Pingwen Zhang

List of Publications by Year
in descending order

54 papers	1,835 citations	236925 25 h-index	265206 42 g-index
54 all docs	54 docs citations	54 times ranked	909 citing authors

#	ARTICLE	IF	CITATIONS
1	Discontinuous Galerkin methods for dispersive and lossy Maxwell's equations and PML boundary conditions. Journal of Computational Physics, 2004, 200, 549-580.	3.8	188
2	Moving Mesh Methods in Multiple Dimensions Based on Harmonic Maps. Journal of Computational Physics, 2001, 170, 562-588.	3.8	171
3	Nucleation of Ordered Phases in Block Copolymers. Physical Review Letters, 2010, 104, 148301.	7.8	106
4	A Moving Mesh Finite Element Algorithm for Singular Problems in Two and Three Space Dimensions. Journal of Computational Physics, 2002, 177, 365-393.	3.8	93
5	Well-Posedness for the Dumbbell Model of Polymeric Fluids. Communications in Mathematical Physics, 2004, 248, 409-427.	2.2	81
6	Local Existence for the FENE-Dumbbell Model of Polymeric Fluids. Archive for Rational Mechanics and Analysis, 2006, 181, 373-400.	2.4	72
7	Boundary Problems for the Fractional and Tempered Fractional Operators. Multiscale Modeling and Simulation, 2018, 16, 125-149.	1.6	69
8	Axial Symmetry and Classification of Stationary Solutions of Doi-Onsager Equation on the Sphere with Maier-Saupe Potential. Communications in Mathematical Sciences, 2005, 3, 201-218.	1.0	69
9	Moving Mesh Finite Element Methods for the Incompressible Navier--Stokes Equations. SIAM Journal of Scientific Computing, 2005, 26, 1036-1056.	2.8	63
10	Discontinuous galerkin time-domain method for GPR simulation in dispersive media. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 72-80.	6.3	60
11	From Microscopic Theory to Macroscopic Theory: a Systematic Study on Modeling for Liquid Crystals. Archive for Rational Mechanics and Analysis, 2015, 215, 741-809.	2.4	58
12	Well-Posedness of the Ericksen–Leslie System. Archive for Rational Mechanics and Analysis, 2013, 210, 837-855.	2.4	56
13	An adaptive mesh redistribution method for nonlinear Hamilton–Jacobi equations in two- and three-dimensions. Journal of Computational Physics, 2003, 188, 543-572.	3.8	50
14	Construction of a Pathway Map on a Complicated Energy Landscape. Physical Review Letters, 2020, 124, 090601.	7.8	41
15	Second-Order Accurate Godunov Scheme forÂMulticomponent Flows on Moving Triangular Meshes. Journal of Scientific Computing, 2008, 34, 64-86.	2.3	40
16	Rigorous Derivation from Landau--de Gennes Theory to Ericksen--Leslie Theory. SIAM Journal on Mathematical Analysis, 2015, 47, 127-158.	1.9	39
17	Computing Optimal Interfacial Structure of Modulated Phases. Communications in Computational Physics, 2017, 21, 1-15.	1.7	39
18	High-order DGTD methods for dispersive Maxwell's equations and modelling of silver nanowire coupling. International Journal for Numerical Methods in Engineering, 2007, 69, 308-325.	2.8	38

#	Article	IF	Citations
19	Optimal L1-Rate of Convergence for The Viscosity Method and Monotone Scheme to Piecewise Constant Solutions with Shocks. SIAM Journal on Numerical Analysis, 1997, 34, 959-978.	2.3	32
20	High-Index Optimization-Based Shrinking Dimer Method for Finding High-Index Saddle Points. SIAM Journal of Scientific Computing, 2019, 41, A3576-A3595.	2.8	32
21	The Small Deborah Number Limit of the Doi–Onsager Equation to the Ericksen–Leslie Equation. Communications on Pure and Applied Mathematics, 2015, 68, 1326-1398.	3.1	30
22	Discontinuous galerkin time domain (DGTD) methods for the study of 2-D waveguide-coupled microring resonators. Journal of Lightwave Technology, 2005, 23, 3864-3874.	4.6	29
23	On the Disclination Lines of Nematic Liquid Crystals. Communications in Computational Physics, 2016, 19, 354-379.	1.7	28
24	A kinetic–hydrodynamic simulation of microstructure of liquid crystal polymers in plane shear flow. Journal of Non-Newtonian Fluid Mechanics, 2007, 141, 116-127.	2.4	27
25	A numerical method for the study of nucleation of ordered phases. Journal of Computational Physics, 2010, 229, 1797-1809.	3.8	26
26	Local Existence for the Dumbbell Model of Polymeric Fluids. Communications in Partial Differential Equations, 2004, 29, 903-923.	2.2	25
27	Modelling and computation of liquid crystals. Acta Numerica, 2021, 30, 765-851.	10.7	23
28	Discovery of New Metastable Patterns in Diblock Copolymers. Communications in Computational Physics, 2013, 14, 443-460.	1.7	19
29	Study of phase transition in homogeneous, rigid extended nematics and magnetic suspensions using an order-reduction method. Physics of Fluids, 2006, 18, 123103.	4.0	18
30	Local well-posedness and small Deborah limit of a molecule-based Q-tensor system. Discrete and Continuous Dynamical Systems - Series B, 2015, 20, 2611-2655.	0.9	14
31	Transition pathways connecting crystals and quasicrystals. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	14
32	Nucleation Rate Calculation for the Phase Transition of Diblock Copolymers under Stochastic Cahn–Hilliard Dynamics. Multiscale Modeling and Simulation, 2013, 11, 385-409.	1.6	13
33	From microscopic theory to macroscopic theory — symmetries and order parameters of rigid molecules. Science China Mathematics, 2014, 57, 443-468.	1.7	13
34	Dynamic transitions and pattern formations for a Cahn–Hilliard model with long-range repulsive interactions. Communications in Mathematical Sciences, 2015, 13, 1289-1315.	1.0	13
35	Level Set Calculations for Incompressible Two-Phase Flows on a Dynamically Adaptive Grid. Journal of Scientific Computing, 2007, 31, 75-98.	2.3	12
36	A Tensor Model for Nematic Phases of Bent-Core Molecules Based on Molecular Theory. Multiscale Modeling and Simulation, 2018, 16, 1581-1602.	1.6	12

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37	A mathematical model of soil moisture spatial distribution on the hill slopes of the Loess Plateau. Science in China Series D: Earth Sciences, 2001, 44, 395-402.	0.9	11
38	On the New Multiscale Rodlike Model of Polymeric Fluids. SIAM Journal on Mathematical Analysis, 2008, 40, 1246-1271.	1.9	11
39	Dynamics of the Nematic-Isotropic Sharp Interface for the Liquid Crystal. SIAM Journal on Applied Mathematics, 2015, 75, 1700-1724.	1.8	10
40	Anisotropic Nonlocal Diffusion Operators for Normal and Anomalous Dynamics. Multiscale Modeling and Simulation, 2020, 18, 415-443.	1.6	10
41	Solution landscape of the Onsager model identifies non-axisymmetric critical points. Physica D: Nonlinear Phenomena, 2022, 430, 133081.	2.8	10
42	Origin of epitaxies between ordered phases of block copolymers. Soft Matter, 2011, 7, 10552.	2.7	9
43	Onsager-theory-based dynamic model for nematic phases of bent-core molecules and star molecules. Journal of Non-Newtonian Fluid Mechanics, 2018, 251, 43-55.	2.4	9
44	Stable dynamic states at the nematic liquid crystals in weak shear flow. Physica D: Nonlinear Phenomena, 2007, 232, 156-165.	2.8	8
45	A Fast Algorithm for the Moments of Bingham Distribution. Journal of Scientific Computing, 2018, 75, 1337-1350.	2.3	8
46	Calculating elastic constants of bent–core molecules from Onsager-theory-based tensor model. Liquid Crystals, 2018, 45, 22-31.	2.2	7
47	Moving Mesh Methods for Singular Problems on a Sphere Using Perturbed Harmonic Mappings. SIAM Journal of Scientific Computing, 2006, 28, 1490-1508.	2.8	6
48	Analytic Structure of the SCFT Energy Functional of Multicomponent Block Copolymers. Communications in Computational Physics, 2015, 17, 1360-1387.	1.7	6
49	On minimizers for the isotropic–nematic interface problem. Calculus of Variations and Partial Differential Equations, 2017, 56, 1.	1.7	6
50	On a Molecular Based Q-Tensor Model for Liquid Crystals with Density Variations. Multiscale Modeling and Simulation, 2015, 13, 977-1000.	1.6	5
51	Convergence Analysis of BCF Method for Hookean Dumbbell Model with Finite Difference Scheme. Multiscale Modeling and Simulation, 2006, 5, 205-234.	1.6	4
52	Defects Around a Spherical Particle in Cholesteric Liquid Crystals. Numerical Mathematics, 2017, 10, 205-221.	1.3	2
53	Vanishing Curvature Viscosity for Front Propagation. Journal of Differential Equations, 2000, 161, 289-306.	2.2	0
54	Simulation of nuclei morphologies for binary alloy. Science China Mathematics, 2010, 53, 2927-2936.	1.7	0