Jingwei Hu

List of Publications by Year
in descending order

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44	714	623734	580821
papers	citations	14	25
		h-index	g-index

44	44	44	383
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Positivity-preserving and energy-dissipative finite difference schemes for the Fokkerâ€“Planck and Kellerâ€“Segel equations. IMA Journal of Numerical Analysis, 2023, 43, 1450-1484.	2.9	4
2	High Order Strong Stability Preserving MultiDerivative Implicit and IMEX Runge--Kutta Methods with Asymptotic Preserving Properties. SIAM Journal on Numerical Analysis, 2022, 60, 423-449.	2.3	12
3	A Fast Petrov--Galerkin Spectral Method for the Multidimensional Boltzmann Equation Using Mapped Chebyshev Functions. SIAM Journal of Scientific Computing, 2022, 44, A1497-A1524.	2.8	3
4	An Adaptive Dynamical Low Rank Method for the Nonlinear Boltzmann Equation. Journal of Scientific Computing, 2022, 92, .	2.3	7
5	Uncertainty Quantification for the BGK Model of the Boltzmann Equation Using Multilevel Variance Reduced Monte Carlo Methods. SIAM-ASA Journal on Uncertainty Quantification, 2021, 9, 650-680.	2.0	8
6	Recent Development in Kinetic Theory of Granular Materials: Analysis and Numerical Methods. SEMA SIMAI Springer Series, 2021, , 1-36.	0.7	1
7	A New Stability and Convergence Proof of the Fourier--Galerkin Spectral Method for the Spatially Homogeneous Boltzmann Equation. SIAM Journal on Numerical Analysis, 2021, 59, 613-633.	2.3	6
8	A structure preserving numerical scheme for Fokker-Planck equations of neuron networks: Numerical analysis and exploration. Journal of Computational Physics, 2021, 433, 110195.	3.8	10
9	An asymptotic-preserving dynamical low-rank method for the multi-scale multi-dimensional linear transport equation. Journal of Computational Physics, 2021, 439, 110353.	3.8	20
10	An Efficient Dynamical Low-Rank Algorithm for the Boltzmann-BGK Equation Close to the Compressible Viscous Flow Regime. SIAM Journal of Scientific Computing, 2021, 43, B1057-B1080.	2.8	15
11	A fast Fourier spectral method for the homogeneous Boltzmann equation with non-cutoff collision kernels. Journal of Computational Physics, 2020, 423, 109806.	3.8	4
12	A fully discrete positivity-preserving and energy-dissipative finite difference scheme for Poissonâ€“Nernstâ€“Planck equations. Numerische Mathematik, 2020, 145, 77-115.	1.9	26
13	Fully discrete positivity-preserving and energy-dissipating schemes for aggregation-diffusion equations with a gradient-flow structure. Communications in Mathematical Sciences, 2020, 18, 1259-1303.	1.0	19
14	Quantification of thermally-driven flows in microsystems using Boltzmann equation in deterministic and stochastic contexts. Physics of Fluids, 2019, 31, .	4.0	9
15	A Discontinuous Galerkin Fast Spectral Method for Multi-Species Full Boltzmann on Streaming Multi-Processors. , 2019, , .		2
16	Fast deterministic solution of the full Boltzmann equation on graphics processing units. AIP Conference Proceedings, 2019, , .	0.4	3
17	On stochastic Galerkin approximation of the nonlinear Boltzmann equation with uncertainty in the fluid regime. Journal of Computational Physics, 2019, 397, 108838.	3.8	9
18	A discontinuous Galerkin fast spectral method for the multi-species Boltzmann equation. Computer Methods in Applied Mechanics and Engineering, 2019, 352, 56-84.	6.6	12

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19	A fast spectral method for the inelastic Boltzmann collision operator and application to heated granular gases. Journal of Computational Physics, 2019, 385, 119-134.	3.8	11
20	A Second-Order Asymptotic-Preserving and Positivity-Preserving Exponential Runge–Kutta Method for a Class of Stiff Kinetic Equations. Multiscale Modeling and Simulation, 2019, 17, 1123-1146.	1.6	8
21	A discontinuous Galerkin fast spectral method for the full Boltzmann equation with general collision kernels. Journal of Computational Physics, 2019, 378, 178-208.	3.8	30
22	Asymptotic-Preserving and Positivity-Preserving Implicit-Explicit Schemes for the Stiff BGK Equation. SIAM Journal on Numerical Analysis, 2018, 56, 942-973.	2.3	31
23	A Stochastic Galerkin Method for the Fokkerâ€“Planckâ€“Landau Equation with Random Uncertainties. Springer Proceedings in Mathematics and Statistics, 2018, , 1-19.	0.2	3
24	A Stochastic Galerkin Method for the Boltzmann Equation with Multi-Dimensional Random Inputs Using Sparse Wavelet Bases. Numerical Mathematics, 2017, 10, 465-488.	1.3	25
25	On a Class of Implicitâ€“Explicit Rungeâ€“Kutta Schemes for Stiff Kinetic Equations Preserving the Navierâ€“Stokes Limit. Journal of Scientific Computing, 2017, 73, 797-818.	2.3	15
26	A Fast Spectral Method for the Boltzmann Collision Operator with General Collision Kernels. SIAM Journal of Scientific Computing, 2017, 39, B658-B674.	2.8	57
27	Uncertainty Quantification for Kinetic Equations. SEMA SIMAI Springer Series, 2017, , 193-229.	0.7	12
28	A stochastic Galerkin method for the Boltzmann equation with uncertainty. Journal of Computational Physics, 2016, 315, 150-168.	3.8	55
29	Q-compensated least-squares reverse time migration using low-rank one-step wave extrapolation. Geophysics, 2016, 81, S271-S279.	2.6	97
30	A fast algorithm for the energy space boson Boltzmann collision operator. Mathematics of Computation, 2015, 84, 271-288.	2.1	3
31	Weighted least square based lowrank finite difference for seismic wave extrapolation. , 2015, , .		2
32	A fast algorithm for 3D azimuthally anisotropic velocity scan. Geophysical Prospecting, 2015, 63, 368-377.	1.9	6
33	An asymptotic-preserving scheme for the semiconductor Boltzmann equation toward the energy-transport limit. Journal of Computational Physics, 2015, 281, 806-824.	3.8	8
34	Asymptotic-Preserving Exponential Methods for the Quantum Boltzmann Equation with High-Order Accuracy. Journal of Scientific Computing, 2015, 62, 555-574.	2.3	9
35	An asymptotic-preserving scheme for the semiconductor Boltzmann equation with two-scale collisions: A splitting approach. Kinetic and Related Models, 2015, 8, 707-723.	0.9	7
36	Lowrank seismic-wave extrapolation on a staggered grid. Geophysics, 2014, 79, T157-T168.	2.6	45

#	Article	IF	Citations
37	A fast conservative spectral solver for the nonlinear Boltzmann collision operator. , 2014, , .		1
38	Least-squares reverse-time migration using one-step two-way wave extrapolation by non-stationary phase shift. , 2014, , .		7
39	A fast butterfly algorithm for generalized Radon transforms. Geophysics, 2013, 78, U41-U51.	2.6	32
40	A fast butterfly algorithm for the hyperbolic Radon transform. , 2012, , .		1
41	A Numerical Scheme for the Quantum Fokker-Planck-Landau Equation Efficient in the Fluid Regime. Communications in Computational Physics, 2012, 12, 1541-1561.	1.7	13
42	A numerical scheme for the quantum Boltzmann equation with stiff collision terms. ESAIM: Mathematical Modelling and Numerical Analysis, 2012, 46, 443-463.	1.9	32
43	A fast spectral algorithm for the quantum Boltzmann collision operator. Communications in Mathematical Sciences, 2012, 10, 989-999.	1.0	21
44	On kinetic flux vector splitting schemes for quantum Euler equations. Kinetic and Related Models, 2011, 4, 517-530.	0.9	13