Peter W Bates

List of Publications by Year in descending order

51 papers	3,661 citations	186265 28 h-index	182427 51 g-index
52 all docs	52 docs citations	52 times ranked	987 citing authors

#	Article	IF	Citations
1	Traveling Waves in a Convolution Model for Phase Transitions. Archive for Rational Mechanics and Analysis, 1997, 138, 105-136.	2.4	432
2	Random attractors for stochastic reactionâ€“diffusion equations on unbounded domains. Journal of Differential Equations, 2009, 246, 845-869.	2.2	307
3	Convergence of the Cahn-Hilliard equation to the Hele-Shaw model. Archive for Rational Mechanics and Analysis, 1994, 128, 165-205.	2.4	277
4	ATTRACTORS FOR STOCHASTIC LATTICE DYNAMICAL SYSTEMS. Stochastics and Dynamics, 2006, 06, 1-21.	1.2	244
5	ATTRACTORS FOR LATTICE DYNAMICAL SYSTEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 143-153.	1.7	206
6	A Discrete Convolution ModelÂ¶for Phase Transitions. Archive for Rational Mechanics and Analysis, 1999, 150, 281-368.	2.4	165
7	Slow motion for the Cahn-Hilliard equation in one space dimension. Journal of Differential Equations, 1991, 90, 81-135.	2.2	163
8	An Integrodifferential Model for Phase Transitions: Stationary Solutions in Higher Space Dimensions. Journal of Statistical Physics, 1999, 95, 1119-1139.	1.2	150
9	Existence, uniqueness and stability of the stationary solution to a nonlocal evolution equation arising in population dispersal. Journal of Mathematical Analysis and Applications, 2007, 332, 428-440.	1.0	147
10	The Dynamics of Nucleation for the Cahnâ€“Hilliard Equation. SIAM Journal on Applied Mathematics, 1993, 53, 990-1008.	1.8	137
11	Attractors of non-autonomous stochastic lattice systems in weighted spaces. Physica D: Nonlinear Phenomena, 2014, 289, 32-50.	2.8	114
12	Traveling Waves of Bistable Dynamics on a Lattice. SIAM Journal on Mathematical Analysis, 2003, 35, 520-546.	1.9	112
13	The Neumann boundary problem for a nonlocal Cahnâ€“Hilliard equation. Journal of Differential Equations, 2005, 212, 235-277.	2.2	86
14	Equilibria with Many Nuclei for the Cahnâ€“Hilliard Equation. Journal of Differential Equations, 2000, 160, 283-356.	2.2	76
15	Spectral comparison principles for the Cahn-Hilliard and phase-field equations, and time scales for coarsening. Physica D: Nonlinear Phenomena, 1990, 43, 335-348.	2.8	75
16	Geometric and potential driving formation and evolution of biomolecular surfaces. Journal of Mathematical Biology, 2009, 59, 193-231.	1.9	75
17	Existence and persistence of invariant manifolds for semiflows in Banach space. Memoirs of the American Mathematical Society, 1998, 135, 0-0.	0.9	73
18	Approximately invariant manifolds and global dynamics of spike states. Inventiones Mathematicae, 2008, 174, 355-433.	2.5	59

#	Article	IF	Citations
19	Invariant foliations near normally hyperbolic invariant manifolds for semiflows. Transactions of the American Mathematical Society, 2000, 352, 4641-4676.	0.9	58
20	Existence and instability of spike layer solutions to singular perturbation problems. Journal of Functional Analysis, 2002, 196, 211-264.	1.4	58
21	The Dirichlet boundary problem for a nonlocal Cahnâ€“Hilliard equation. Journal of Mathematical Analysis and Applications, 2005, 311, 289-312.	1.0	56
22	Dynamics of the 3-D fractional complex Ginzburgâ€“Landau equation. Journal of Differential Equations, 2015, 259, 5276-5301.	2.2	56
23	Inertial manifolds and inertial sets for the phase-field equations. Journal of Dynamics and Differential Equations, 1992, 4, 375-398.	1.9	48
24	Persistence of overflowing manifolds for semiflow. Communications on Pure and Applied Mathematics, 1999, 52, 983-1046.	3.1	41
25	Asymptotic behavior of stochastic fractional power dissipative equations on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msup><mml:mrow><mml:mi mathvariant="double-struck">R</mml:mi></mml:mrow><mml:mrow><mml:mi>n</mml:mi></mml:mrow></mml:msup></mml:math>. Nonlinear Analysis: Theory, Methods & Applications, 2015, 128, 176-198.	1.1	41
26	Dynamics of the 3D fractional Ginzburgâ€“Landau equation with multiplicative noise on an unbounded domain. Communications in Mathematical Sciences, 2016, 14, 273-295.	1.0	36
27	Spectral analysis of traveling waves for nonlocal evolution equations. SIAM Journal on Mathematical Analysis, 2006, 38, 116-126.	1.9	33
28	Nucleation of Instability of the Meissner State of 3-Dimensional Superconductors. Communications in Mathematical Physics, 2007, 276, 571-610.	2.2	30
29	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
30	Individual Flux Study via Steady-State Poisson–Nernst–Planck Systems: Effects from Boundary Conditions. SIAM Journal on Applied Dynamical Systems, 2017, 16, 410-430.	1.6	24
31	On a nonlocal phase-field system. Nonlinear Analysis: Theory, Methods & Applications, 2006, 64, 2251-2278.	1.1	23
32	Normally hyperbolic invariant manifolds for random dynamical systems: Part I - persistence. Transactions of the American Mathematical Society, 2013, 365, 5933-5966.	0.9	22
33	Tempered random attractors for parabolic equations in weighted spaces. Journal of Mathematical Physics, 2013, 54, 081505.	1.1	18
34	Mathematical studies of Poissonâ€“Nernstâ€“Planck model for membrane channels: Finite ion size effects without electroneutrality boundary conditions. Journal of Computational and Applied Mathematics, 2019, 362, 510-527.	2.0	17
35	Global dynamics of boundary droplets. Discrete and Continuous Dynamical Systems, 2014, 34, 1-17.	0.9	17
36	Ion size and valence effects on ionic flows via Poissonâ€“Nernstâ€“Planck models. Communications in Mathematical Sciences, 2017, 15, 881-901.	1.0	17

#	Article	IF	Citations
37	Small Permanent Charge Effects on Individual Fluxes via Poissonâ€“Nernstâ€“Planck Models with Multiple Cations. Journal of Nonlinear Science, 2021, 31, 1.	2.1	16
38	Dynamics of ionic flows via Poisson-Nernst-Planck systems with local hard-sphere potentials: Competition between cations. Mathematical Biosciences and Engineering, 2020, 17, 3736-3766.	1.9	16
39	Invariant foliations for random dynamical systems. Discrete and Continuous Dynamical Systems, 2014, 34, 3639-3666.	0.9	15
40	Heteroclinic orbits for a higher order phase transition problem. European Journal of Applied Mathematics, 1997, 8, 149-163.	2.9	13
41	Mullins-Sekerka motion of small droplets on a fixed boundary. Journal of Geometric Analysis, 2000, 10, 575-596.	1.0	13
42	Geometric singular perturbation theory with real noise. Journal of Differential Equations, 2015, 259, 5137-5167.	2.2	13
43	Multiphase Solutions to the Vector Allenâ€“Cahn Equation: Crystalline and Other Complex Symmetric Structures. Archive for Rational Mechanics and Analysis, 2017, 225, 685-715.	2.4	10
44	Entire Solutions with Six-fold Junctions to Elliptic Gradient Systems with Triangle Symmetry. Advanced Nonlinear Studies, 2013, 13, 1-11.	1.7	9
45	Transition layer solutions of a higher order equation in an infinite tube. Communications in Partial Differential Equations, 1996, 21, 109-145.	2.2	7
46	Persistence of overflowing manifolds for semiflow. Communications on Pure and Applied Mathematics, 1999, 52, 983-1046.	3.1	6
47	Gradient Dynamics: Motion Near a Manifold of Quasi-Equilibria. SIAM Journal on Applied Dynamical Systems, 2018, 17, 2106-2145.	1.6	5
48	Invariant manifolds of interior multi-spike states for the Cahn-Hilliard equation in higher space dimensions. Transactions of the American Mathematical Society, 2016, 369, 3937-3975.	0.9	3
49	Singular fold with real noise. Discrete and Continuous Dynamical Systems - Series B, 2016, 21, 2091-2107.	0.9	3
50	The spectral collocation method for efficiently solving PDEs with fractional Laplacian. Advances in Computational Mathematics, 2018, 44, 861-878.	1.6	2
51	Existence of global solution for a differential system with initial data inLp. International Journal of Mathematics and Mathematical Sciences, 1999, 22, 823-834.	0.7	0