Yanbiao Gan

List of Publications by Year in descending order

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68 papers	1,921 citations	201674 27 h-index	265206 42 g-index
68 all docs	68 docs citations	68 times ranked	478 citing authors

#	Article	IF	Citations
1	Discrete Boltzmann modeling of multiphase flows: hydrodynamic and thermodynamic non-equilibrium effects. Soft Matter, 2015, 11, 5336-5345.	2.7	115
2	Lattice Boltzmann modeling and simulation of compressible flows. Frontiers of Physics, 2012, 7, 582-600.	5.0	100
3	Two-dimensional lattice Boltzmann model for compressible flows with high Mach number. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 1721-1732.	2.6	79
4	Double-distribution-function discrete Boltzmann model for combustion. Combustion and Flame, 2016, 164, 137-151.	5.2	76
5	Nonequilibrium thermohydrodynamic effects on the Rayleigh-Taylor instability in compressible flows. Physical Review E, 2016, 94, 023106.	2.1	75
6	Phase-separating binary fluids under oscillatory shear. Physical Review E, 2003, 67, 056105.	2.1	73
7	Multiple-relaxation-time lattice Boltzmann kinetic model for combustion. Physical Review E, 2015, 91, 043306.	2.1	73
8	Multiple-relaxation-time lattice Boltzmann approach to compressible flows with flexible specific-heat ratio and Prandtl number. Europhysics Letters, 2010, 90, 54003.	2.0	68
9	Phase separation of incompressible binary fluids with lattice Boltzmann methods. Physica A: Statistical Mechanics and Its Applications, 2004, 331, 10-22.	2.6	67
10	Lattice Boltzmann study on Kelvin-Helmholtz instability: Roles of velocity and density gradients. Physical Review E, 2011, 83, 056704.	2.1	62
11	Discrete Boltzmann trans-scale modeling of high-speed compressible flows. Physical Review E, 2018, 97, 053312.	2.1	58
12	Morphologies and flow patterns in quenching of lamellar systems with shear. Physical Review E, 2006, 74, 011505.	2.1	54
13	Lattice BGK kinetic model for high-speed compressible flows: Hydrodynamic and nonequilibrium behaviors. Europhysics Letters, 2013, 103, 24003.	2.0	49
14	Finite-difference lattice-Boltzmann methods for binary fluids. Physical Review E, 2005, 71, 066706.	2.1	48
15	Phase separation in thermal systems: A lattice Boltzmann study and morphological characterization. Physical Review E, 2011, 84, 046715.	2.1	47
16	Polar-coordinate lattice Boltzmann modeling of compressible flows. Physical Review E, 2014, 89, 013307.	2.1	47
17	Scaling and hydrodynamic effects in lamellar ordering. Europhysics Letters, 2005, 71, 651-657.	2.0	46
18	Discrete Boltzmann modeling of Rayleigh-Taylor instability in two-component compressible flows. Physical Review E, 2017, 96, 053305.	2.1	41

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19	Nonequilibrium and morphological characterizations of Kelvinâ€“Helmholtz instability in compressible flows. Frontiers of Physics, 2019, 14, 1.	5.0	41
20	Kinetic modeling of detonation and effects of negative temperature coefficient. Combustion and Flame, 2016, 173, 483-492.	5.2	40
21	LATTICE BOLTZMANN APPROACH TO HIGH-SPEED COMPRESSIBLE FLOWS. International Journal of Modern Physics C, 2007, 18, 1747-1764.	1.7	38
22	Collaboration and competition between Richtmyer-Meshkov instability and Rayleigh-Taylor instability. Physics of Fluids, 2018, 30, .	4.0	38
23	Multiple-relaxation-time lattice Boltzmann model for compressible fluids. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2129-2139.	2.1	33
24	Lattice Boltzmann study of thermal phase separation: Effects of heat conduction, viscosity and Prandtl number. Europhysics Letters, 2012, 97, 44002.	2.0	31
25	Two-dimensional finite-difference lattice Boltzmann method for the complete Navier-Stokes equations of binary fluids. Europhysics Letters, 2005, 69, 214-220.	2.0	29
26	Simulations of complex fluids by mixed lattice Boltzmannâ€"finite difference methods. Physica A: Statistical Mechanics and Its Applications, 2006, 362, 42-47.	2.6	29
27	Discrete Boltzmann method for non-equilibrium flows: Based on Shakhov model. Computer Physics Communications, 2019, 238, 50-65.	7.5	29
28	Entropy production in thermal phase separation: a kinetic-theory approach. Soft Matter, 2019, 15, 2245-2259.	2.7	27
29	Morphological and non-equilibrium analysis of coupled Rayleighâ€“Taylorâ€“Kelvinâ€“Helmholtz instability. Physics of Fluids, 2020, 32, .	4.0	27
30	Highly Efficient Lattice Boltzmann Model for Compressible Fluids: Two-Dimensional Case. Communications in Theoretical Physics, 2009, 52, 681-693.	2.5	25
31	Numerical study of the ordering properties of lamellar phase. Physica A: Statistical Mechanics and Its Applications, 2004, 344, 750-756.	2.6	23
32	Flux Limiter Lattice Boltzmann Scheme Approach to Compressible Flows with Flexible Specific-Heat Ratio and Prandtl Number. Communications in Theoretical Physics, 2011, 56, 490-498.	2.5	22
33	Knudsen Number Effects on Two-Dimensional Rayleighâ€“Taylor Instability in Compressible Fluid: Based on a Discrete Boltzmann Method. Entropy, 2020, 22, 500.	2.2	20
34	Multiple-relaxation-time discrete Boltzmann modeling of multicomponent mixture with nonequilibrium effects. Physical Review E, 2021, 103, 013305.	2.1	20
35	Discrete Boltzmann modeling of high-speed compressible flows with various depths of non-equilibrium. Physics of Fluids, 2022, 34, .	4.0	19
36	Physical modeling of multiphase flow via lattice Boltzmann method: Numerical effects, equation of state and boundary conditions. Frontiers of Physics, 2012, 7, 481-490.	5.0	18

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37	Complex fields in heterogeneous materials under shock: modeling, simulation and analysis. Science China: Physics, Mechanics and Astronomy, 2016, 59, 1.	5.1	18
38	Delineation of the flow and mixing induced by Rayleighâ€“Taylor instability through tracers. Physics of Fluids, 2021, 33, .	4.0	17
39	FFT-LB Modeling of Thermal Liquid-Vapor System. Communications in Theoretical Physics, 2012, 57, 681-694.	2.5	16
40	Morphological characterization of shocked porous material. Journal Physics D: Applied Physics, 2009, 42, 075409.	2.8	15
41	Effects of the initial perturbations on the Rayleighâ€”Taylorâ€”Kelvinâ€”Helmholtz instability system. Frontiers of Physics, 2022, 17, 1.	5.0	14
42	Dynamics of spiral waves driven by a dichotomous periodic signal. Nonlinear Dynamics, 2012, 70, 1719-1730.	5.2	13
43	Discrete Boltzmann simulation of Rayleigh-Taylor instability in compressible flows. Wuli Xuebao/Acta Physica Sinica, 2018, 67, 080501.	0.5	12
44	Discrete Boltzmann modeling of Rayleigh-Taylor instability: Effects of interfacial tension, viscosity, and heat conductivity. Physical Review E, 2022, 106, .	2.1	12
45	Kinetic Simulation of Nonequilibrium Kelvin-Helmholtz Instability. Communications in Theoretical Physics, 2019, 71, 132.	2.5	11
46	Two-fluid discrete Boltzmann model for compressible flows: Based on ellipsoidal statistical Bhatnagarâ€“Grossâ€“Krook. Physics of Fluids, 2020, 32, .	4.0	11
47	Discrete Boltzmann modeling of plasma shock wave. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2023, 237, 2532-2548.	2.1	10
48	Finite-Difference Lattice Boltzmann Scheme for High-Speed Compressible Flow: Two-Dimensional Case. Communications in Theoretical Physics, 2008, 50, 201-210.	2.5	9
49	Three-dimensional discrete Boltzmann models for compressible flows in and out of equilibrium. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 477-490.	2.1	9
50	Non-equilibrium characteristics of mass and heat transfers in the slip flow. AIP Advances, 2022, 12, .	1.3	8
51	Two-Dimensional Lattice Boltzmann Methods Based on Sirovich's Kinetic Theory. Progress of Theoretical Physics Supplement, 2006, 162, 197-203.	0.1	7
52	Discrete Boltzmann modeling of detonation: Based on the Shakhov model. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2023, 237, 2517-2531.	2.1	7
53	Temperature pattern dynamics in shocked porous materials. Science China: Physics, Mechanics and Astronomy, 2010, 53, 1466-1474.	5.1	6
54	Cellular Automata Model for Elastic Solid Material. Communications in Theoretical Physics, 2013, 59, 59-67.	2.5	6

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55	Discrete Boltzmann Modeling of Compressible Flows. , 0, , .		6
56	Cluster identification and characterization of physical fields. Science China: Physics, Mechanics and Astronomy, 2010, 53, 1610-1618.	5.1	4
57	Shock wave response of porous materials: from plasticity to elasticity. Physica Scripta, 2010, 81, 055805.	2.5	4
58	Thermodynamic Nonequilibrium Features in Binary Diffusion. Communications in Theoretical Physics, 2018, 69, 722.	2.5	4
59	Morphology Effect of Surface Structures on Microchannel Flow Using Lattice Boltzmann Method. Geofluids, 2019, 2019, 1-14.	0.7	4
60	Simulating liquid-vapor phase separation under shear with lattice Boltzmann method. Science in China Series G: Physics, Mechanics and Astronomy, 2009, 52, 1337-1344.	0.2	3
61	Frictional effect of bottom wall on granular flow through an aperture on a conveyor belt. Powder Technology, 2020, 367, 421-426.	4.2	3
62	Lattice Boltzmann kinetic modeling and simulation of thermal liquidâ€“vapor system. International Journal of Modern Physics C, 2014, 25, 1441002.	1.7	2
63	Comparative study of discrete Boltzmann model and Navier-Stokes. Journal of Physics: Conference Series, 2018, 1113, 012015.	0.4	1
64	Gas Production from Fractured Hydrate Reservoirs: Numerical Modeling and Evaluation. Energy Technology, 2021, 9, 2100518.	3.8	1
65	Prediction of ternary alkaline-earth metal Sn(II) and Pb(II) chalcogenide semiconductors. Physical Review Materials, 2020, 4, .	2.4	1
66	Synergistic effect of electron cyclotron current drive and poloidal shear flow on the tearing mode. AIP Advances, 2019, 9, 075122.	1.3	0
67	Comparative study on several criteria for non-equilibrium phase separation. AIP Conference Proceedings, 2019, , .	0.4	0
68	A multi-feature predicting model of crown evolution involving material properties. AIP Advances, 2022, 12, 055104.	1.3	0