Daniel Matthes

List of Publications by Year
in descending order

36 papers	763 citations	623734 14 h-index	526287 27 g-index
36 all docs	36 docs citations	36 times ranked	263 citing authors

#	Article	IF	Citations
1	Lagrangian schemes for Wasserstein gradient flows. Handbook of Numerical Analysis, 2021, , 271-311.	1.8	1
2	The Waiting Time Phenomenon in Spatially Discretized Porous Medium and Thin Film Equations. SIAM Journal on Numerical Analysis, 2021, 59, 60-87.	2.3	2
3	Gradient flow structure of a multidimensional nonlinear sixth-order quantum-diffusion equation. Pure and Applied Analysis, 2021, 3, 727-764.	1.1	0
4	A Two-Phase Two-Fluxes Degenerate Cahn–Hilliard Model as Constrained Wasserstein Gradient Flow. Archive for Rational Mechanics and Analysis, 2019, 233, 837-866.	2.4	9
5	A variational formulation of the BDF2 method for metric gradient flows. ESAIM: Mathematical Modelling and Numerical Analysis, 2019, 53, 145-172.	1.9	12
6	Discretization of flux-limited gradient flows: $Gamma $-convergence and numerical schemes. Mathematics of Computation, 2019, 89, 1027-1057.	2.1	2
7	A Lagrangian Scheme for the Solution of Nonlinear Diffusion Equations Using Moving Simplex Meshes. Journal of Scientific Computing, 2018, 75, 1463-1499.	2.3	19
8	A Convergent Lagrangian Discretization for a Nonlinear Fourth-Order Equation. Foundations of Computational Mathematics, 2017, 17, 73-126.	2.5	24
9	A Fully Discrete Variational Scheme for Solving Nonlinear Fokker--Planck Equations in Multiple Space Dimensions. SIAM Journal on Numerical Analysis, 2017, 55, 419-443.	2.3	19
10	Existence of solutions for a class of fourth order cross-diffusion systems of gradient flow type. Nonlinear Analysis: Theory, Methods & Applications, 2017, 159, 316-338.	1.1	3
11	14. Convergence of a fully discrete variational scheme for a thin-film equation. , 2017, , 356-399.		2
12	Convergent Lagrangian Discretization for Drift-Diffusion with Nonlocal Aggregation. Springer INdAM Series, 2017, , 313-351.	0.5	3
13	Existence of Weak Solutions to a Class of Fourth Order Partial Differential Equations with Wasserstein Gradient Structure. Potential Analysis, 2016, 45, 755-776.	0.9	6
14	Long-time behavior of a finite volume discretization for a fourth order diffusion equation. Nonlinearity, 2016, 29, 1992-2023.	1.4	12
15	Infinite energy solutions to inelastic homogeneous Boltzmann equations. Electronic Journal of Probability, 2015, 20, .	1.0	5
16	Exponential convergence to equilibrium in a coupled gradient flow system modeling chemotaxis. Analysis and PDE, 2015, 8, 425-466.	1.4	10
17	Transport distances and geodesic convexity for systems of degenerate diffusion equations. Calculus of Variations and Partial Differential Equations, 2015, 54, 3397-3438.	1.7	21
18	Convergence of a variational Lagrangian scheme for a nonlinear drift diffusion equation. ESAIM: Mathematical Modelling and Numerical Analysis, 2014, 48, 697-726.	1.9	34

#	Article	IF	Citations
19	Curves of steepest descent are entropy solutions for a class of degenerate convection–diffusion equations. Calculus of Variations and Partial Differential Equations, 2014, 50, 199-230.	1.7	14
20	Multi-dimensional smoothing transformations: Existence, regularity and stability of fixed points. Stochastic Processes and Their Applications, 2014, 124, 154-198.	0.9	5
21	A multidimensional nonlinear sixth-order quantum diffusion equation. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2013, 30, 337-365.	1.4	10
22	Cahn–Hilliard and thin film equations with nonlinear mobility as gradient flows in weighted-Wasserstein metrics. Journal of Differential Equations, 2012, 253, 814-850.	2.2	46
23	Central limit theorem for a class of one-dimensional kinetic equations. Probability Theory and Related Fields, 2011, 150, 77-109.	1.8	27
24	Convex Sobolev Inequalities Derived from Entropy Dissipation. Archive for Rational Mechanics and Analysis, 2011, 199, 563-596.	2.4	16
25	Entropies for radially symmetric higher-order nonlinear diffusion equations. Communications in Mathematical Sciences, 2011, 9, 353-382.	1.0	4
26	Propagation of Sobolev regularity for a class of random kinetic models on the real line. Nonlinearity, 2010, 23, 2081-2100.	1.4	6
27	A mathematical theory for wealth distribution. , 2010, , 81-113.		2
28	A gradient flow scheme for nonlinear fourth order equations. Discrete and Continuous Dynamical Systems - Series B, 2010, 14, 935-959.	0.9	23
29	A Family of Nonlinear Fourth Order Equations of Gradient Flow Type. Communications in Partial Differential Equations, 2009, 34, 1352-1397.	2.2	99
30	On Steady Distributions of Kinetic Models of Conservative Economies. Journal of Statistical Physics, 2008, 130, 1087-1117.	1.2	88
31	The Derrida–Lebowitz–Speer–Spohn Equation: Existence, NonUniqueness, and Decay Rates of the Solutions. SIAM Journal on Mathematical Analysis, 2008, 39, 1996-2015.	1.9	70
32	Kinetic equations modelling wealth redistribution: A comparison of approaches. Physical Review E, 2008, 78, 056103.	2.1	100
33	Analysis of a model for wealth redistribution. Kinetic and Related Models, 2008, 1, 1-27.	0.9	18
34	An algorithmic construction of entropies in higher-order nonlinear PDEs. Nonlinearity, 2006, 19, 633-659.	1.4	47
35	A Boltzmann-Type Approach to the Formation of Wealth Distribution Curves. SSRN Electronic Journal, 0, , .	0.4	2
36	Kinetic Equations Modelling Wealth Redistribution: A Comparison of Approaches. SSRN Electronic Journal, 0, , .	0.4	2