Wei Su

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5646059/publications.pdf

Version: 2024-02-01

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	Deterministic numerical solutions of the Boltzmann equation using the fast spectral method. Journal of Computational Physics, 2013, 250, 27-52.	1.9	115
2	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
3	A comparative study of discrete velocity methods for low-speed rarefied gas flows. Computers and Fluids, 2018, 161, 33-46.	1.3	70
4	On the apparent permeability of porous media in rarefied gas flows. Journal of Fluid Mechanics, 2017, 822, 398-417.	1.4	68
5	A kinetic model of the Boltzmann equation for non-vibrating polyatomic gases. Journal of Fluid Mechanics, 2015, 763, 24-50.	1.4	58
6	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
7	A fast spectral method for the Boltzmann equation for monatomic gas mixtures. Journal of Computational Physics, 2015, 298, 602-621.	1.9	46
8	Non-equilibrium dynamics of dense gas under tight confinement. Journal of Fluid Mechanics, 2016, 794, 252-266.	1.4	45
9	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
10	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
11	A multi-level parallel solver for rarefied gas flows in porous media. Computer Physics Communications, 2019, 234, 14-25.	3.0	37
12	A fast iterative scheme for the linearized Boltzmann equation. Journal of Computational Physics, 2017, 338, 431-451.	1.9	35
13	Oscillatory rarefied gas flow inside rectangular cavities. Journal of Fluid Mechanics, 2014, 748, 350-367.	1.4	34
14	Assessment and development of the gas kinetic boundary condition for the Boltzmann equation. Journal of Fluid Mechanics, 2017, 823, 511-537.	1.4	34
15	Vulnerability of Structural Concrete to Extreme Climate Variances. Climate, 2018, 6, 40.	1.2	34
16	Fast spectral solution of the generalized Enskog equation for dense gases. Journal of Computational Physics, 2015, 303, 66-79.	1.9	33
17	Influence of intermolecular potentials on rarefied gas flows: Fast spectral solutions of the Boltzmann equation. Physics of Fluids, 2015, 27, .	1.6	29
18	Rarefaction throttling effect: Influence of the bend in micro-channel gaseous flow. Physics of Fluids, 2018, 30, .	1.6	28

#	Article	IF	Citations
19	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
20	Pore-scale simulations of rarefied gas flows in ultra-tight porous media. Fuel, 2019, 249, 341-351.	3.4	24
21	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
22	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
23	Thermal transpiration in molecular gas. Physics of Fluids, 2020, 32, .	1.6	20
24	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
25	Oscillatory rarefied gas flow inside a three dimensional rectangular cavity. Physics of Fluids, 2018, 30, .	1.6	18
26	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
27	Rarefied flow separation in microchannel with bends. Journal of Fluid Mechanics, 2020, 901, .	1.4	18
28	Sound propagation through a rarefied gas in rectangular channels. Physical Review E, 2016, 94, 053110.	0.8	17
29	Implicit Discontinuous Galerkin Method for the Boltzmann Equation. Journal of Scientific Computing, 2020, 82, 1.	1.1	17
30	Fast Convergence and Asymptotic Preserving of the General Synthetic Iterative Scheme. SIAM Journal of Scientific Computing, 2020, 42, B1517-B1540.	1.3	17
31	A parallel Rungeâ€“Kutta discontinuous Galerkin solver for rarefied gas flows based on 2D Boltzmann kinetic equations. Computers and Fluids, 2015, 109, 123-136.	1.3	16
32	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
33	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
34	Nonlinear oscillatory rarefied gas flow inside a rectangular cavity. Physical Review E, 2018, 97, 043103.	0.8	15
35	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
36	Rarefaction cloaking: Influence of the fractal rough surface in gas slider bearings. Physics of Fluids, 2017, 29, 102003.	1.6	14

#	Article	IF	Citations
37	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
38	On the accuracy of macroscopic equations for linearized rarefied gas flows. Advances in Aerodynamics, 2020, 2, .	1.3	13
39	Extraction of the translational Eucken factor from light scattering by molecular gas. Journal of Fluid Mechanics, 2020, 901, .	1.4	12
40	Uncertainty quantification in rarefied dynamics of molecular gas: rate effect of thermal relaxation. Journal of Fluid Mechanics, 2021, 917, .	1.4	12
41	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
42	Accuracy of high-order lattice Boltzmann method for non-equilibrium gas flow. Journal of Fluid Mechanics, 2021, 907, .	1.4	11
43	Temperature jump and Knudsen layer in rarefied molecular gas. Physics of Fluids, 2022, 34, .	1.6	10
44	Analysis of a porous and flexible cylinder in waves. China Ocean Engineering, 2015, 29, 357-368.	0.6	9
45	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
46	A fast-converging scheme for the phonon Boltzmann equation with dual relaxation times. Journal of Computational Physics, 2022, 467, 111436.	1.9	5
47	Theoretical development for DSMC local time stepping technique. Science China Technological Sciences, 2012, 55, 2750-2756.	2.0	4
48	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
49	A Runge-Kutta discontinuous Galerkin solver for 2D Boltzmann model equations: Verification and analysis of computational performance. AIP Conference Proceedings, 2012, , .	0.3	2
50	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
51	High-order hybridisable discontinuous Galerkin method for the gas kinetic equation. International Journal of Computational Fluid Dynamics, 2019, 33, 335-342.	0.5	2
52	A stable Runge-Kutta discontinuous Galerkin solver for hypersonic rarefied gaseous flows. , 2014, , .		0
53	Oscillations of elastically mounted cylinders in regular waves. Applied Mathematics and Mechanics (English Edition), 2014, 35, 767-782.	1.9	0
54	Vibrational specific simulation of nonequilibrium radiation from shock-heated air. AIP Conference Proceedings, 2016, , .	0.3	0

#	Article	IF	Citations
55	Investigations of vibrational kinetics relaxation within air shock wave plasma. Journal of Physics: Conference Series, 2017, 815, 012026.	0.3	0