

Zhilin Li

List of Publications by Year in descending order

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119
papers

5,792
citations

136950

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131
docs citations

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times ranked

2194
citing authors

#	ARTICLE	IF	CITATIONS
1	A new FV scheme and fast cell-centered multigrid solver for 3D anisotropic diffusion equations with discontinuous coefficients. <i>Journal of Computational Physics</i> , 2022, 449, 110794.	3.8	8
2	Optimal convergence of three iterative methods based on nonconforming finite element discretization for 2D/3D MHD equations. <i>Numerical Algorithms</i> , 2022, 90, 1117-1151.	1.9	5
3	A new patch up technique for elliptic partial differential equation with irregularities. <i>Journal of Computational and Applied Mathematics</i> , 2022, 407, 113975.	2.0	1
4	A new parameter free partially penalized immersed finite element and the optimal convergence analysis. <i>Numerische Mathematik</i> , 2022, 150, 1035-1086.	1.9	10
5	An immersed <math display="inline" id="d1e971" altimg="si2.svg">$C$$R$</math>-<math display="inline" id="d1e979" altimg="si3.svg">P</math>-element for Stokes interface problems and the optimal convergence analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 382, 113059.	6.6	3
6	Partially penalized IFE methods and convergence analysis for elasticity interface problems. <i>Journal of Computational and Applied Mathematics</i> , 2021, 382, 113059.	2.0	4
7	Non-parallel hyperplanes ordinal regression machine. <i>Knowledge-Based Systems</i> , 2021, 216, 106593.	7.1	5
8	Quadratic hyper-surface kernel-free least squares support vector regression. <i>Intelligent Data Analysis</i> , 2021, 25, 265-281.	0.9	9
9	The local tangential lifting method for moving interface problems on surfaces with applications. <i>Journal of Computational Physics</i> , 2021, 431, 110146.	3.8	6
10	A High Order Compact FD Framework for Elliptic BVPs Involving Singular Sources, Interfaces, and Irregular Domains. <i>Journal of Scientific Computing</i> , 2021, 88, 1.	2.3	9
11	An ADI-Yee's scheme for Maxwell's equations with discontinuous coefficients. <i>Journal of Computational Physics</i> , 2021, 438, 110356.	3.8	3
12	Fourth order compact FD methods for convection diffusion equations with variable coefficients. <i>Applied Mathematics Letters</i> , 2021, 121, 107413.	2.7	5
13	How to obtain an accurate gradient for interface problems?. <i>Journal of Computational Physics</i> , 2020, 405, 109070.	3.8	8
14	An FE-FD Method for Anisotropic Elliptic Interface Problems. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, B1041-B1066.	2.8	10
15	A gradient-recovery-based adaptive finite element method for convection-diffusion-reaction equations on surfaces. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 120, 901-917.	2.8	10
16	Analysis of Network Structure of Urban Bike-Sharing System: A Case Study Based on Real-Time Data of a Public Bicycle System. <i>Sustainability</i> , 2019, 11, 5425.	3.2	23
17	Spatiotemporal characteristics of green travel: A classification study on a public bicycle system. <i>Journal of Cleaner Production</i> , 2019, 238, 117892.	9.3	15
18	A direct method for accurate solution and gradient computations for elliptic interface problems. <i>Numerical Algorithms</i> , 2019, 80, 709-740.	1.9	8

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19	An Augmented IB Method & Analysis for Elliptic BVP on Irregular Domains. CMES - Computer Modeling in Engineering and Sciences, 2019, 119, 63-72.	1.1	1
20	Numerical Validations of the Tangent Linear Model for the Lorenz Equations. CMES - Computer Modeling in Engineering and Sciences, 2019, 120, 83-104.	1.1	0
21	Error analysis of the immersed interface method for Stokes equations with an interface. Applied Mathematics Letters, 2018, 83, 207-211.	2.7	5
22	A high-order source removal finite element method for a class of elliptic interface problems. Applied Numerical Mathematics, 2018, 130, 112-130.	2.1	9
23	A direct IIM approach for two-phase Stokes equations with discontinuous viscosity on staggered grids. Computers and Fluids, 2018, 172, 549-563.	2.5	8
24	A least squares augmented immersed interface method for solving Navier–Stokes and Darcy coupling equations. Computers and Fluids, 2018, 167, 384-399.	2.5	13
25	On a New Algorithm for Function Approximation with Full Accuracy in the Presence of Discontinuities Based on the Immersed Interface Method. Journal of Scientific Computing, 2018, 75, 1500-1534.	2.3	5
26	On MultiScale ADI Methods for Parabolic PDEs with a Discontinuous Coefficient. Multiscale Modeling and Simulation, 2018, 16, 1623-1647.	1.6	9
27	A Cartesian grid nonconforming immersed finite element method for planar elasticity interface problems. Computers and Mathematics With Applications, 2017, 73, 404-418.	2.7	12
28	A Uniformly Stable Nonconforming FEM Based on Weighted Interior Penalties for Darcy-Stokes-Brinkman Equations. Numerical Mathematics, 2017, 10, 22-43.	1.3	4
29	An Augmented Method for 4th Order PDEs with Discontinuous Coefficients. Journal of Scientific Computing, 2017, 73, 968-979.	2.3	5
30	New Conservative Finite Volume Element Schemes for the Modified Regularized Long Wave Equation. Advances in Applied Mathematics and Mechanics, 2017, 9, 250-271.	1.2	3
31	Accurate Solution and Gradient Computation for Elliptic Interface Problems with Variable Coefficients. SIAM Journal on Numerical Analysis, 2017, 55, 570-597.	2.3	34
32	Accurate gradient computations at interfaces using finite element methods. International Journal of Applied Mathematics and Computer Science, 2017, 27, 527-537.	1.5	1
33	An augmented Cartesian grid method for Stokes–Darcy fluid–structure interactions. International Journal for Numerical Methods in Engineering, 2016, 106, 556-575.	2.8	13
34	Prioritization of pesticides based on daily dietary exposure potential as determined from the SHEDS model. Food and Chemical Toxicology, 2016, 96, 167-173.	3.6	5
35	Augmented immersed finite element methods for some elliptic partial differential equations. International Journal of Computer Mathematics, 2016, 93, 540-558.	1.8	3
36	A new augmented immersed finite element method without using SVD interpolations. Numerical Algorithms, 2016, 71, 395-416.	1.9	14

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37	A Sparse Grid Stochastic Collocation Method for Elliptic Interface Problems with Random Input. <i>Journal of Scientific Computing</i> , 2016, 67, 262-280.	2.3	8
38	Fine numerical analysis of the crack-tip position for a Mumford-Shah minimizer. <i>Interfaces and Free Boundaries</i> , 2016, 18, 75-90.	0.8	2
39	Immersed Interface/Boundary Method. , 2015, , 667-676.		0
40	An immersed finite volume element method for 2D PDEs with discontinuous coefficients and non-homogeneous jump conditions. <i>Computers and Mathematics With Applications</i> , 2015, 70, 89-103.	2.7	17
41	A parallel Robin-Robin domain decomposition method for H(div)-elliptic problems. <i>International Journal of Computer Mathematics</i> , 2015, 92, 394-410.	1.8	0
42	The immersed interface method for axis-symmetric problems and application to the Hele-Shaw flow. <i>Applied Mathematics and Computation</i> , 2015, 264, 179-197.	2.2	0
43	A semi-implicit augmented IIM for Navier-Stokes equations with open, traction, or free boundary conditions. <i>Journal of Computational Physics</i> , 2015, 297, 182-193.	3.8	10
44	Immersed finite elements for optimal control problems of elliptic PDEs with interfaces. <i>Journal of Computational Physics</i> , 2015, 298, 305-319.	3.8	21
45	Effective matrix-free preconditioning for the augmented immersed interface method. <i>Journal of Computational Physics</i> , 2015, 303, 295-312.	3.8	3
46	Some new analysis results for a class of interface problems. <i>Mathematical Methods in the Applied Sciences</i> , 2015, 38, 4530-4539.	2.3	3
47	On convergence of the immersed boundary method for elliptic interface problems. <i>Mathematics of Computation</i> , 2014, 84, 1169-1188.	2.1	12
48	A multi-scale method for dynamics simulation in continuum solvent models. I: Finite-difference algorithm for Navier-Stokes equation. <i>Chemical Physics Letters</i> , 2014, 616-617, 67-74.	2.6	11
49	A Symmetric and Consistent Immersed Finite Element Method for Interface Problems. <i>Journal of Scientific Computing</i> , 2014, 61, 533-557.	2.3	37
50	A Coupled Immersed Interface and Level Set Method for Three-Dimensional Interfacial Flows with Insoluble Surfactant. <i>Communications in Computational Physics</i> , 2014, 15, 451-469.	1.7	16
51	A Robin-Robin Domain Decomposition Method for a Stokes-Darcy Structure Interaction with a Locally Modified Mesh. <i>Numerical Mathematics</i> , 2014, 7, 435-446.	1.3	1
52	Simulation of Longitudinal Exposure Data with Variance-Covariance Structures Based on Mixed Models. <i>Risk Analysis</i> , 2013, 33, 469-479.	2.7	4
53	Numerical Poisson-Boltzmann model for continuum membrane systems. <i>Chemical Physics Letters</i> , 2013, 555, 274-281.	2.6	26
54	Exploring a charge-central strategy in the solution of Poisson's equation for biomolecular applications. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 129-141.	2.8	17

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55	A Fourier finite volume element method for solving two-dimensional quasi-geostrophic equations on a sphere. <i>Applied Numerical Mathematics</i> , 2013, 71, 1-13.	2.1	16
56	Adaptive mesh refinement techniques for the immersed interface method applied to flow problems. <i>Computers and Structures</i> , 2013, 122, 249-258.	4.4	9
57	Exploring accurate Poisson-Boltzmann methods for biomolecular simulations. <i>Computational and Theoretical Chemistry</i> , 2013, 1024, 34-44.	2.5	35
58	An Adaptive Mesh Refinement Strategy for Immersed Boundary/Interface Methods. <i>Communications in Computational Physics</i> , 2012, 12, 515-527.	1.7	13
59	The Sensitivity Analysis for the Flow Past Obstacles Problem with Respect to the Reynolds Number. <i>Advances in Applied Mathematics and Mechanics</i> , 2012, 4, 21-35.	1.2	4
60	A Numerical Method for Solving Elasticity Equations with Interfaces. <i>Communications in Computational Physics</i> , 2012, 12, 595-612.	1.7	37
61	Simplified immersed interface methods for elliptic interface problems with straight interfaces. <i>Numerical Methods for Partial Differential Equations</i> , 2012, 28, 188-203.	3.6	12
62	An augmented immersed interface method for moving structures with mass. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2012, 17, 1175-1184.	0.9	0
63	Some new finite difference methods for Helmholtz equations on irregular domains or with interfaces. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2012, 17, 1155-1174.	0.9	0
64	Numerical Solutions of the System of Singular Integro-Differential Equations in Classical Hölder Spaces. <i>Advances in Applied Mathematics and Mechanics</i> , 2012, 4, 737-750.	1.2	0
65	Numerical Study of Surfactant-Laden Drop-Drop Interactions. <i>Communications in Computational Physics</i> , 2011, 10, 453-473.	1.7	18
66	New Finite Difference Methods Based on IIM for Inextensible Interfaces in Incompressible Flows. <i>East Asian Journal on Applied Mathematics</i> , 2011, 1, 155-171.	0.9	12
67	The IIM in polar coordinates and its application to electro capacitance tomography problems. <i>Numerical Algorithms</i> , 2011, 57, 405-423.	1.9	1
68	An augmented method for free boundary problems with moving contact lines. <i>Computers and Fluids</i> , 2010, 39, 1033-1040.	2.5	23
69	AN INTRODUCTION TO THE IMMERSERD BOUNDARY AND THE IMMERSERD INTERFACE METHODS. <i>Lecture Notes Series, Institute for Mathematical Sciences</i> , 2009, , 1-67.	0.2	3
70	A well-conditioned augmented system for solving Navier-Stokes equations in irregular domains. <i>Journal of Computational Physics</i> , 2009, 228, 2616-2628.	3.8	23
71	A smoothing technique for discrete delta functions with application to immersed boundary method in moving boundary simulations. <i>Journal of Computational Physics</i> , 2009, 228, 7821-7836.	3.8	324
72	Achieving energy conservation in Poisson-Boltzmann molecular dynamics: Accuracy and precision with finite-difference algorithms. <i>Chemical Physics Letters</i> , 2009, 468, 112-118.	2.6	50

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73	An additive Schwarz preconditioner for the mortar-type rotated FEM for elliptic problems with discontinuous coefficients. <i>Applied Numerical Mathematics</i> , 2009, 59, 1657-1667.	2.1	3
74	An immersed interface method for solving incompressible viscous flows with piecewise constant viscosity across a moving elastic membrane. <i>Journal of Computational Physics</i> , 2008, 227, 9955-9983.	3.8	43
75	Mechanics of mesenchymal contribution to clefting force in branching morphogenesis. <i>Biomechanics and Modeling in Mechanobiology</i> , 2008, 7, 417-426.	2.8	26
76	A fast finite difference method for biharmonic equations on irregular domains and its application to an incompressible Stokes flow. <i>Advances in Computational Mathematics</i> , 2008, 29, 113-133.	1.6	48
77	An explicit jump immersed interface method for two-phase Navier–Stokes equations with interfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 2317-2328.	6.6	12
78	Immersed-Interface Finite-Element Methods for Elliptic Interface Problems with Nonhomogeneous Jump Conditions. <i>SIAM Journal on Numerical Analysis</i> , 2008, 46, 472-495.	2.3	165
79	A study of numerical methods for the level set approach. <i>Applied Numerical Mathematics</i> , 2007, 57, 837-846.	2.1	9
80	An immersed interface method for the Navier–Stokes equations on irregular domains. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2007, 7, 1025401-1025402.	0.2	1
81	A Finite Difference Method and Analysis for 2D Nonlinear Poisson–Boltzmann Equations. <i>Journal of Scientific Computing</i> , 2007, 30, 61-81.	2.3	11
82	An augmented approach for Stokes equations with a discontinuous viscosity and singular forces. <i>Computers and Fluids</i> , 2007, 36, 622-635.	2.5	67
83	Fast solvers for 3D Poisson equations involving interfaces in a finite or the infinite domain. <i>Journal of Computational and Applied Mathematics</i> , 2006, 191, 106-125.	2.0	15
84	Interface conditions for Stokes equations with a discontinuous viscosity and surface sources. <i>Applied Mathematics Letters</i> , 2006, 19, 229-234.	2.7	11
85	A level-set method for interfacial flows with surfactant. <i>Journal of Computational Physics</i> , 2006, 212, 590-616.	3.8	162
86	Pressure Jump Conditions for Stokes Equations with Discontinuous Viscosity in 2D and 3D. <i>Methods and Applications of Analysis</i> , 2006, 13, 199-214.	0.5	5
87	Augmented Strategies for Interface and Irregular Domain Problems. <i>Lecture Notes in Computer Science</i> , 2005, , 66-79.	1.3	1
88	Higher-Order, Cartesian Grid Based Finite Difference Schemes for Elliptic Equations on Irregular Domains. <i>SIAM Journal of Scientific Computing</i> , 2005, 27, 346-367.	2.8	24
89	Approximate solution of singular integro-differential equations by reduction over Faber-Laurent polynomials. <i>Differential Equations</i> , 2004, 40, 1764-1769.	0.7	7
90	Solving a Nonlinear Problem in Magneto-Rheological Fluids Using the Immersed Interface Method. <i>Journal of Scientific Computing</i> , 2003, 19, 253-266.	2.3	6

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91	New Cartesian grid methods for interface problems using the finite element formulation. <i>Numerische Mathematik</i> , 2003, 96, 61-98.	1.9	321
92	Three-dimensional elliptic solvers for interface problems and applications. <i>Journal of Computational Physics</i> , 2003, 184, 215-243.	3.8	56
93	New Formulations for Interface Problems in Polar Coordinates. <i>SIAM Journal of Scientific Computing</i> , 2003, 25, 224-245.	2.8	41
94	AN OVERVIEW OF THE IMMERSED INTERFACE METHOD AND ITS APPLICATIONS. <i>Taiwanese Journal of Mathematics</i> , 2003, 7, 1.	0.4	93
95	A Fast Finite Differenc Method For Solving Navier-Stokes Equations on Irregular Domains. <i>Communications in Mathematical Sciences</i> , 2003, 1, 180-196.	1.0	35
96	Generalized Snell's Law for Weighted Minimal Surface in Heterogeneous Media. <i>Methods and Applications of Analysis</i> , 2003, 10, 199-214.	0.5	2
97	The Immersed Interface/Multigrid Methods for Interface Problems. <i>SIAM Journal of Scientific Computing</i> , 2002, 24, 463-479.	2.8	90
98	Reactive Autophobic Spreading of Drops. <i>Journal of Computational Physics</i> , 2002, 183, 335-366.	3.8	37
99	Force and deformation on branching rudiments: cleaving between hypotheses. <i>Biomechanics and Modeling in Mechanobiology</i> , 2002, 1, 5-16.	2.8	47
100	DROPLET SPREADING WITH SURFACTANT: MODELING AND SIMULATION. , 2002, , 263-263.		0
101	Maximum Principle Preserving Schemes for Interface Problems with Discontinuous Coefficients. <i>SIAM Journal of Scientific Computing</i> , 2001, 23, 339-361.	2.8	137
102	Level-set function approach to an inverse interface problem. <i>Inverse Problems</i> , 2001, 17, 1225-1242.	2.0	158
103	A remark on jump conditions for the three-dimensional Navier-Stokes equations involving an immersed moving membrane. <i>Applied Mathematics Letters</i> , 2001, 14, 149-154.	2.7	71
104	The Immersed Interface Method for the Navier–Stokes Equations with Singular Forces. <i>Journal of Computational Physics</i> , 2001, 171, 822-842.	3.8	293
105	Numerical analysis of interfacial two-dimensional Stokes flow with discontinuous viscosity and variable surface tension. <i>International Journal for Numerical Methods in Fluids</i> , 2001, 37, 525-540.	1.6	22
106	A Level Set-Boundary Element Method for Simulation of Dynamic Powder Consolidation of Metals. <i>Lecture Notes in Computer Science</i> , 2001, , 527-534.	1.3	2
107	Convergence analysis of the immersed interface method. <i>IMA Journal of Numerical Analysis</i> , 1999, 19, 583-608.	2.9	68
108	The immersed finite volume element methods for the elliptic interface problems. <i>Mathematics and Computers in Simulation</i> , 1999, 50, 63-76.	4.4	92

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109	Crack jump conditions for elliptic problems. Applied Mathematics Letters, 1999, 12, 81-88.	2.7	20
110	A Numerical Study of Electro-migration Voiding by Evolving Level Set Functions on a Fixed Cartesian Grid. Journal of Computational Physics, 1999, 152, 281-304.	3.8	74
111	Theoretical and numerical analysis on a thermo-elastic system with discontinuities. Journal of Computational and Applied Mathematics, 1998, 92, 37-58.	2.0	10
112	The immersed interface method using a finite element formulation. Applied Numerical Mathematics, 1998, 27, 253-267.	2.1	225
113	A Fast Iterative Algorithm for Elliptic Interface Problems. SIAM Journal on Numerical Analysis, 1998, 35, 230-254.	2.3	223
114	Immersed Interface Methods for Stokes Flow with Elastic Boundaries or Surface Tension. SIAM Journal of Scientific Computing, 1997, 18, 709-735.	2.8	353
115	Immersed interface methods for moving interface problems. Numerical Algorithms, 1997, 14, 269-293.	1.9	62
116	Short Communication: A numerical method for diffusive transport with moving boundaries and discontinuous material properties. International Journal for Numerical and Analytical Methods in Geomechanics, 1997, 21, 653-662.	3.3	10
117	A Hybrid Method for Moving Interface Problems with Application to the Hele-Shaw Flow. Journal of Computational Physics, 1997, 134, 236-252.	3.8	210
118	The Immersed Interface Method for Elliptic Equations with Discontinuous Coefficients and Singular Sources. SIAM Journal on Numerical Analysis, 1994, 31, 1019-1044.	2.3	1,113
119	A generalized modulus-based Newton method for solving a class of non-linear complementarity problems with P-matrices. Numerical Algorithms, 0, , 1.	1.9	0