

Lei Wu

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

80
papers

1,561
citations

25
h-index

35
g-index

82
ext. papers

1,872
ext. citations

4
avg, IF

5.3
L-index

#	Paper	IF	Citations
80	Deterministic numerical solutions of the Boltzmann equation using the fast spectral method. <i>Journal of Computational Physics</i> , 2013 , 250, 27-52	4.1	89
79	Solving the Boltzmann equation deterministically by the fast spectral method: application to gas microflows. <i>Journal of Fluid Mechanics</i> , 2014 , 746, 53-84	3.7	75
78	Modulational instability and bright solitary wave solution for Bose-Einstein condensates with time-dependent scattering length and harmonic potential. <i>New Journal of Physics</i> , 2007 , 9, 69-69	2.9	62
77	Similaritons in nonlinear optical systems. <i>Optics Express</i> , 2008 , 16, 6352-60	3.3	61
76	Exact solutions of the Gross-Pitaevskii equation for stable vortex modes in two-dimensional Bose-Einstein condensates. <i>Physical Review A</i> , 2010 , 81,	2.6	54
75	On the apparent permeability of porous media in rarefied gas flows. <i>Journal of Fluid Mechanics</i> , 2017 , 822, 398-417	3.7	53
74	A comparative study of discrete velocity methods for low-speed rarefied gas flows. <i>Computers and Fluids</i> , 2018 , 161, 33-46	2.8	52
73	A hybrid lattice Boltzmann and finite difference method for droplet dynamics with insoluble surfactants. <i>Journal of Fluid Mechanics</i> , 2018 , 837, 381-412	3.7	50
72	A kinetic model of the Boltzmann equation for non-vibrating polyatomic gases. <i>Journal of Fluid Mechanics</i> , 2015 , 763, 24-50	3.7	46
71	Vortex solitons in defocusing media with spatially inhomogeneous nonlinearity. <i>Physical Review E</i> , 2012 , 85, 056603	2.4	45
70	Similariton interactions in nonlinear graded-index waveguide amplifiers. <i>Physical Review A</i> , 2008 , 78,	2.6	44
69	A fast spectral method for the Boltzmann equation for monatomic gas mixtures. <i>Journal of Computational Physics</i> , 2015 , 298, 602-621	4.1	33
68	A lattice Boltzmann method for axisymmetric thermocapillary flows. <i>International Journal of Heat and Mass Transfer</i> , 2017 , 104, 337-350	4.9	32
67	Oscillatory rarefied gas flow inside rectangular cavities. <i>Journal of Fluid Mechanics</i> , 2014 , 748, 350-367	3.7	32
66	Comparative study of the discrete velocity and lattice Boltzmann methods for rarefied gas flows through irregular channels. <i>Physical Review E</i> , 2017 , 96, 023309	2.4	31
65	A lattice Boltzmann method for axisymmetric multicomponent flows with high viscosity ratio. <i>Journal of Computational Physics</i> , 2016 , 327, 873-893	4.1	30
64	Can we find steady-state solutions to multiscale rarefied gas flows within dozens of iterations?. <i>Journal of Computational Physics</i> , 2020 , 407, 109245	4.1	29

63	Non-equilibrium dynamics of dense gas under tight confinement. <i>Journal of Fluid Mechanics</i> , 2016 , 794, 252-266	3.7	28
62	Exact soliton solutions and their stability control in the nonlinear Schrödinger equation with spatiotemporally modulated nonlinearity. <i>Physical Review E</i> , 2011 , 83, 016602	2.4	27
61	Assessment and development of the gas kinetic boundary condition for the Boltzmann equation. <i>Journal of Fluid Mechanics</i> , 2017 , 823, 511-537	3.7	26
60	Assessment of the ellipsoidal-statistical Bhatnagar-Gross-Krook model for force-driven Poiseuille flows. <i>Journal of Computational Physics</i> , 2013 , 251, 383-395	4.1	26
59	Controllable generation and propagation of asymptotic parabolic optical waves in graded-index waveguide amplifiers. <i>Physical Review A</i> , 2008 , 78,	2.6	26
58	Intrinsic and apparent gas permeability of heterogeneous and anisotropic ultra-tight porous media. <i>Journal of Natural Gas Science and Engineering</i> , 2018 , 60, 271-283	4.6	26
57	Influence of intermolecular potentials on rarefied gas flows: Fast spectral solutions of the Boltzmann equation. <i>Physics of Fluids</i> , 2015 , 27, 082002	4.4	25
56	Self-similar optical pulses in competing cubic-quintic nonlinear media with distributed coefficients. <i>Physical Review A</i> , 2010 , 81,	2.6	25
55	A multi-level parallel solver for rarefied gas flows in porous media. <i>Computer Physics Communications</i> , 2019 , 234, 14-25	4.2	25
54	A fast iterative scheme for the linearized Boltzmann equation. <i>Journal of Computational Physics</i> , 2017 , 338, 431-451	4.1	24
53	Adomian decomposition method for nonlinear differential-difference equations. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2009 , 14, 12-18	3.7	21
52	Fast spectral solution of the generalized Enskog equation for dense gases. <i>Journal of Computational Physics</i> , 2015 , 303, 66-79	4.1	19
51	Rarefaction throttling effect: Influence of the bend in micro-channel gaseous flow. <i>Physics of Fluids</i> , 2018 , 30, 082002	4.4	19
50	Matter-wave solitons and finite-amplitude Bloch waves in optical lattices with spatially modulated nonlinearity. <i>Physical Review A</i> , 2010 , 82,	2.6	19
49	Accurate and efficient computation of the Boltzmann equation for Couette flow: Influence of intermolecular potentials on Knudsen layer function and viscous slip coefficient. <i>Journal of Computational Physics</i> , 2019 , 378, 573-590	4.1	19
48	Bright solitons on a continuous wave background for the inhomogeneous nonlinear Schrödinger equation in plasma. <i>Journal of Physics A</i> , 2006 , 39, 11947-11953		17
47	Pore-scale simulations of rarefied gas flows in ultra-tight porous media. <i>Fuel</i> , 2019 , 249, 341-351	7.1	16
46	Exact and numerical solitary wave solutions of generalized Zakharov equation by the Adomian decomposition method. <i>Chaos, Solitons and Fractals</i> , 2007 , 32, 1208-1214	9.3	15

45	Comparative study of the Boltzmann and McCormack equations for Couette and Fourier flows of binary gaseous mixtures. <i>International Journal of Heat and Mass Transfer</i> , 2016 , 96, 29-41	4.9	15
44	Vortices and ring dark solitons in nonlinear amplifying waveguides. <i>Physical Review A</i> , 2010 , 81,	2.6	14
43	A comparative study of the DSBGK and DVM methods for low-speed rarefied gas flows. <i>Computers and Fluids</i> , 2019 , 181, 143-159	2.8	14
42	Modelling a surfactant-covered droplet on a solid surface in three-dimensional shear flow. <i>Journal of Fluid Mechanics</i> , 2020 , 897,	3.7	12
41	Sound propagation through a rarefied gas in rectangular channels. <i>Physical Review E</i> , 2016 , 94, 053110	2.4	12
40	Thermal transpiration in molecular gas. <i>Physics of Fluids</i> , 2020 , 32, 082005	4.4	12
39	Implicit Discontinuous Galerkin Method for the Boltzmann Equation. <i>Journal of Scientific Computing</i> , 2020 , 82, 1	2.3	11
38	Nonlinear oscillatory rarefied gas flow inside a rectangular cavity. <i>Physical Review E</i> , 2018 , 97, 043103	2.4	11
37	Propagation of dark similaritons on the compact parabolic background in dispersion-managed optical fibers. <i>Optics Express</i> , 2009 , 17, 8278-86	3.3	11
36	A high-order hybridizable discontinuous Galerkin method with fast convergence to steady-state solutions of the gas kinetic equation. <i>Journal of Computational Physics</i> , 2019 , 376, 973-991	4.1	10
35	GSIS: An efficient and accurate numerical method to obtain the apparent gas permeability of porous media. <i>Computers and Fluids</i> , 2020 , 206, 104576	2.8	10
34	Rarefaction cloaking: Influence of the fractal rough surface in gas slider bearings. <i>Physics of Fluids</i> , 2017 , 29, 102003	4.4	10
33	Applicability of the Boltzmann equation for a two-dimensional Fermi gas. <i>Physical Review A</i> , 2012 , 85,	2.6	10
32	Modulation instability of ion acoustic waves, solitons, and their interactions in nonthermal electron-positron-ion plasmas. <i>Physics of Plasmas</i> , 2009 , 16, 062102	2.1	10
31	Dark soliton beats in the time-varying background of Bose-Einstein condensates. <i>Physical Review A</i> , 2009 , 80,	2.6	10
30	Shale gas permeability upscaling from the pore-scale. <i>Physics of Fluids</i> , 2020 , 32, 102012	4.4	10
29	Numerical investigation of the effects of proppant embedment on fracture permeability and well production in Queensland coal seam gas reservoirs. <i>International Journal of Coal Geology</i> , 2021 , 242, 103689	5.5	10
28	Kinetic modelling of the quantum gases in the normal phase. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012 , 468, 1799-1823	2.4	9

27	Multiscale simulation of molecular gas flows by the general synthetic iterative scheme. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021 , 373, 113548	5.7	9
26	Fast Convergence and Asymptotic Preserving of the General Synthetic Iterative Scheme. <i>SIAM Journal of Scientific Computing</i> , 2020 , 42, B1517-B1540	2.6	8
25	On the accuracy of macroscopic equations for linearized rarefied gas flows. <i>Advances in Aerodynamics</i> , 2020 , 2,	2.2	8
24	Extraction of the translational Eucken factor from light scattering by molecular gas. <i>Journal of Fluid Mechanics</i> , 2020 , 901,	3.7	8
23	Do thermal effects cause the propulsion of bulk graphene material?. <i>Nature Photonics</i> , 2016 , 10, 139-139	3.9	7
22	Ab initio calculation of rarefied flows of helium-neon mixture: Classical vs quantum scatterings. <i>International Journal of Heat and Mass Transfer</i> , 2019 , 145, 118765	4.9	7
21	Self-similar parabolic pulses in optical fiber amplifiers with gain dispersion and gain saturation. <i>Physical Review A</i> , 2008 , 78,	2.6	7
20	Comment on Beshbach resonance and growth of a Bose-Einstein condensate. <i>Physical Review A</i> , 2007 , 75,	2.6	7
19	Rarefied flow separation in microchannel with bends. <i>Journal of Fluid Mechanics</i> , 2020 , 901,	3.7	7
18	General synthetic iterative scheme for nonlinear gas kinetic simulation of multi-scale rarefied gas flows. <i>Journal of Computational Physics</i> , 2021 , 430, 110091	4.1	7
17	Temperature retrieval error in Rayleigh-Brillouin scattering using Tenti-S6 kinetic model 2016 ,		7
16	A hybrid approach to couple the discrete velocity method and Method of Moments for rarefied gas flows. <i>Journal of Computational Physics</i> , 2020 , 410, 109397	4.1	6
15	Preferential imbibition in a dual-permeability pore network. <i>Journal of Fluid Mechanics</i> , 2021 , 915,	3.7	6
14	Coherent Rayleigh-Brillouin scattering: Influence of the intermolecular potential 2014 ,		5
13	Numerical investigation of the radial quadrupole and scissors modes in trapped gases. <i>Europhysics Letters</i> , 2012 , 97, 16003	1.6	5
12	INFLUENCE OF THE INITIAL PHASE PROFILE ON THE ASYMPTOTIC SELF-SIMILAR PARABOLIC DYNAMICS. <i>Journal of Nonlinear Optical Physics and Materials</i> , 2009 , 18, 709-721	0.8	4
11	Theory of self-similar propagation of two coupled optical pulses in nonlinear optical fiber amplifiers: Coexistence and separation. <i>Physical Review A</i> , 2009 , 80,	2.6	4
10	Controllable exact self-similar evolution of the Bose-Einstein condensate. <i>New Journal of Physics</i> , 2008 , 10, 023021	2.9	4

9	Uncertainty quantification in rarefied dynamics of molecular gas: rate effect of thermal relaxation. <i>Journal of Fluid Mechanics</i> , 2021 , 917,	3.7	4
8	Dark soliton in the Bose-Einstein condensates with nonlinearity and harmonic potential managements. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2010 , 374, 944-947	2.3	3
7	The kinetic Shakhov-Enskog model for non-equilibrium flow of dense gases. <i>Journal of Fluid Mechanics</i> , 2020 , 883,	3.7	3
6	Accuracy of high-order lattice Boltzmann method for non-equilibrium gas flow. <i>Journal of Fluid Mechanics</i> , 2021 , 907,	3.7	3
5	A novel Monte Carlo simulation on gas flow in fractal shale reservoir. <i>Energy</i> , 2021 , 236, 121513	7.9	3
4	Temperature jump and Knudsen layer in rarefied molecular gas. <i>Physics of Fluids</i> , 2022 , 34, 032010	4.4	3
3	A fast spectral method for the Uehling-Uhlenbeck equation for quantum gas mixtures: Homogeneous relaxation and transport coefficients. <i>Journal of Computational Physics</i> , 2019 , 399, 108924	4.1	1
2	Numerical investigation of proppant transport at hydraulic-natural fracture intersection. <i>Powder Technology</i> , 2022 , 398, 117123	5.2	1
1	A fast synthetic iterative scheme for the stationary phonon Boltzmann transport equation. <i>International Journal of Heat and Mass Transfer</i> , 2021 , 174, 121308	4.9	0