

# Dexuan Xie

## List of Publications by Year in descending order

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48  
papers

534  
citations

687363

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677142

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50  
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50  
docs citations

50  
times ranked

308  
citing authors

#	ARTICLE	IF	CITATIONS
1	A new minimization protocol for solving nonlinear Poisson-Boltzmann mortar finite element equation. BIT Numerical Mathematics, 2007, 47, 853-871.	2.0	53
2	New solution decomposition and minimization schemes for Poisson-Boltzmann equation in calculation of biomolecular electrostatics. Journal of Computational Physics, 2014, 275, 294-309.	3.8	43
3	On the analysis and application of an ion size-modified Poisson-Boltzmann equation. Nonlinear Analysis: Real World Applications, 2019, 47, 188-203.	1.7	41
4	Efficient Implementation of the Truncated-Newton Algorithm for Large-Scale Chemistry Applications. SIAM Journal on Optimization, 1999, 10, 132-154.	2.0	39
5	New Parallel SOR Method by Domain Partitioning. SIAM Journal of Scientific Computing, 1999, 20, 2261-2281.	2.8	30
6	An Efficient Projection Protocol for Chemical Databases: Singular Value Decomposition Combined with Truncated-Newton Minimization. Journal of Chemical Information and Computer Sciences, 2000, 40, 167-177.	2.8	30
7	A new analysis of electrostatic free energy minimization and Poisson-Boltzmann equation for protein in ionic solvent. Nonlinear Analysis: Real World Applications, 2015, 21, 185-196.	1.7	29
8	A new finite element and finite difference hybrid method for computing electrostatics of ionic solvated biomolecule. Journal of Computational Physics, 2015, 298, 636-651.	3.8	22
9	Remark on Algorithm 702—the updated truncated Newton minimization package. ACM Transactions on Mathematical Software, 1999, 25, 108-122.	2.9	21
10	A New Block Parallel SOR Method and Its Analysis. SIAM Journal of Scientific Computing, 2006, 27, 1513-1533.	2.8	18
11	A Fast Solver for a Nonlocal Dielectric Continuum Model. SIAM Journal of Scientific Computing, 2012, 34, B107-B126.	2.8	18
12	Efficient Algorithms for a Nonlocal Dielectric Model for Protein in Ionic Solvent. SIAM Journal of Scientific Computing, 2013, 35, B1267-B1284.	2.8	17
13	A nonlocal modified Poisson-Boltzmann equation and finite element solver for computing electrostatics of biomolecules. Journal of Computational Physics, 2016, 322, 1-20.	3.8	14
14	SMPBS: Web server for computing biomolecular electrostatics using finite element solvers of size modified Poisson-Boltzmann equation. Journal of Computational Chemistry, 2017, 38, 541-552.	3.3	13
15	Analytical solutions of nonlocal Poisson dielectric models with multiple point charges inside a dielectric sphere. Physical Review E, 2016, 93, 043304.	2.1	12
16	Nonlocal Poisson-Fermi model for ionic solvent. Physical Review E, 2016, 94, 012114.	2.1	11
17	A More Lenient Stopping Rule for Line Search Algorithms. Optimization Methods and Software, 2002, 17, 683-700.	2.4	10
18	A Modified Nonlocal Continuum Electrostatic Model for Protein in Water and Its Analytical Solutions for Ionic Born Models. Communications in Computational Physics, 2013, 13, 174-194.	1.7	10

#	ARTICLE	IF	CITATIONS
19	A new box iterative method for a class of nonlinear interface problems with application in solving Poisson-Boltzmann equation. <i>Journal of Computational and Applied Mathematics</i> , 2016, 307, 319-334.	2.0	9
20	A hybrid solver of size modified Poisson-Boltzmann equation by domain decomposition, finite element, and finite difference. <i>Applied Mathematical Modelling</i> , 2018, 58, 166-180.	4.2	9
21	A size-modified poisson-boltzmann ion channel model in a solvent of multiple ionic species: Application to voltage-dependent anion channel. <i>Journal of Computational Chemistry</i> , 2020, 41, 218-230.	3.3	9
22	Poisson-Fermi Formulation of Nonlocal Electrostatics in Electrolyte Solutions. <i>Computational and Mathematical Biophysics</i> , 2017, 5, 116-124.	1.1	7
23	Principal component analysis combined with truncated-Newton minimization for dimensionality reduction of chemical databases. <i>Mathematical Programming</i> , 2003, 95, 161-185.	2.4	6
24	An improved approximate Newton method for implicit Runge-Kutta formulas. <i>Journal of Computational and Applied Mathematics</i> , 2011, 235, 5249-5258.	2.0	6
25	An Effective Finite Element Iterative Solver for a Poisson-Nernst-Planck Ion Channel Model with Periodic Boundary Conditions. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, B1490-B1516.	2.8	6
26	Analysis of the SHAKE-SOR algorithm for constrained molecular dynamics simulations. <i>Methods and Applications of Analysis</i> , 2000, 7, 577-590.	0.5	6
27	A new linear Poisson-Boltzmann equation and finite element solver by solution decomposition approach. <i>Communications in Mathematical Sciences</i> , 2015, 13, 315-325.	1.0	5
28	Molecular Dynamics Simulations of the Cytolytic Toxin Cyt1A in Solution. <i>IEEE Transactions on Nanobioscience</i> , 2005, 4, 235-240.	3.3	4
29	An accelerated nonlocal Poisson-Boltzmann equation solver for electrostatics of biomolecule. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018, 34, e3129.	2.1	4
30	A finite element iterative solver for a PNP ion channel model with Neumann boundary condition and membrane surface charge. <i>Journal of Computational Physics</i> , 2020, 423, 109915.	3.8	4
31	Visualization of Chemical Databases Using the Singular Value Decomposition and Truncated-Newton Minimization. <i>Nonconvex Optimization and Its Applications</i> , 2000, , 267-286.	0.1	4
32	An incomplete Hessian Newton minimization method and its application in a chemical database problem. <i>Computational Optimization and Applications</i> , 2009, 44, 467-485.	1.6	3
33	An improved algorithm and its parallel implementation for solving a general blood-tissue transport and metabolism model. <i>Journal of Computational Physics</i> , 2009, 228, 7850-7861.	3.8	3
34	A molecular dynamics model of the Bt toxin Cyt1A and its validation by resonance energy transfer. <i>Biophysical Chemistry</i> , 2009, 144, 53-61.	2.8	2
35	SDPBS Web Server for Calculation of Electrostatics of Ionic Solvated Biomolecules. <i>Computational and Mathematical Biophysics</i> , 2015, 3, .	1.1	2
36	Nonlocal Poisson-Fermi double-layer models: Effects of nonuniform ion sizes on double-layer structure. <i>Physical Review E</i> , 2018, 97, 052610.	2.1	2

#	ARTICLE	IF	CITATIONS
37	Integrated Computational Model of Lung Tissue Bioenergetics. <i>Frontiers in Physiology</i> , 2019, 10, 191.	2.8	2
38	Preconditioners for nonsymmetric indefinite linear systems. <i>Journal of Computational and Applied Mathematics</i> , 2020, 367, 112436.	2.0	2
39	An improved Poisson-Nernst-Planck ion channel model and numerical studies on effects of boundary conditions, membrane charges, and bulk concentrations. <i>Journal of Computational Chemistry</i> , 2021, 42, 1929-1943.	3.3	2
40	An Effective Compressed Sparse Preconditioner for Large Scale Biomolecular Simulations. <i>Lecture Notes in Computer Science</i> , 2004, , 64-70.	1.3	1
41	A new boundary integral equation for molecular electrostatics with charges over whole space. <i>BIT Numerical Mathematics</i> , 2011, 51, 1051-1071.	2.0	1
42	Study of local and nonlocal Poisson-Boltzmann equations for linear and nonlinear models with spherical symmetry. <i>Journal of Computational and Applied Mathematics</i> , 2019, 362, 653-662.	2.0	1
43	Series solution of a nonlocal dielectric test model for a solute ball with point charges in an ionic solvent. <i>Communications in Information and Systems</i> , 2018, 18, 251-268.	0.5	1
44	Analysis of a Class of Parallel Multigrid Smoothers. <i>BIT Numerical Mathematics</i> , 2004, 44, 813-828.	2.0	0
45	New parallel symmetric SOR preconditioners by multi-type partitioning. <i>International Journal of Computer Mathematics</i> , 2009, 86, 287-300.	1.8	0
46	Convergence analysis of truncated incomplete Hessian Newton minimization method and application in biomolecular potential energy minimization. <i>Computational Optimization and Applications</i> , 2011, 48, 213-232.	1.6	0
47	A Poisson-Boltzmann Equation Test Model for Protein in Spherical Solute Region and its Applications. <i>Computational and Mathematical Biophysics</i> , 2014, 2, 86-97.	1.1	0
48	Analytical solution of a linear nonlocal Poisson-Boltzmann equation with multiple charges in a spherical solute region surrounded by a water spherical shell. <i>Physical Review E</i> , 2022, 105, 015305.	2.1	0