Shenggao Zhou

List of Publications by Year
in descending order

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

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

#	Article	IF	Citations
1	Mean-field description of ionic size effects with nonuniform ionic sizes: A numerical approach. Physical Review E, 2011, 84, 021901.	2.1	87
2	Variational Implicit Solvation with Poisson–Boltzmann Theory. Journal of Chemical Theory and Computation, 2014, 10, 1454-1467.	5.3	45
3	Identification of Protein–Ligand Binding Sites by the Level-Set Variational Implicit-Solvent Approach. Journal of Chemical Theory and Computation, 2015, 11, 753-765.	5.3	44
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	Ionic size effects: generalized Boltzmann distributions, counterion stratification and modified Debye length. Nonlinearity, 2013, 26, 2899-2922.	1.4	32
6	Numerical solution to coupled nonlinear Schrödinger equations on unbounded domains. Mathematics and Computers in Simulation, 2010, 80, 2362-2373.	4.4	29
7	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
8	Positivity preserving finite difference methods for Poisson–Nernst–Planck equations with steric interactions: Application to slit-shaped nanopore conductance. Journal of Computational Physics, 2019, 397, 108864.	3.8	20
9	A positive and energy stable numerical scheme for the Poisson–Nernst–Planck–Cahn–Hilliard equations with steric interactions. Journal of Computational Physics, 2021, 426, 109908.	3.8	20
10	A linearly semi-implicit compact scheme for the Burgers–Huxley equation. International Journal of Computer Mathematics, 2011, 88, 795-804.	1.8	19
11	LS-VISM: A software package for analysis of biomolecular solvation. Journal of Computational Chemistry, 2015, 36, 1047-1059.	3.3	18
12	Mean-field theory and computation of electrostatics with ionic concentration dependent dielectrics. Communications in Mathematical Sciences, 2016, 14, 249-271.	1.0	15
13	Variational Implicit-Solvent Modeling of Host–Guest Binding: A Case Study on Cucurbit[7]uril|. Journal of Chemical Theory and Computation, 2013, 9, 4195-4204.	5.3	12
14	Poisson–Boltzmann versus Size-Modified Poisson–Boltzmann Electrostatics Applied to Lipid Bilayers. Journal of Physical Chemistry B, 2014, 118, 14827-14832.	2.6	11
15	Structure-preserving and efficient numerical methods for ion transport. Journal of Computational Physics, 2020, 418, 109597.	3.8	11
16	A modified Poisson–Nernst–Planck model with excluded volume effect: theory and numerical implementation. Communications in Mathematical Sciences, 2018, 16, 251-271.	1.0	11
17	Motion of a Cylindrical Dielectric Boundary. SIAM Journal on Applied Mathematics, 2013, 73, 594-616.	1.8	10
18	Stochastic level-set variational implicit-solvent approach to solute-solvent interfacial fluctuations. Journal of Chemical Physics, 2016, 145, 054114.	3.0	10

#	ARTICLE	IF	CITATIONS
19	Asymptotic Analysis on Dielectric Boundary Effects of Modified Poisson--Nernst--Planck Equations. SIAM Journal on Applied Mathematics, 2018, 78, 1802-1822.	1.8	10
20	A conservative, free energy dissipating, and positivity preserving finite difference scheme for multi-dimensional nonlocal Fokker–Planck equation. Journal of Computational Physics, 2019, 386, 22-36.	3.8	9
21	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
22	Variational approach to concentration dependent dielectrics with the Bruggeman model: Theory and numerics. Communications in Mathematical Sciences, 2019, 17, 1949-1974.	1.0	6
23	An iteration solver for the Poisson–Nernst–Planck system and its convergence analysis. Journal of Computational and Applied Mathematics, 2022, 406, 114017.	2.0	6
24	Convergence analysis of structure€preserving numerical methods for nonlinear Fokker–Planck equations with nonlocal interactions. Mathematical Methods in the Applied Sciences, 2022, 45, 3764-3781.	2.3	6
25	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
26	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
27	Numerical Treatment of Stokes Solvent Flow and Solute–Solvent Interfacial Dynamics for Nonpolar Molecules. Journal of Scientific Computing, 2016, 67, 705-723.	2.3	2
28	A second order numerical scheme for the annealing of metal–intermetallic laminate composite: A ternary reaction system. Journal of Computational Physics, 2018, 374, 1044-1060.	3.8	2
29	Hybrid finite element and Brownian dynamics method for charged particles. Journal of Chemical Physics, 2016, 144, 164107.	3.0	1
30	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
31	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
32	Size-Modified Poisson-Boltzmann Electrostatics for Realistic Biomolecular Systems. Biophysical Journal, 2014, 106, 408a.	0.5	0
33	Prediction of multiple dry–wet transition pathways with a mesoscale variational approach. Journal of Chemical Physics, 2021, 155, 124110.	3.0	0