Xiao-Jun Gu

List of Publications by Year
in descending order

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40 papers	1,077 citations	567281 15 h-index	395702 33 g-index
40 all docs	40 docs citations	40 times ranked	699 citing authors

#	Article	IF	Citations
1	A high-order moment approach for capturing non-equilibrium phenomena in the transition regime. Journal of Fluid Mechanics, 2009, 636, 177-216.	3.4	186
2	Capturing Knudsen layer phenomena using a lattice Boltzmann model. Physical Review E, 2006, 74, 046704.	2.1	127
3	Jet flame heights, lift-off distances, and mean flame surface density for extensive ranges of fuels and flow rates. Combustion and Flame, 2016, 164, 400-409.	5.2	92
4	Investigation of Heat and Mass Transfer in a Lid-Driven Cavity Under Nonequilibrium Flow Conditions. Numerical Heat Transfer, Part B: Fundamentals, 2010, 58, 287-303.	0.9	87
5	On the apparent permeability of porous media in rarefied gas flows. Journal of Fluid Mechanics, 2017, 822, 398-417.	3.4	68
6	Effects of incomplete surface accommodation on non-equilibrium heat transfer in cavity flow: A parallel DSMC study. Computers and Fluids, 2011, 45, 197-201.	2.5	58
7	Lattice Boltzmann modelling Knudsen layer effect in non-equilibrium flows. Europhysics Letters, 2008, 83, 40008.	2.0	56
8	Nonplanar oscillatory shear flow: From the continuum to the free-molecular regime. Physics of Fluids, 2007, 19, .	4.0	49
9	Analysis of the slip coefficient and defect velocity in the Knudsen layer of a rarefied gas using the linearized moment equations. Physical Review E, 2010, 81, 016313.	2.1	36
10	TELEMAC: An efficient hydrodynamics suite for massively parallel architectures. Computers and Fluids, 2011, 51, 30-34.	2.5	36
11	Recent advances in computational fluid dynamics relevant to the modelling of pesticide flow on leaf surfaces. Pest Management Science, 2010, 66, 2-9.	3.4	31
12	Kramersâ€™ problem and the Knudsen minimum: a theoretical analysis using a linearized 26-moment approach. Continuum Mechanics and Thermodynamics, 2009, 21, 345-360.	2.2	26
13	Non-equilibrium effects on flow past a circular cylinder in the slip and early transition regime. Journal of Fluid Mechanics, 2019, 860, 654-681.	3.4	23
14	High-Speed Rarefied Flow Past a Rotating Cylinder: The Inverse Magnus Effect. AIAA Journal, 2016, 54, 1670-1681.	2.6	19
15	Simulation of thermal transpiration flow using a high-order moment method. International Journal of Modern Physics C, 2014, 25, 1450061.	1.7	17
16	A hybrid approach to couple the discrete velocity method and Method of Moments for rarefied gas flows. Journal of Computational Physics, 2020, 410, 109397.	3.8	15
17	NUMERICAL INVESTIGATIONS OF CAVITATION AROUND A HIGH SPEED SUBMARINE USING OPENFOAM WITH LES. International Journal of Computational Methods, 2012, 09, 1250040.	1.3	13
18	Analysis of non-physical slip velocity in lattice Boltzmann simulations using the bounce-back scheme. Journal of Computational Science, 2018, 28, 476-482.	2.9	13

#	Article	IF	Citations
19	On the accuracy of macroscopic equations for linearized rarefied gas flows. Advances in Aerodynamics, 2020, 2, .	2.5	13
20	Modeling oscillatory flows in the transition regime using a high-order moment method. Microfluidics and Nanofluidics, 2011, 10, 389-401.	2.2	12
21	Nonequilibrium gaseous heat transfer in pressure-driven plane Poiseuille flow. Physical Review E, 2013, 88, 013018.	2.1	11
22	How Far Can 13 Moments Go in Modeling Microscale Gas Phenomena?. Nanoscale and Microscale Thermophysical Engineering, 2007, 11, 85-97.	2.6	10
23	A new extended Reynolds equation for gas bearing lubrication based on the method of moments. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	10
24	A comparative study of boundary conditions for lattice Boltzmann simulations of high Reynolds number flows. Computers and Fluids, 2017, 156, 1-8.	2.5	10
25	KNUDSEN'S PERMEABILITY CORRECTION FOR GAS FLOW IN TIGHT POROUS MEDIA USING THE R26 MOMENT METHOD. Journal of Porous Media, 2017, 20, 787-805.	1.9	9
26	Extended Thermodynamic Approach for Non-Equilibrium Gas Flow. Communications in Computational Physics, 2013, 13, 1330-1356.	1.7	8
27	Computational framework for the regularized 20â€moment equations for nonâ€equilibrium gas flows. International Journal for Numerical Methods in Fluids, 2008, 56, 1433-1439.	1.6	7
28	Linearized-moment analysis of the temperature jump and temperature defect in the Knudsen layer of a rarefied gas. Physical Review E, 2014, 89, 063020.	2.1	6
29	High Speed Aerodynamic Characteristics of Rarefied Flow past Stationary and Rotating Cylinders. , 2015, , .		4
30	Discrete Boltzmann model of shallow water equations with polynomial equilibria. International Journal of Modern Physics C, 2018, 29, 1850080.	1.7	4
31	Modelling Thermally Induced Non-Equilibrium Gas Flows by Coupling Kinetic and Extended Thermodynamic Methods. Entropy, 2019, 21, 816.	2.2	4
32	Lattice Boltzmann modeling of fluid-particle interaction based on a two-phase mixture representation. Physical Review E, 2019, 100, 063311.	2.1	4
33	Parallel Compressible Viscous Flow Simulations Using FLASH Code: Implementation for Arbitrary 3D Geometries. Procedia Engineering, 2013, 61, 52-56.	1.2	3
34	Parallel Navierâ€“Stokes simulations for high speed compressible flow past arbitrary geometries using FLASH. Computers and Fluids, 2015, 110, 27-35.	2.5	3
35	On the inverse Magnus effect for flow past a rotating cylinder. AIP Conference Proceedings, 2016, , .	0.4	3
36	Computation of Aerodynamic Forces Under Nonequilibrium Conditions: Flow Past a Spinning Cylinder. AIAA Journal, 2018, 56, 4219-4224.	2.6	3

#	Article	IF	Citations
37	Application of a High-Order Macroscopic Approach to Force-Driven Poiseuille Flow in the Slip and Transition Regimes. , 2008, , .		1
38	MODELING VISCOUS FLUID DAMPING IN OSCILLATING MICROSTRUCTURES. Modern Physics Letters B, 2009, 23, 241-244.	1.9	0
39	Effect of surface modification on steady flow past a stationary circular micro-cylinder. AIP Conference Proceedings, 2019, , .	0.4	0
40	Comparative study of the discrete velocity and the moment method for rarefied gas flows. AIP Conference Proceedings, 2019, , .	0.4	0