Shenggao Zhou

List of Publications by Year
in descending order

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		759233	677142
33	511	12	22
papers	citations	h-index	g-index

33	33	33	397
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	An iteration solver for the Poissonâ€“Nernstâ€“Planck system and its convergence analysis. Journal of Computational and Applied Mathematics, 2022, 406, 114017.	2.0	6
2	Convergence analysis of structureâ€preserving numerical methods for nonlinear Fokkerâ€“Planck equations with nonlocal interactions. Mathematical Methods in the Applied Sciences, 2022, 45, 3764-3781.	2.3	6
3	A positive and energy stable numerical scheme for the Poissonâ€“Nernstâ€“Planckâ€“Cahnâ€“Hilliard equations with steric interactions. Journal of Computational Physics, 2021, 426, 109908.	3.8	20
4	A positivity-preserving, energy stable and convergent numerical scheme for the Poisson-Nernst-Planck system. Mathematics of Computation, 2021, 90, 2071-2106.	2.1	36
5	Prediction of multiple dryâ€“wet transition pathways with a mesoscale variational approach. Journal of Chemical Physics, 2021, 155, 124110.	3.0	0
6	Structure-Preserving Numerical Methods for Nonlinear Fokker--Planck Equations with Nonlocal Interactions by an Energetic Variational Approach. SIAM Journal of Scientific Computing, 2021, 43, B82-B107.	2.8	3
7	Hysteresis and linear stability analysis on multiple steady-state solutions to the Poisson-Nernst-Planck equations with steric interactions. Physical Review E, 2020, 102, 053301.	2.1	1
8	Structure-preserving and efficient numerical methods for ion transport. Journal of Computational Physics, 2020, 418, 109597.	3.8	11
9	Positivity preserving finite difference methods for Poissonâ€“Nernstâ€“Planck equations with steric interactions: Application to slit-shaped nanopore conductance. Journal of Computational Physics, 2019, 397, 108864.	3.8	20
10	A conservative, free energy dissipating, and positivity preserving finite difference scheme for multi-dimensional nonlocal Fokkerâ€“Planck equation. Journal of Computational Physics, 2019, 386, 22-36.	3.8	9
11	Variational approach to concentration dependent dielectrics with the Bruggeman model: Theory and numerics. Communications in Mathematical Sciences, 2019, 17, 1949-1974.	1.0	6
12	Numerical methods for solvent Stokes flow and solute-solvent interfacial dynamics of charged molecules. Journal of Computational Physics, 2018, 374, 533-549.	3.8	1
13	A second order numerical scheme for the annealing of metalâ€“intermetallic laminate composite: A ternary reaction system. Journal of Computational Physics, 2018, 374, 1044-1060.	3.8	2
14	Asymptotic Analysis on Dielectric Boundary Effects of Modified Poisson--Nernst--Planck Equations. SIAM Journal on Applied Mathematics, 2018, 78, 1802-1822.	1.8	10
15	Computational Study on Hysteresis of Ion Channels: Multiple Solutions to Steady-State Poisson-Nernst-Planck Equations. Communications in Computational Physics, 2018, 23, .	1.7	5
16	A modified Poissonâ€“Nernstâ€“Planck model with excluded volume effect: theory and numerical implementation. Communications in Mathematical Sciences, 2018, 16, 251-271.	1.0	11
17	Stochastic level-set variational implicit-solvent approach to solute-solvent interfacial fluctuations. Journal of Chemical Physics, 2016, 145, 054114.	3.0	10
18	Hybrid finite element and Brownian dynamics method for charged particles. Journal of Chemical Physics, 2016, 144, 164107.	3.0	1

#	Article	IF	Citations
19	Annealing effects on the microstructure and properties of an Fe-based Metallic-Intermetallic Laminate (MIL) composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 665, 47-58.	5.6	21
20	Numerical Treatment of Stokes Solvent Flow and Soluteâ€“Solvent Interfacial Dynamics for Nonpolar Molecules. Journal of Scientific Computing, 2016, 67, 705-723.	2.3	2
21	Mean-field theory and computation of electrostatics with ionic concentration dependent dielectrics. Communications in Mathematical Sciences, 2016, 14, 249-271.	1.0	15
22	Identification of Proteinâ€“Ligand Binding Sites by the Level-Set Variational Implicit-Solvent Approach. Journal of Chemical Theory and Computation, 2015, 11, 753-765.	5.3	44
23	Stability of a Cylindrical Solute-Solvent Interface: Effect of Geometry, Electrostatics, and Hydrodynamics. SIAM Journal on Applied Mathematics, 2015, 75, 907-928.	1.8	8
24	LS-VISM: A software package for analysis of biomolecular solvation. Journal of Computational Chemistry, 2015, 36, 1047-1059.	3.3	18
25	Poissonâ€“Boltzmann versus Size-Modified Poissonâ€“Boltzmann Electrostatics Applied to Lipid Bilayers. Journal of Physical Chemistry B, 2014, 118, 14827-14832.	2.6	11
26	Variational Implicit Solvation with Poissonâ€“Boltzmann Theory. Journal of Chemical Theory and Computation, 2014, 10, 1454-1467.	5.3	45
27	Size-Modified Poisson-Boltzmann Electrostatics for Realistic Biomolecular Systems. Biophysical Journal, 2014, 106, 408a.	0.5	0
28	Variational Implicit-Solvent Modeling of Hostâ€“Guest Binding: A Case Study on Cucurbit[7]uril|. Journal of Chemical Theory and Computation, 2013, 9, 4195-4204.	5.3	12
29	Motion of a Cylindrical Dielectric Boundary. SIAM Journal on Applied Mathematics, 2013, 73, 594-616.	1.8	10
30	Ionic size effects: generalized Boltzmann distributions, counterion stratification and modified Debye length. Nonlinearity, 2013, 26, 2899-2922.	1.4	32
31	A linearly semi-implicit compact scheme for the Burgersâ€“Huxley equation. International Journal of Computer Mathematics, 2011, 88, 795-804.	1.8	19
32	Mean-field description of ionic size effects with nonuniform ionic sizes: A numerical approach. Physical Review E, 2011, 84, 021901.	2.1	87
33	Numerical solution to coupled nonlinear SchrÃ¶dinger equations on unbounded domains. Mathematics and Computers in Simulation, 2010, 80, 2362-2373.	4.4	29