Lei Wu

List of Publications by Year in Descending Order

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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	Numerical investigation of proppant transport at hydraulic-natural fracture intersection. *Powder Technology*, **2022**, 398, 117123	5.2	1
79	Temperature jump and Knudsen layer in rarefied molecular gas. *Physics of Fluids*, **2022**, 34, 032010	4.4	3
78	Preferential imbibition in a dual-permeability pore network. *Journal of Fluid Mechanics*, **2021**, 915,	3.7	6
77	General synthetic iterative scheme for nonlinear gas kinetic simulation of multi-scale rarefied gas flows. *Journal of Computational Physics*, **2021**, 430, 110091	4.1	7
76	Uncertainty quantification in rarefied dynamics of molecular gas: rate effect of thermal relaxation. *Journal of Fluid Mechanics*, **2021**, 917,	3.7	4
75	Numerical investigation of the effects of proppant embedment on fracture permeability and well production in Queensland coal seam gas reservoirs. *International Journal of Coal Geology*, **2021**, 242, 103689	5.5	10
74	Accuracy of high-order lattice Boltzmann method for non-equilibrium gas flow. *Journal of Fluid Mechanics*, **2021**, 907,	3.7	3
73	Multiscale simulation of molecular gas flows by the general synthetic iterative scheme. *Computer Methods in Applied Mechanics and Engineering*, **2021**, 373, 113548	5.7	9
72	A fast synthetic iterative scheme for the stationary phonon Boltzmann transport equation. *International Journal of Heat and Mass Transfer*, **2021**, 174, 121308	4.9	0
71	A novel Monte Carlo simulation on gas flow in fractal shale reservoir. *Energy*, **2021**, 236, 121513	7.9	3
70	Modelling a surfactant-covered droplet on a solid surface in three-dimensional shear flow. *Journal of Fluid Mechanics*, **2020**, 897,	3.7	12
69	Implicit Discontinuous Galerkin Method for the Boltzmann Equation. *Journal of Scientific Computing* , **2020**, 82, 1	2.3	11
68	A hybrid approach to couple the discrete velocity method and Method of Moments for rarefied gas flows. *Journal of Computational Physics*, **2020**, 410, 109397	4.1	6
67	GSIS: An efficient and accurate numerical method to obtain the apparent gas permeability of porous media. *Computers and Fluids*, **2020**, 206, 104576	2.8	10
66	Fast Convergence and Asymptotic Preserving of the General Synthetic Iterative Scheme. *SIAM Journal of Scientific Computing*, **2020**, 42, B1517-B1540	2.6	8
65	On the accuracy of macroscopic equations for linearized rarefied gas flows. *Advances in Aerodynamics*, **2020**, 2,	2.2	8
64	Can we find steady-state solutions to multiscale rarefied gas flows within dozens of iterations?. *Journal of Computational Physics*, **2020**, 407, 109245	4.1	29

63	The kinetic Shakhov–Enskog model for non-equilibrium flow of dense gases. *Journal of Fluid Mechanics*, **2020**, 883,	3.7	3
62	Shale gas permeability upscaling from the pore-scale. *Physics of Fluids*, **2020**, 32, 102012	4.4	10
61	Rarefied flow separation in microchannel with bends. *Journal of Fluid Mechanics*, **2020**, 901,	3.7	7
60	Thermal transpiration in molecular gas. *Physics of Fluids*, **2020**, 32, 082005	4.4	12
59	Extraction of the translational Eucken factor from light scattering by molecular gas. *Journal of Fluid Mechanics*, **2020**, 901,	3.7	8
58	A high-order hybridizable discontinuous Galerkin method with fast convergence to steady-state solutions of the gas kinetic equation. *Journal of Computational Physics*, **2019**, 376, 973-991	4.1	10
57	Pore-scale simulations of rarefied gas flows in ultra-tight porous media. *Fuel*, **2019**, 249, 341-351	7.1	16
56	Ab initio calculation of rarefied flows of helium-neon mixture: Classical vs quantum scatterings. *International Journal of Heat and Mass Transfer*, **2019**, 145, 118765	4.9	7
55	A fast spectral method for the Uehling-Uhlenbeck equation for quantum gas mixtures: Homogeneous relaxation and transport coefficients. *Journal of Computational Physics*, **2019**, 399, 108924	4.1	1
54	A multi-level parallel solver for rarefied gas flows in porous media. *Computer Physics Communications*, **2019**, 234, 14-25	4.2	25
53	Accurate and efficient computation of the Boltzmann equation for Couette flow: Influence of intermolecular potentials on Knudsen layer function and viscous slip coefficient. *Journal of Computational Physics*, **2019**, 378, 573-590	4.1	19
52	A comparative study of the DSBGK and DVM methods for low-speed rarefied gas flows. *Computers and Fluids*, **2019**, 181, 143-159	2.8	14
51	Nonlinear oscillatory rarefied gas flow inside a rectangular cavity. *Physical Review E*, **2018**, 97, 043103	2.4	11
50	A hybrid lattice Boltzmann and finite difference method for droplet dynamics with insoluble surfactants. *Journal of Fluid Mechanics*, **2018**, 837, 381-412	3.7	50
49	Rarefaction throttling effect: Influence of the bend in micro-channel gaseous flow. *Physics of Fluids*, **2018**, 30, 082002	4.4	19
48	A comparative study of discrete velocity methods for low-speed rarefied gas flows. *Computers and Fluids*, **2018**, 161, 33-46	2.8	52
47	Intrinsic and apparent gas permeability of heterogeneous and anisotropic ultra-tight porous media. *Journal of Natural Gas Science and Engineering*, **2018**, 60, 271-283	4.6	26
46	A fast iterative scheme for the linearized Boltzmann equation. *Journal of Computational Physics*, **2017**, 338, 431-451	4.1	24

45	Assessment and development of the gas kinetic boundary condition for the Boltzmann equation. *Journal of Fluid Mechanics*, **2017**, 823, 511-537	3.7	26
44	On the apparent permeability of porous media in rarefied gas flows. *Journal of Fluid Mechanics*, **2017**, 822, 398-417	3.7	53
43	Comparative study of the discrete velocity and lattice Boltzmann methods for rarefied gas flows through irregular channels. *Physical Review E*, **2017**, 96, 023309	2.4	31
42	Rarefaction cloaking: Influence of the fractal rough surface in gas slider bearings. *Physics of Fluids*, **2017**, 29, 102003	4.4	10
41	A lattice Boltzmann method for axisymmetric thermocapillary flows. *International Journal of Heat and Mass Transfer*, **2017**, 104, 337-350	4.9	32
40	Sound propagation through a rarefied gas in rectangular channels. *Physical Review E*, **2016**, 94, 053110	2.4	12
39	Do thermal effects cause the propulsion of bulk graphene material?. *Nature Photonics*, **2016**, 10, 139-139	33.9	7
38	Temperature retrieval error in Rayleigh-Brillouin scattering using Tenti S6 kinetic model **2016**,		7
37	Non-equilibrium dynamics of dense gas under tight confinement. *Journal of Fluid Mechanics*, **2016**, 794, 252-266	3.7	28
36	Comparative study of the Boltzmann and McCormack equations for Couette and Fourier flows of binary gaseous mixtures. *International Journal of Heat and Mass Transfer*, **2016**, 96, 29-41	4.9	15
35	A lattice Boltzmann method for axisymmetric multicomponent flows with high viscosity ratio. *Journal of Computational Physics*, **2016**, 327, 873-893	4.1	30
34	A fast spectral method for the Boltzmann equation for monatomic gas mixtures. *Journal of Computational Physics*, **2015**, 298, 602-621	4.1	33
33	Fast spectral solution of the generalized Enskog equation for dense gases. *Journal of Computational Physics*, **2015**, 303, 66-79	4.1	19
32	Influence of intermolecular potentials on rarefied gas flows: Fast spectral solutions of the Boltzmann equation. *Physics of Fluids*, **2015**, 27, 082002	4.4	25
31	A kinetic model of the Boltzmann equation for non-vibrating polyatomic gases. *Journal of Fluid Mechanics*, **2015**, 763, 24-50	3.7	46
30	Solving the Boltzmann equation deterministically by the fast spectral method: application to gas microflows. *Journal of Fluid Mechanics*, **2014**, 746, 53-84	3.7	75
29	Coherent Rayleigh-Brillouin scattering: Influence of the intermolecular potential **2014**,		5
28	Oscillatory rarefied gas flow inside rectangular cavities. *Journal of Fluid Mechanics*, **2014**, 748, 350-367	3.7	32

27	Deterministic numerical solutions of the Boltzmann equation using the fast spectral method. *Journal of Computational Physics*, **2013**, 250, 27-52	4.1	89
26	Assessment of the ellipsoidal-statistical Bhatnagar□Gross□Krook model for force-driven Poiseuille flows. *Journal of Computational Physics*, **2013**, 251, 383-395	4.1	26
25	Applicability of the Boltzmann equation for a two-dimensional Fermi gas. *Physical Review A*, **2012**, 85,	2.6	10
24	Kinetic modelling of the quantum gases in the normal phase. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2012**, 468, 1799-1823	2.4	9
23	Numerical investigation of the radial quadrupole and scissors modes in trapped gases. *Europhysics Letters*, **2012**, 97, 16003	1.6	5
22	Vortex solitons in defocusing media with spatially inhomogeneous nonlinearity. *Physical Review E*, **2012**, 85, 056603	2.4	45
21	Exact soliton solutions and their stability control in the nonlinear Schr□inger equation with spatiotemporally modulated nonlinearity. *Physical Review E*, **2011**, 83, 016602	2.4	27
20	Vortices and ring dark solitons in nonlinear amplifying waveguides. *Physical Review A*, **2010**, 81,	2.6	14
19	Self-similar optical pulses in competing cubic-quintic nonlinear media with distributed coefficients. *Physical Review A*, **2010**, 81,	2.6	25
18	Exact solutions of the Gross-Pitaevskii equation for stable vortex modes in two-dimensional Bose-Einstein condensates. *Physical Review A*, **2010**, 81,	2.6	54
17	Matter-wave solitons and finite-amplitude Bloch waves in optical lattices with spatially modulated nonlinearity. *Physical Review A*, **2010**, 82,	2.6	19
16	Dark soliton in the Bose□Einstein condensates with nonlinearity and harmonic potential managements. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2010**, 374, 944-947	2.3	3
15	Modulation instability of ion acoustic waves, solitons, and their interactions in nonthermal electron-positron-ion plasmas. *Physics of Plasmas*, **2009**, 16, 062102	2.1	10
14	INFLUENCE OF THE INITIAL PHASE PROFILE ON THE ASYMPTOTIC SELF-SIMILAR PARABOLIC DYNAMICS. *Journal of Nonlinear Optical Physics and Materials*, **2009**, 18, 709-721	0.8	4
13	Adomian decomposition method for nonlinear differential-difference equations. *Communications in Nonlinear Science and Numerical Simulation*, **2009**, 14, 12-18	3.7	21
12	Propagation of dark similaritons on the compact parabolic background in dispersion-managed optical fibers. *Optics Express*, **2009**, 17, 8278-86	3.3	11
11	Dark soliton beats in the time-varying background of Bose-Einstein condensates. *Physical Review A*, **2009**, 80,	2.6	10
10	Theory of self-similar propagation of two coupled optical pulses in nonlinear optical fiber amplifiers: Coexistence and separation. *Physical Review A*, **2009**, 80,	2.6	4

9	Similariton interactions in nonlinear graded-index waveguide amplifiers. *Physical Review A*, **2008**, 78,	2.6	44
8	Self-similar parabolic pulses in optical fiber amplifiers with gain dispersion and gain saturation. *Physical Review A*, **2008**, 78,	2.6	7
7	Controllable generation and propagation of asymptotic parabolic optical waves in graded-index waveguide amplifiers. *Physical Review A*, **2008**, 78,	2.6	26
6	Similaritons in nonlinear optical systems. *Optics Express*, **2008**, 16, 6352-60	3.3	61
5	Controllable exact self-similar evolution of the Bose□Einstein condensate. *New Journal of Physics*, **2008**, 10, 023021	2.9	4
4	Exact and numerical solitary wave solutions of generalized Zakharov equation by the Adomian decomposition method. *Chaos, Solitons and Fractals*, **2007**, 32, 1208-1214	9.3	15
3	Modulational instability and bright solitary wave solution for Bose□Einstein condensates with time-dependent scattering length and harmonic potential. *New Journal of Physics*, **2007**, 9, 69-69	2.9	62
2	Comment on □eshbach resonance and growth of a Bose-Einstein condensate□*Physical Review A*, **2007**, 75,	2.6	7
1	Bright solitons on a continuous wave background for the inhomogeneous nonlinear Schr□inger equation in plasma. *Journal of Physics A*, **2006**, 39, 11947-11953		17