Benjamin Stamm

List of Publications by Year
in descending order

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Version: 2024-02-01

69 papers	1,862 citations	331259 21 h-index	276539 41 g-index
72 all docs	72 docs citations	72 times ranked	1348 citing authors

#	Article	IF	Citations
1	A discontinuous Galerkin method for shock capturing using a mixed high-order and sub-grid low-order approximation space. Journal of Computational Physics, 2022, 449, 110765.	1.9	4
2	Multi-center decomposition of molecular densities: a mathematical perspective. Journal of Chemical Physics, 2022, 156, 164107.	1.2	0
3	Surrogate models for quantum spin systems based on reduced-order modeling. Physical Review E, 2022, 105, 045303.	0.8	5
4	Post-processing of the planewave approximation of SchrÃ¶dinger equations. Part I: linear operators. IMA Journal of Numerical Analysis, 2021, 41, 2423-2455.	1.5	3
5	Analysis of the Schwarz Domain Decomposition Method for the Conductor-like Screening Continuum Model. SIAM Journal on Numerical Analysis, 2021, 59, 769-796.	1.1	0
6	An integral equation formulation of the N-body dielectric spheres problem. Part I: numerical analysis. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, S65-S102.	0.8	7
7	An integral equation formulation of the N-body dielectric spheres problem. Part II: complexity analysis. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, S625-S651.	0.8	3
8	The influence of surface charge on the coalescence of ice and dust particles in the mesosphere and lower thermosphere. Atmospheric Chemistry and Physics, 2021, 21, 8735-8745.	1.9	4
9	Gradient flow finite element discretizations with energy-based adaptivity for the Gross-Pitaevskii equation. Journal of Computational Physics, 2021, 436, 110165.	1.9	14
10	Subdiffusive-Brownian crossover in membrane proteins: a Generalized Langevin Equation-based approach. Biophysical Journal, 2021, 120, 4722-4737.	0.2	6
11	Data-driven classification of elementary rearrangement events in silica glass. Scripta Materialia, 2021, 205, 114179.	2.6	8
12	Grassmann Extrapolation of Density Matrices for Bornâ€“Oppenheimer Molecular Dynamics. Journal of Chemical Theory and Computation, 2021, 17, 6965-6973.	2.3	10
13	An Embedded Corrector Problem for Homogenization. Part I: Theory. Multiscale Modeling and Simulation, 2020, 18, 1179-1209.	0.6	3
14	Guaranteed a posteriori bounds for eigenvalues and eigenvectors: Multiplicities and clusters. Mathematics of Computation, 2020, 89, 2563-2611.	1.1	10
15	A boundary-partition-based Voronoi diagram of d-dimensional balls: definition, properties, and applications. Advances in Computational Mathematics, 2020, 46, 1.	0.8	3
16	An embedded corrector problem for homogenization. Part II: Algorithms and discretization. Journal of Computational Physics, 2020, 407, 109254.	1.9	5
17	An approximation strategy to compute accurate initial density matrices for repeated self-consistent field calculations at different geometries. Molecular Physics, 2020, 118, e1779834.	0.8	11
18	Quantum Calculations in Solution of Energies, Structures, and Properties with a Domain Decomposition Polarizable Continuum Model. Journal of Chemical Theory and Computation, 2019, 15, 6061-6073.	2.3	11

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19	Theoretical analysis of screened many-body electrostatic interactions between charged polarizable particles. Journal of Chemical Physics, 2019, 150, 044901.	1.2	9
20	A Domain Decomposition Method for the Poisson–Boltzmann Solvation Models. SIAM Journal of Scientific Computing, 2019, 41, B320-B350.	1.3	13
21	How to make continuum solvation incredibly fast in a few simple steps: A practical guide to the domain decomposition paradigm for the conductorâ€like screening model. International Journal of Quantum Chemistry, 2019, 119, e25669.	1.0	17
22	Model Order Reduction for Problems with Large Convection Effects. Computational Methods in Applied Sciences (Springer), 2019, , 131-150.	0.1	30
23	A domain decomposition method for the polarizable continuum model based on the solvent excluded surface. Mathematical Models and Methods in Applied Sciences, 2018, 28, 1233-1266.	1.7	8
24	Dynamic simulations of many-body electrostatic self-assembly. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170143.	1.6	11
25	A coherent derivation of the Ewald summation for arbitrary orders of multipoles: The self-terms. Journal of Chemical Physics, 2018, 149, 124103.	1.2	9
26	Guaranteed and robust a posteriori bounds for Laplace eigenvalues and eigenvectors: a unified framework. Numerische Mathematik, 2018, 140, 1033-1079.	0.9	19
27	Tinker-HP: a massively parallel molecular dynamics package for multiscale simulations of large complex systems with advanced point dipole polarizable force fields. Chemical Science, 2018, 9, 956-972.	3.7	190
28	An integral equation approach to calculate electrostatic interactions in many-body dielectric systems. Journal of Computational Physics, 2018, 371, 712-731.	1.9	28
29	Meshing molecular surfaces based on analytical implicit representation. Journal of Molecular Graphics and Modelling, 2017, 71, 200-210.	1.3	14
30	The effect of like-charge attraction on aerosol growth in the atmosphere of Titan. Icarus, 2017, 291, 245-253.	1.1	18
31	Guaranteed and Robust a Posteriori Bounds for Laplace Eigenvalues and Eigenvectors: Conforming Approximations. SIAM Journal on Numerical Analysis, 2017, 55, 2228-2254.	1.1	24
32	Computation of forces arising from the polarizable continuum model within the domain-decomposition paradigm. Journal of Chemical Physics, 2017, 147, 224108.	1.2	9
33	Truncated Conjugate Gradient: An Optimal Strategy for the Analytical Evaluation of the Many-Body Polarization Energy and Forces in Molecular Simulations. Journal of Chemical Theory and Computation, 2017, 13, 180-190.	2.3	34
34	A posteriorierror estimates for discontinuous Galerkin methods using non-polynomial basis functions. Part II: Eigenvalue problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2017, 51, 1733-1753.	0.8	4
35	A posteriorierror estimates for discontinuous Galerkin methods using non-polynomial basis functions Part I: Second order linear PDE. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 1193-1222.	0.8	6
36	A perturbation-method-based post-processing for the planewave discretization of Kohnâ€“Sham models. Journal of Computational Physics, 2016, 307, 446-459.	1.9	11

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37	Mathematical analysis and calculation of molecular surfaces. Journal of Computational Physics, 2016, 322, 760-782.	1.9	22
38	A new discretization for the polarizable continuum model within the domain decomposition paradigm. Journal of Chemical Physics, 2016, 144, 054101.	1.2	19
39	Certified Reduced Basis Methods for Parametrized Partial Differential Equations. SpringerBriefs in Mathematics, 2016, , .	0.2	355
40	Certified Error Control. SpringerBriefs in Mathematics, 2016, , 45-66.	0.2	1
41	The Empirical Interpolation Method. SpringerBriefs in Mathematics, 2016, , 67-85.	0.2	0
42	Achieving Linear Scaling in Computational Cost for a Fully Polarizable MM/Continuum Embedding. Journal of Chemical Theory and Computation, 2015, 11, 694-704.	2.3	45
43	Polarizable Molecular Dynamics in a Polarizable Continuum Solvent. Journal of Chemical Theory and Computation, 2015, 11, 623-634.	2.3	45
44	An embedded corrector problem to approximate the homogenized coefficients of an elliptic equation. Comptes Rendus Mathematique, 2015, 353, 801-806.	0.1	10
45	Scalable Evaluation of Polarization Energy and Associated Forces in Polarizable Molecular Dynamics: II. Toward Massively Parallel Computations Using Smooth Particle Mesh Ewald. Journal of Chemical Theory and Computation, 2015, 11, 2589-2599.	2.3	53
46	Efficient greedy algorithms for high-dimensional parameter spaces with applications to empirical interpolation and reduced basis methods. ESAIM: Mathematical Modelling and Numerical Analysis, 2014, 48, 259-283.	0.8	82
47	Scalable Evaluation of Polarization Energy and Associated Forces in Polarizable Molecular Dynamics: I. Toward Massively Parallel Direct Space Computations. Journal of Chemical Theory and Computation, 2014, 10, 1638-1651.	2.3	76
48	A perturbation-method-based a posteriori estimator for the planewave discretization of nonlinear SchrÃ¶dinger equations. Comptes Rendus Mathematique, 2014, 352, 941-946.	0.1	16
49	Quantum Calculations in Solution for Large to Very Large Molecules: A New Linear Scaling QM/Continuum Approach. Journal of Physical Chemistry Letters, 2014, 5, 953-958.	2.1	32
50	Quantum, classical, and hybrid QM/MM calculations in solution: General implementation of the ddCOSMO linear scaling strategy. Journal of Chemical Physics, 2014, 141, 184108.	1.2	47
51	Comparison of Some Reduced Representation Approximations. , 2014, , 67-100.		5
52	Fast Domain Decomposition Algorithm for Continuum Solvation Models: Energy and First Derivatives. Journal of Chemical Theory and Computation, 2013, 9, 3637-3648.	2.3	81
53	Locally Adaptive Greedy Approximations for Anisotropic Parameter Reduced Basis Spaces. SIAM Journal of Scientific Computing, 2013, 35, A2417-A2441.	1.3	55
54	Domain decomposition for implicit solvation models. Journal of Chemical Physics, 2013, 139, 054111.	1.2	68

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55	Certified Reduced Basis Method for the Electric Field Integral Equation. SIAM Journal of Scientific Computing, 2012, 34, A1777-A1799.	1.3	21
56	A reduced basis method for electromagnetic scattering by multiple particles in three dimensions. Journal of Computational Physics, 2012, 231, 7756-7779.	1.9	32
57	Parameter multiâ€domain â€˜hpâ€™ empirical interpolation. International Journal for Numerical Methods in Engineering, 2012, 90, 412-428.	1.5	53
58	Bubble stabilized discontinuous Galerkin methods onÂconforming and non-conforming meshes. Calcolo, 2011, 48, 189-209.	0.6	1
59	A posteriori estimates for the Bubble Stabilized Discontinuous Galerkin Method. Journal of Computational and Applied Mathematics, 2011, 235, 4309-4324.	1.1	1
60	The reduced basis method for the electric field integral equation. Journal of Computational Physics, 2011, 230, 5532-5555.	1.9	54
61	â„Ž?-Optimal discontinuous Galerkin methods for linear elliptic problems. Mathematics of Computation, 2010, 79, 2117-2133.	1.1	23
62	Bubble stabilized discontinuous Galerkin method for parabolic and elliptic problems. Numerische Mathematik, 2010, 116, 213-241.	0.9	7
63	Interior Penalty Continuous and Discontinuous Finite Element Approximations of Hyperbolic Equations. Journal of Scientific Computing, 2010, 43, 293-312.	1.1	24
64	BUBBLE STABILIZED DISCONTINUOUS GALERKIN METHOD FOR STOKES' PROBLEM. Mathematical Models and Methods in Applied Sciences, 2010, 20, 297-313.	1.7	8
65	Low Order Discontinuous Galerkin Methods for Second Order Elliptic Problems. SIAM Journal on Numerical Analysis, 2009, 47, 508-533.	1.1	17
66	Symmetric and non-symmetric discontinuous Galerkin methods stabilized using bubble enrichment. Comptes Rendus Mathematique, 2008, 346, 103-106.	0.1	7
67	The symmetric discontinuous Galerkin method does not need stabilization in 1D for polynomial orders. Comptes Rendus Mathematique, 2007, 345, 599-602.	0.1	8
68	Minimal Stabilization for Discontinuous Galerkin Finite Element Methods for Hyperbolic Problems. Journal of Scientific Computing, 2007, 33, 183-208.	1.1	16
69	On the Scalability of the Schwarz Method. SMAI Journal of Computational Mathematics, 0, 6, 33-68.	0.0	7