Wei Su

List of Publications by Year
in descending order

55
papers	1,330
citations	331259
21
h-index	360668
35
g-index
55
all docs	55
docs citations	55
times ranked	551
citing authors

#	Article	IF	Citations
1	Temperature jump and Knudsen layer in rarefied molecular gas. Physics of Fluids, 2022, 34, .	1.6	10
2	Capturing the influence of intermolecular potential in rarefied gas flows by a kinetic model with velocity-dependent collision frequency. Journal of Fluid Mechanics, 2022, 942, .	1.4	8
3	A fast-converging scheme for the phonon Boltzmann equation with dual relaxation times. Journal of Computational Physics, 2022, 467, 111436.	1.9	5
4	Accuracy of high-order lattice Boltzmann method for non-equilibrium gas flow. Journal of Fluid Mechanics, 2021, 907, .	1.4	11
5	Multiscale simulation of molecular gas flows by the general synthetic iterative scheme. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113548.	3.4	22
6	General synthetic iterative scheme for nonlinear gas kinetic simulation of multi-scale rarefied gas flows. Journal of Computational Physics, 2021, 430, 110091.	1.9	16
7	Uncertainty quantification in rarefied dynamics of molecular gas: rate effect of thermal relaxation. Journal of Fluid Mechanics, 2021, 917, .	1.4	12
8	A fast synthetic iterative scheme for the stationary phonon Boltzmann transport equation. International Journal of Heat and Mass Transfer, 2021, 174, 121308.	2.5	12
9	Can we find steady-state solutions to multiscale rarefied gas flows within dozens of iterations?. Journal of Computational Physics, 2020, 407, 109245.	1.9	50
10	Rarefied flow separation in microchannel with bends. Journal of Fluid Mechanics, 2020, 901, .	1.4	18
11	Thermal transpiration in molecular gas. Physics of Fluids, 2020, 32, .	1.6	20
12	Extraction of the translational Eucken factor from light scattering by molecular gas. Journal of Fluid Mechanics, 2020, 901, .	1.4	12
13	Implicit Discontinuous Galerkin Method for the Boltzmann Equation. Journal of Scientific Computing, 2020, 82, 1.	1.1	17
14	A hybrid approach to couple the discrete velocity method and Method of Moments for rarefied gas flows. Journal of Computational Physics, 2020, 410, 109397.	1.9	15
15	GSIS: An efficient and accurate numerical method to obtain the apparent gas permeability of porous media. Computers and Fluids, 2020, 206, 104576.	1.3	19
16	Fast Convergence and Asymptotic Preserving of the General Synthetic Iterative Scheme. SIAM Journal of Scientific Computing, 2020, 42, B1517-B1540.	1.3	17
17	On the accuracy of macroscopic equations for linearized rarefied gas flows. Advances in Aerodynamics, 2020, 2, .	1.3	13
18	Heat and mass transfer of oscillatory lid-driven cavity flow in the continuum, transition and free molecular flow regimes. International Journal of Heat and Mass Transfer, 2019, 131, 291-300.	2.5	16

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19	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.	1.9	13
20	Pore-scale simulations of rarefied gas flows in ultra-tight porous media. Fuel, 2019, 249, 341-351.	3.4	24
21	High-order hybridisable discontinuous Galerkin method for the gas kinetic equation. International Journal of Computational Fluid Dynamics, 2019, 33, 335-342.	0.5	2
22	A multi-level parallel solver for rarefied gas flows in porous media. Computer Physics Communications, 2019, 234, 14-25.	3.0	37
23	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.	1.9	27
24	A comparative study of the DSBGK and DVM methods for low-speed rarefied gas flows. Computers and Fluids, 2019, 181, 143-159.	1.3	18
25	Nonlinear oscillatory rarefied gas flow inside a rectangular cavity. Physical Review E, 2018, 97, 043103.	0.8	15
26	State-Specific Modeling of Vibrational Relaxation and Nitric Oxide Formation in Shock-Heated Air. Journal of Thermophysics and Heat Transfer, 2018, 32, 337-352.	0.9	23
27	A comparative study of discrete velocity methods for low-speed rarefied gas flows. Computers and Fluids, 2018, 161, 33-46.	1.3	70
28	Vulnerability of Structural Concrete to Extreme Climate Variances. Climate, 2018, 6, 40.	1.2	34
29	Intrinsic and apparent gas permeability of heterogeneous and anisotropic ultra-tight porous media. Journal of Natural Gas Science and Engineering, 2018, 60, 271-283.	2.1	38
30	Oscillatory rarefied gas flow inside a three dimensional rectangular cavity. Physics of Fluids, 2018, 30, .	1.6	18
31	Rarefaction throttling effect: Influence of the bend in micro-channel gaseous flow. Physics of Fluids, 2018, 30, .	1.6	28
32	Stable Runge-Kutta discontinuous Galerkin solver for hypersonic rarefied gaseous flow based on 2D Boltzmann kinetic model equations. Applied Mathematics and Mechanics (English Edition), 2017, 38, 343-362.	1.9	3
33	A fast iterative scheme for the linearized Boltzmann equation. Journal of Computational Physics, 2017, 338, 431-451.	1.9	35
34	Investigations of vibrational kinetics relaxation within air shock wave plasma. Journal of Physics: Conference Series, 2017, 815, 012026.	0.3	0
35	Assessment and development of the gas kinetic boundary condition for the Boltzmann equation. Journal of Fluid Mechanics, 2017, 823, 511-537.	1.4	34
36	On the apparent permeability of porous media in rarefied gas flows. Journal of Fluid Mechanics, 2017, 822, 398-417.	1.4	68

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37	Comparative study of the discrete velocity and lattice Boltzmann methods for rarefied gas flows through irregular channels. Physical Review E, 2017, 96, 023309.	0.8	37
38	Rarefaction cloaking: Influence of the fractal rough surface in gas slider bearings. Physics of Fluids, 2017, 29, 102003.	1.6	14
39	Non-equilibrium dynamics of dense gas under tight confinement. Journal of Fluid Mechanics, 2016, 794, 252-266.	1.4	45
40	Sound propagation through a rarefied gas in rectangular channels. Physical Review E, 2016, 94, 053110.	0.8	17
41	Vibrational specific simulation of nonequilibrium radiation from shock-heated air. AIP Conference Proceedings, 2016, , .	0.3	0
42	A kinetic model of the Boltzmann equation for non-vibrating polyatomic gases. Journal of Fluid Mechanics, 2015, 763, 24-50.	1.4	58
43	Analysis of a porous and flexible cylinder in waves. China Ocean Engineering, 2015, 29, 357-368.	0.6	9
44	A fast spectral method for the Boltzmann equation for monatomic gas mixtures. Journal of Computational Physics, 2015, 298, 602-621.	1.9	46
45	Fast spectral solution of the generalized Enskog equation for dense gases. Journal of Computational Physics, 2015, 303, 66-79.	1.9	33
46	Influence of intermolecular potentials on rarefied gas flows: Fast spectral solutions of the Boltzmann equation. Physics of Fluids, 2015, 27, .	1.6	29
47	A parallel Runge–Kutta discontinuous Galerkin solver for rarefied gas flows based on 2D Boltzmann kinetic equations. Computers and Fluids, 2015, 109, 123-136.	1.3	16
48	A stable Runge-Kutta discontinuous Galerkin solver for hypersonic rarefied gaseous flows. , 2014, , .		0
49	Oscillatory rarefied gas flow inside rectangular cavities. Journal of Fluid Mechanics, 2014, 748, 350-367.	1.4	34
50	Oscillations of elastically mounted cylinders in regular waves. Applied Mathematics and Mechanics (English Edition), 2014, 35, 767-782.	1.9	0
51	Solving the Boltzmann equation deterministically by the fast spectral method: application to gas microflows. Journal of Fluid Mechanics, 2014, 746, 53-84.	1.4	89
52	Extension of the low diffusion particle method for near-continuum two-phase flow simulations. Chinese Journal of Aeronautics, 2013, 26, 37-46.	2.8	2
53	Deterministic numerical solutions of the Boltzmann equation using the fast spectral method. Journal of Computational Physics, 2013, 250, 27-52.	1.9	115
54	Theoretical development for DSMC local time stepping technique. Science China Technological Sciences, 2012, 55, 2750-2756.	2.0	4

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55	A Runge-Kutta discontinuous Galerkin solver for 2D Boltzmann model equations: Verification and analysis of computational performance. AIP Conference Proceedings, 2012, , .	0.3	2