, John L. 
Hennessy, and Anoop Gupta. 
Implications of hierarchi-
cal N-body methods for 
multiprocessor architectures. 
ACM Transactions on Com-
puter Systems, 13(2):141-
202, May 1995. CODEN 
ACSYEC. ISSN 0734-
2071 (print), 1557-7333 (elec-
acm.org:80/pubs/citations/
REFERENCES


**Suda:2004:APA**


**Skeel:1989:MDS**


**Solvason:1995:RCE**


**Schmidt:1991:IFM**

REFERENCES

Schmidt:1997:EIF


Schmidt:1997:MES


Song:1996:MFM


Song:1997:MFM


Song:1998:FISa


Song:1998:FISb


Shanker:1997:OSI

Simos:2005:ACM

Shanker:1997:SIC

Solvason:1997:EEF

Sidonio:1999:PBI

Sun:2001:MVF

Springel:2005:CSC

Scherbinin:1996:UME
REFERENCES


Stalzer:1995:PFMb

Stalzer:1995:PFMa

Sun:2014:FMR

Suda:2004:SAF

Salmon:1994:STC

Springel:2005:SFE

Salmon:1994:FPT
John K. Salmon, Michael S. Warren, and Gregoire S. Winckelmans. Fast parallel tree codes for gravitational and fluid dynamical N-body
Schwichtenberg:1999:AMM


Tausch:2003:SBP


Tausch:2003:FMM


Tausch:2004:VOF

REFERENCES


Shang-Hua Teng. Probably good partitioning and

**Tornberg:2008:FMM**


**Totoo:2014:PHI**


**Taiji:1994:GTM**


**Tang:2012:FLC**


**Takahashi:2016:EBM**


**Tausch:2003:MBS**

REFERENCES

8275 (print), 1095-7197 (electronic).


REFERENCES

Victory:1991:CAF


Van:2002:TDF


Wambsganss:1999:GLN


Wagner:1994:RPA


Wagner:1994:RPF


Welch:1991:TPW


Wang:2008:FSM


Warren:1998:AAL


Wallen:2006:BMF


Wala:2018:FAE


Wang:1996:EFM


Wang:2007:PFM


Wang:1999:LSM

Zhiqiang Wang, James Lupo, Alan McKenney, and Ruth Pachter. Large scale molecular dynamics simulations with fast multipole implementations. In ACM [ACM99], page ??

Watanabe:2014:GAH


Waltz:2002:PCT

REFERENCES


Computer Society Press order number RS00160.


using a new fast multipole boundary element method. 


REFERENCES

137


**Xiao:2009:FMV**


**Xu:2008:FMB**


**Yoshii:2018:PTE**


**Yeung:1997:TNL**


**Yuan:2001:PIF**


**Yokota:2012:TSF**

REFERENCES

Yokota:2011:BEU


Yokota:2012:SFM


Yokota:2013:PTS


Ying:2004:KIA


Ying:2003:NPK


Yang:1998:STE

Tao Yang and Cong Fu. Space/time-efficient scheduling and execution of parallel irregular computations. ACM Transactions on Programming Languages and Systems, 20(6):1195–1222, November 1998. CODEN ATPSDT. ISSN 0164-0925 (print), 1558-4593 (elect-
139

REFERENCES

Yoshikawa:2005:PTM


Yang:2001:CPD


Ying:2006:KIF


Ying:2009:FAB


Ying:2015:BPF


Yokota:2009:FMM


Yarvin:1998:GOD

Norman Yarvin and Vladimir Rokhlin. A generalized one-dimensional fast multipole method with application to filtering of spherical harmonics. *Journal of Computa-
REFERENCES

Yarvin:1999:IFM


Yokota:2014:CCF


Zhou:1995:NMD


Zheng:2016:AEA


Zwart:2010:SUI


Zhang:2010:RFY


Zhao:1991:PMM


Zhao:2007:VFM

Zhiqin Zhao, Narayan Kovvali, Wenbin Lin, Chang-Hoi Ahn, Louise Couchman, and Lawrence Carin. Volumetric fast multipole method for


