Xinfu Chen

List of Publications by Year
in descending order

99 papers	3,611 citations	136940 32 h-index	138468 58 g-index
99 all docs	99 docs citations	99 times ranked	1132 citing authors

#	Article	IF	Citations
1	Convergence of the Cahn-Hilliard equation to the Hele-Shaw model. Archive for Rational Mechanics and Analysis, 1994, 128, 165-205.	2.4	277
2	Generation and propagation of interfaces for reaction-diffusion equations. Journal of Differential Equations, 1992, 96, 116-141.	2.2	241
3	Existence and Asymptotic Stability of Traveling Waves of Discrete Quasilinear Monostable Equations. Journal of Differential Equations, 2002, 184, 549-569.	2.2	166
4	Uniqueness and existence of traveling waves for discrete quasilinear monostable dynamics. Mathematische Annalen, 2003, 326, 123-146.	1.4	151
5	Convergence of the phase field model to its sharp interface limits. European Journal of Applied Mathematics, 1998, 9, 417-445.	2.9	131
6	Periodic traveling waves and locating oscillating patterns in multidimensional domains. Transactions of the American Mathematical Society, 1999, 351, 2777-2805.	0.9	119
7	Traveling Waves of Bistable Dynamics on a Lattice. SIAM Journal on Mathematical Analysis, 2003, 35, 520-546.	1.9	112
8	A Free Boundary Problem for an Elliptic-Hyperbolic System: An Application to Tumor Growth. SIAM Journal on Mathematical Analysis, 2003, 35, 974-986.	1.9	109
9	Spectrum for the allen-chan, chan-hillard, and phase-field equations for generic interfaces. Communications in Partial Differential Equations, 1994, 19, 1371-1395.	2.2	105
10	Evolution of conditional dispersal: a reaction–diffusion–advection model. Journal of Mathematical Biology, 2008, 57, 361-386.	1.9	105
11	The Hele-Shaw problem and area-preserving curve-shortening motions. Archive for Rational Mechanics and Analysis, 1993, 123, 117-151.	2.4	102
12	Global asymptotic limit of solutions of the Cahn-Hilliard equation. Journal of Differential Geometry, 1996, 44, 262.	1.1	102
13	Existence and uniqueness of entire solutions for a reaction–diffusion equation. Journal of Differential Equations, 2005, 212, 62-84.	2.2	93
14	A Mathematical Analysis of the Optimal Exercise Boundary for American Put Options. SIAM Journal on Mathematical Analysis, 2007, 38, 1613-1641.	1.9	91
15	Uniqueness and Asymptotics of Traveling Waves of Monostable Dynamics on Lattices. SIAM Journal on Mathematical Analysis, 2006, 38, 233-258.	1.9	87
16	Finite dimensional exponential attractor for the phase field model. Applicable Analysis, 1993, 49, 197-212.	1.3	84
17	Principal eigenvalue and eigenfunctions of an elliptic operator with large advection and its application to a competition model. Indiana University Mathematics Journal, 2008, 57, 627-658.	0.9	84
18	Local existence and uniqueness of solutions of the Stefan Problem with surface tension and kinetic undercooling. Journal of Mathematical Analysis and Applications, 1992, 164, 350-362.	1.0	78

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19	Traveling Waves in Discrete Periodic Media for Bistable Dynamics. Archive for Rational Mechanics and Analysis, 2008, 189, 189-236.	2.4	71
20	Shooting method for vortex solutions of a complex-valued Ginzburg–Landau equation. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 1994, 124, 1075-1088.	1.2	63
21	Generation, propagation, and annihilation of metastable patterns. Journal of Differential Equations, 2004, 206, 399-437.	2.2	57
22	Mass conserving Allen–Cahn equation and volume preserving mean curvature flow. Interfaces and Free Boundaries, 2010, , 527-549.	0.8	57
23	Dynamics of a reaction-diffusion-advection model for two competing species. Discrete and Continuous Dynamical Systems, 2012, 32, 3841-3859.	0.9	55
24	Entire solutions of reaction–diffusion equations with balanced bistable nonlinearities. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2006, 136, 1207-1237.	1.2	53
25	Traveling waves with paraboloid like interfaces for balanced bistable dynamics. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2007, 24, 369-393.	1.4	49
26	Generation and propagation of interfaces in reaction-diffusion systems. Transactions of the American Mathematical Society, 1992, 334, 877-913.	0.9	48
27	An Application of the Modular Function in Nonlocal Variational Problems. Archive for Rational Mechanics and Analysis, 2007, 186, 109-132.	2.4	47
28	CONVEXITY OF THE EXERCISE BOUNDARY OF THE AMERICAN PUT OPTION ON A ZERO DIVIDEND ASSET. Mathematical Finance, 2008, 18, 185-197.	1.8	46
29	Motion of a droplet by surface tension along the boundary. Calculus of Variations and Partial Differential Equations, 2000, 11, 233-305.	1.7	41
30	Periodicity and Uniqueness of Global Minimizers of an Energy Functional Containing a Long-Range Interaction. SIAM Journal on Mathematical Analysis, 2005, 37, 1299-1332.	1.9	41
31	Sharp Estimates on Minimum Travelling Wave Speed of Reaction Diffusion Systems Modelling Autocatalysis. SIAM Journal on Mathematical Analysis, 2007, 39, 437-448.	1.9	39
32	THE GIERER & MEINHARDT SYSTEM: THE BREAKING OF HOMOCLINICS AND MULTI-BUMP GROUND STATES. Communications in Contemporary Mathematics, 2001, 03, 419-439.	1.2	34
33	Portfolio Selection with Capital Gains Tax, Recursive Utility, and Regime Switching. Management Science, 2018, 64, 2308-2324.	4.1	33
34	Explicit stationary solutions in multiple well dynamics and non-uniqueness of interfacial energy densities. European Journal of Applied Mathematics, 2006, 17, 525-556.	2.9	31
35	Lorenz Equations Part I: Existence and Nonexistence of Homoclinic Orbits. SIAM Journal on Mathematical Analysis, 1996, 27, 1057-1069.	1.9	28
36	Heteroclinic solutions of a van der Waals model with indefinite nonlocal interactions. Calculus of Variations and Partial Differential Equations, 2005, 24, 261-281.	1.7	27

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37	Analysis of an Inverse First Passage Problem from Risk Management. SIAM Journal on Mathematical Analysis, 2006, 38, 845-873.	1.9	27
38	Exixtance of equilibria for the chn-hilliard equation via local minimizers of the perimeter. Communications in Partial Differential Equations, 1996, 21, 1207-1233.	2.2	25
39	Asymptotic behavior of solutions of an allen-cahn equation with a nonlocal term. Nonlinear Analysis: Theory, Methods & Applications, 1997, 28, 1283-1298.	1.1	24
40	Dynamics of an Interior Spike in the Gierer--Meinhardt System. SIAM Journal on Mathematical Analysis, 2001, 33, 172-193.	1.9	24
41	Travelling waves of auto-catalytic chemical reaction of general order—An elliptic approach. Journal of Differential Equations, 2009, 246, 3038-3057.	2.2	22
42	Reconstructing potentials from zeros of one eigenfunction. Transactions of the American Mathematical Society, 2011, 363, 4831-4851.	0.9	21
43	Analysis of the Cahn—Hilliard Equation with a Relaxation Boundary Condition Modeling the Contact Angle Dynamics. Archive for Rational Mechanics and Analysis, 2014, 213, 1-24.	2.4	21
44	Propagation of Local Disturbances in Reaction Diffusion Systems Modeling Quadratic Autocatalysis. SIAM Journal on Applied Mathematics, 2008, 69, 273-282.	1.8	19
45	Analytical and Numerical Results for an Escape Problem. Archive for Rational Mechanics and Analysis, 2012, 203, 329-342.	2.4	18
46	Stability of spiky solution of Keller—Segel's minimal chemotaxis model. Journal of Differential Equations, 2014, 257, 3102-3134.	2.2	18
47	A rapidly converging phase field model. Discrete and Continuous Dynamical Systems, 2006, 15, 1017-1034.	0.9	18
48	Spreading speed in a farmers and hunter-gatherers model arising from Neolithic transition in Europe. Journal Des Mathematiques Pures Et Appliquees, 2020, 143, 192-207.	1.6	16
49	Existence and uniqueness of solutions to the inverse boundary crossing problem for diffusions. Annals of Applied Probability, 2011, 21, .	1.3	16
50	Asymptotic Analysis for the Narrow Escape Problem. SIAM Journal on Mathematical Analysis, 2011, 43, 2542-2563.	1.9	15
51	Interface Conditions for a Phase Field Model with Anisotropic and Non-Local Interactions. Archive for Rational Mechanics and Analysis, 2011, 202, 349-372.	2.4	15
52	Motion by curvature of planar curves with end points moving freely on a line. Mathematische Annalen, 2011, 350, 277-311.	1.4	14
53	Effective Boundary Conditions Resulting from Anisotropic and Optimally Aligned Coatings: The Two Dimensional Case. Archive for Rational Mechanics and Analysis, 2012, 206, 911-951.	2.4	14
54	Nonstationary filtration in partially saturated porous media. European Journal of Applied Mathematics, 1994, 5, 405-429.	2.9	13

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55	Mullins-Sekerka motion of small droplets on a fixed boundary. Journal of Geometric Analysis, 2000, 10, 575-596.	1.0	13
56	Layers and spikes in non-homogeneous bistable reaction-diffusion equations. Transactions of the American Mathematical Society, 2006, 358, 3169-3206.	0.9	13
57	Self-similar singular solutions of a p-Laplacian evolution equation with absorption. Journal of Differential Equations, 2003, 190, 1-15.	2.2	12
58	Traveling waves of a curvature flow in almost periodic media. Journal of Differential Equations, 2009, 247, 2189-2208.	2.2	12
59	Optimal payment of mortgages. European Journal of Applied Mathematics, 2007, 18, 363-388.	2.9	11
60	NONCONVEXITY OF THE OPTIMAL EXERCISE BOUNDARY FOR AN AMERICAN PUT OPTION ON A DIVIDENDâ€PAYING ASSET. Mathematical Finance, 2013, 23, 169-185.	1.8	11
61	Self-similar solutions of a 2-D multiple-phase curvature flow. Physica D: Nonlinear Phenomena, 2007, 229, 22-34.	2.8	10
62	Long Time Behavior of Solutions to P-Laplacian Equation with Absorption. SIAM Journal on Mathematical Analysis, 2003, 35, 123-134.	1.9	9
63	Existence of traveling waves of auto-catalytic systems with decay. Journal of Differential Equations, 2016, 260, 7982-7999.	2.2	9
64	Pulse waves for a semi-discrete Morris-Lecar type model. Journal of Mathematical Biology, 1999, 38, 1-20.	1.9	8
65	Numerical Tests of a Phase Field Model with Second Order Accuracy. SIAM Journal on Applied Mathematics, 2008, 68, 1518-1534.	1.8	8
66	A Tikhonov regularization for the inverse nodal problem for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si10.gif" display="inline" overflow="scroll"><mml:mi>p</mml:mi></mml:math>-Laplacian. Journal of Mathematical Analysis and Applications, 2012, 395, 230-240.	1.0	8
67	Traveling Wave to Non-KPP Isothermal Diffusion Systems: Existence of Minimum Speed and Sharp Bounds. SIAM Journal on Mathematical Analysis, 2019, 51, 1436-1453.	1.9	8
68	Penalty method for portfolio selection with capital gains tax. Mathematical Finance, 2021, 31, 1013-1055.	1.8	7
69	Lorenz equations part II: "randomly" rotated homoclinic orbits and chaotic trajectories. Discrete and Continuous Dynamical Systems, 1996, 2, 121-140.	0.9	5
70	An eigenvalue problem arising from spiky steady states of a minimal chemotaxis model. Journal of Mathematical Analysis and Applications, 2014, 420, 684-704.	1.0	5
71	The existence of minimum speed of traveling wave solutions to a non-KPP isothermal diffusion system. Journal of Differential Equations, 2017, 263, 1695-1707.	2.2	5
72	Phase Transition Near a Liquid-Gas Coexistence Equilibrium. SIAM Journal on Applied Mathematics, 2000, 61, 454-471.	1.8	4

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73	Finite-Range Repulsive Systems of Finitely Many Particles. Archive for Rational Mechanics and Analysis, 2004, 173, 1-24.	2.4	4
74	Classification of singular solutions of porous media equations with absorption. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2005, 135, 563-584.	1.2	4
75	Singular limit of an energy minimizer arising from dewetting thin film model with van der Waal, born repulsion and surface tension forces. Calculus of Variations and Partial Differential Equations, 2012, 44, 221-246.	1.7	4
76	Re-specification of Affine Term Structure Models: The Linkage to Empirical Investigations. Applied Mathematical Finance, 2014, 21, 523-554.	1.2	4
77	Mathematical analysis of a variational inequality modelling perpetual executive stock options. European Journal of Applied Mathematics, 2015, 26, 193-213.	2.9	4
78	Dynamics of spike in a Keller-Segel's minimal chemotaxis model. Discrete and Continuous Dynamical Systems, 2017, 37, 1109-1127.	0.9	4
79	Periodic travelling wave solutions of a parabolic equation: a monotonicity result. Journal of Mathematical Analysis and Applications, 2002, 275, 804-820.	1.0	3
80	A Parabolic-Hyperbolic Quasilinear System. Communications in Partial Differential Equations, 2008, 33, 969-987.	2.2	3
81	Far-from-expiry behavior of the American put option on a dividend-paying asset. Proceedings of the American Mathematical Society, 2011, 139, 273-273.	0.8	3
82	Analytical and numerical results for first escape time in 2D. Comptes Rendus Mathematique, 2011, 349, 191-194.	0.3	3
83	Existence of Traveling Waves of General Gray-Scott Models. Journal of Dynamics and Differential Equations, 2018, 30, 1469-1487.	1.9	3
84	Convergence rate of free boundary of numerical scheme for American option. Discrete and Continuous Dynamical Systems - Series B, 2016, 21, 1435-1444.	0.9	3
85	Travelling wave solutions of a reaction—infiltration problem and a related free boundary problem. European Journal of Applied Mathematics, 1994, 5, 255-265.	2.9	2
86	A REACTION INFILTRATION PROBLEM: EXISTENCE, UNIQUENESS, AND REGULARITY OF SOLUTIONS IN TWO SPACE DIMENSIONS. Mathematical Models and Methods in Applied Sciences, 1995, 05, 599-618.	3.3	2
87	Uniform asymptotic expansions of solutions of an inhomogeneous equation. Journal of Differential Equations, 2012, 253, 951-976.	2.2	2
88	A variational inequality arising from optimal exercise perpetual executive stock options. European Journal of Applied Mathematics, 2018, 29, 55-77.	2.9	2
89	A reaction infiltration problem: classical solutions. Proceedings of the Edinburgh Mathematical Society, 1997, 40, 275-291.	0.3	1
90	Optimal Mortgage Prepayment Under the Cox--Ingersoll--Ross Model. SIAM Journal on Financial Mathematics, 2016, 7, 552-566.	1.3	1

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91	Spectral analysis for stability of bubble steady states of a Keller–Segel's minimal chemotaxis model. Journal of Mathematical Analysis and Applications, 2017, 446, 1105-1132.	1.0	1
92	Mathematical analysis of a credit default swap with counterparty risks. European Journal of Applied Mathematics, 2020, 31, 737-762.	2.9	1
93	Analysis of an optimal stopping problem arising from hedge fund investing. Journal of Mathematical Analysis and Applications, 2020, 483, 123559.	1.0	1
94	Regularity of the free boundary for the American put option. Discrete and Continuous Dynamical Systems - Series B, 2012, 17, 1751-1759.	0.9	1
95	A nonlinear parabolic equation modelling surfactant diffusion. European Journal of Applied Mathematics, 2000, 11, 413-432.	2.9	0
96	Classification of singular solutions of porous media equations with absorption. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2005, 135, 563-584.	1.2	0
97	A New Approach to Importance Sampling in Taylor's Stochastic Volatility Model. Communications in Statistics Part B: Simulation and Computation, 2014, 43, 580-596.	1.2	0
98	A double obstacle model for pricing bi-leg defaultable interest rate swaps. European Journal of Applied Mathematics, 2020, 31, 511-543.	2.9	0
99	Steady states of thin-film equations with van der Waals force with mass constraint. European Journal of Applied Mathematics, 0, , 1-23.	2.9	0