Bo Li

List of Publications by Year in descending order

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48	1,238	430754	360920
papers	citations	18 h-index	35 g-index

49	49	49	572
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Immersed-Interface Finite-Element Methods for Elliptic Interface Problems with Nonhomogeneous Jump Conditions. SIAM Journal on Numerical Analysis, 2008, 46, 472-495.	1.1	165
2	Continuum electrostatics for ionic solutions with non-uniform ionic sizes. Nonlinearity, 2009, 22, 811-833.	0.6	91
3	Mean-field description of ionic size effects with nonuniform ionic sizes: A numerical approach. Physical Review E, 2011, 84, 021901.	0.8	87
4	Electrostatic Free Energy and Its Variations in Implicit Solvent Models. Journal of Physical Chemistry B, 2008, 112, 3058-3069.	1.2	84
5	Minimization of Electrostatic Free Energy and the Poissonâ€“Boltzmann Equation for Molecular Solvation with Implicit Solvent. SIAM Journal on Mathematical Analysis, 2009, 40, 2536-2566.	0.9	83
6	Application of the level-set method to the implicit solvation of nonpolar molecules. Journal of Chemical Physics, 2007, 127, 084503.	1.2	81
7	Epitaxial Growth Without Slope Selection: Energetics, Coarsening, and Dynamic Scaling. Journal of Nonlinear Science, 2004, 14, 429-451.	1.0	47
8	Dielectric Boundary Force in Molecular Solvation with the Poissonâ€“Boltzmann Free Energy: A Shape Derivative Approach. SIAM Journal on Applied Mathematics, 2011, 71, 2093-2111.	0.8	45
9	Variational Implicit Solvation with Poissonâ€“Boltzmann Theory. Journal of Chemical Theory and Computation, 2014, 10, 1454-1467.	2.3	45
10	Coupling the Level-Set Method with Molecular Mechanics for Variational Implicit Solvation of Nonpolar Molecules. Journal of Chemical Theory and Computation, 2009, 5, 257-266.	2.3	44
11	Interfaces and hydrophobic interactions in receptor-ligand systems: A level-set variational implicit solvent approach. Journal of Chemical Physics, 2009, 131, 144102.	1.2	40
12	Level-Set Variational Implicit-Solvent Modeling of Biomolecules with the Coulomb-Field Approximation. Journal of Chemical Theory and Computation, 2012, 8, 386-397.	2.3	33
13	Ionic size effects: generalized Boltzmann distributions, counterion stratification and modified Debye length. Nonlinearity, 2013, 26, 2899-2922.	0.6	32
14	Evaluation of Hydration Free Energy by Level-Set Variational Implicit-Solvent Model with Coulomb-Field Approximation. Journal of Chemical Theory and Computation, 2013, 9, 1778-1787.	2.3	27
15	Analysis of Island Dynamics in Epitaxial Growth of Thin Films. Multiscale Modeling and Simulation, 2003, 1, 150-171.	0.6	26
16	Competitive adsorption and ordered packing of counterions near highly charged surfaces: From mean-field theory to Monte Carlo simulations. Physical Review E, 2012, 85, 041406.	0.8	22
17	Heterogeneous Hydration of p53/MDM2 Complex. Journal of Chemical Theory and Computation, 2014, 10, 1302-1313.	2.3	22
18	Level-set minimization of potential controlled Hadwiger valuations for molecular solvation. Journal of Computational Physics, 2010, 229, 8497-8510.	1.9	20

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19	LS-VISM: A software package for analysis of biomolecular solvation. Journal of Computational Chemistry, 2015, 36, 1047-1059.	1.5	18
20	Yukawa-field approximation of electrostatic free energy and dielectric boundary force. Nonlinearity, 2011, 24, 3215-3236.	0.6	17
21	High-order surface relaxation versus the Ehrlichâ€“Schwoebel effect. Nonlinearity, 2006, 19, 2581-2603.	0.6	15
22	Phase-field approach to implicit solvation of biomolecules with Coulomb-field approximation. Journal of Chemical Physics, 2013, 139, 024111.	1.2	15
23	Mean-field theory and computation of electrostatics with ionic concentration dependent dielectrics. Communications in Mathematical Sciences, 2016, 14, 249-271.	0.5	15
24	Convergence of Phase-Field Free Energy and Boundary Force for Molecular Solvation. Archive for Rational Mechanics and Analysis, 2018, 227, 105-147.	1.1	14
25	Variational Implicit Solvation with Solute Molecular Mechanics: From Diffuse-Interface to Sharp-Interface Models. SIAM Journal on Applied Mathematics, 2013, 73, 1-23.	0.8	13
26	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.	2.3	12
27	Variational implicit-solvent predictions of the dryâ€“wet transition pathways for ligandâ€“receptor binding and unbinding kinetics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14989-14994.	3.3	12
28	An Interface-Fitted Finite Element Level Set Method with Application to Solidification and Solvation. Communications in Computational Physics, 2011, 10, 32-56.	0.7	11
29	Motion of a Cylindrical Dielectric Boundary. SIAM Journal on Applied Mathematics, 2013, 73, 594-616.	0.8	10
30	Stochastic level-set variational implicit-solvent approach to solute-solvent interfacial fluctuations. Journal of Chemical Physics, 2016, 145, 054114.	1.2	10
31	â€œMartinizingâ€•the Variational Implicit Solvent Method (VISM): Solvation Free Energy for Coarse-Grained Proteins. Journal of Physical Chemistry B, 2017, 121, 6538-6548.	1.2	10
32	Diffused Solute-Solvent Interface with Poisson--Boltzmann Electrostatics: Free-Energy Variation and Sharp-Interface Limit. SIAM Journal on Applied Mathematics, 2015, 75, 2072-2092.	0.8	9
33	Stability of a circular epitaxial island. Physica D: Nonlinear Phenomena, 2004, 198, 231-247.	1.3	8
34	A self-consistent phase-field approach to implicit solvation of charged molecules with Poissonâ€“Boltzmann electrostatics. Journal of Chemical Physics, 2015, 143, 243110.	1.2	8
35	Stability of a Cylindrical Solute-Solvent Interface: Effect of Geometry, Electrostatics, and Hydrodynamics. SIAM Journal on Applied Mathematics, 2015, 75, 907-928.	0.8	8
36	Hybrid Monte Carlo and continuum modeling of electrolytes with concentration-induced dielectric variations. Physical Review E, 2016, 94, 053312.	0.8	8

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37	Tailoring the Variational Implicit Solvent Method for New Challenges: Biomolecular Recognition and Assembly. Frontiers in Molecular Biosciences, 2018, 5, 13.	1.6	6
38	Coupling Monte Carlo, Variational Implicit Solvation, and Binary Level-Set for Simulations of Biomolecular Binding. Journal of Chemical Theory and Computation, 2021, 17, 2465-2478.	2.3	6
39	Analysis of coupled reactionâ€“diffusion equations for RNA interactions. Journal of Mathematical Analysis and Applications, 2015, 425, 212-233.	0.5	5
40	Variational Properties of Unbounded Order Parameters. SIAM Journal on Mathematical Analysis, 2006, 38, 16-36.	0.9	3
41	Numerical Treatment of Stokes Solvent Flow and Soluteâ€“Solvent Interfacial Dynamics for Nonpolar Molecules. Journal of Scientific Computing, 2016, 67, 705-723.	1.1	2
42	Legendre Transforms of Electrostatic Free-Energy Functionals. SIAM Journal on Applied Mathematics, 2018, 78, 2973-2995.	0.8	2
43	The Calculus of Boundary Variations and the Dielectric Boundary Force in the Poissonâ€“Boltzmann Theory for Molecular Solvation. Journal of Nonlinear Science, 2021, 31, 1.	1.0	2
44	Numerical methods for solvent Stokes flow and solute-solvent interfacial dynamics of charged molecules. Journal of Computational Physics, 2018, 374, 533-549.	1.9	1
45	Minimizers for the Cahn--Hilliard Energy Functional under Strong Anchoring Conditions. SIAM Journal on Applied Mathematics, 2020, 80, 2299-2317.	0.8	1
46	Passing from Discrete to Continuum Models of Electrostatic Energy. SIAM Journal on Mathematical Analysis, 2021, 53, 4568-4604.	0.9	0
47	Prediction of multiple dryâ€“wet transition pathways with a mesoscale variational approach. Journal of Chemical Physics, 2021, 155, 124110.	1.2	0
48	A Generalized Rayleigh--Plesset Equation for Ions with Solvent Fluctuations. SIAM Journal on Applied Mathematics, 2021, 81, 1098-1115.	0.8	0