

Xiaowen Shan

List of Publications by Year in descending order

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70
papers

9,490
citations

136950

32
h-index

110387

64
g-index

70
all docs

70
docs citations

70
times ranked

3176
citing authors

#	ARTICLE	IF	CITATIONS
1	Mesoscale perspective on the Tolman length. <i>Physical Review E</i> , 2022, 105, 015301.	2.1	6
2	Effect of Airfoil Dimple on Low-Reynolds-Number Differing Laminar Separation Behavior via Multi-Objective Optimization. <i>Journal of Aircraft</i> , 2022, 59, 1243-1256.	2.4	3
3	The Hovering Stability of the Egretta Tail-Sitter VTOL UAV. <i>International Journal of Aerospace Engineering</i> , 2022, 2022, 1-12.	0.9	2
4	High Precision Height Control for Wing-in-Ground Crafts. <i>International Journal of Aerospace Engineering</i> , 2022, 2022, 1-11.	0.9	0
5	Accuracy of high-order lattice Boltzmann method for non-equilibrium gas flow. <i>Journal of Fluid Mechanics</i> , 2021, 907, .	3.4	11
6	A multiple-relaxation-time collision model for nonequilibrium flows. <i>Physics of Fluids</i> , 2021, 33, .	4.0	8
7	Rotational symmetry of the multiple-relaxation-time collision model. <i>Physical Review E</i> , 2021, 103, 043309.	2.1	5
8	Structure and isotropy of lattice pressure tensors for multirange potentials. <i>Physical Review E</i> , 2021, 103, 063309.	2.1	4
9	A multiple-relaxation-time collision model by Hermite expansion. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200406.	3.4	5
10	On the transition behavior of laminar flow through and around a multi-cylinder array. <i>Physics of Fluids</i> , 2020, 32, .	4.0	24
11	Connection between pore-scale and macroscopic flow characteristics of recirculating wake behind a porous cylinder. <i>Physics of Fluids</i> , 2020, 32, 083606.	4.0	6
12	Chemical-potential multiphase lattice Boltzmann method with superlarge density ratios. <i>Physical Review E</i> , 2020, 102, 013303.	2.1	30
13	Temperature-scaled collision process for the high-order lattice Boltzmann model. <i>Physical Review E</i> , 2019, 100, 013301.	2.1	20
14	Central-moment-based Galilean-invariant multiple-relaxation-time collision model. <i>Physical Review E</i> , 2019, 100, 043308.	2.1	32
15	Investigation of drag properties for flow through and around square arrays of cylinders at low Reynolds numbers. <i>Chemical Engineering Science</i> , 2019, 199, 285-301.	3.8	15
16	The formation mechanism of recirculating wake for steady flow through and around arrays of cylinders. <i>Physics of Fluids</i> , 2019, 31, .	4.0	16
17	Modelling viscoacoustic wave propagation with the lattice Boltzmann method. <i>Scientific Reports</i> , 2017, 7, 10169.	3.3	11
18	Modeling adsorption with lattice Boltzmann equation. <i>Scientific Reports</i> , 2016, 6, 27134.	3.3	22

#	ARTICLE	IF	CITATIONS
19	Time Domain Approaches to the Stability Analysis of Flexible Dynamical Systems. Journal of Computational and Nonlinear Dynamics, 2016, 11, .	1.2	0
20	The mathematical structure of the lattices of the lattice Boltzmann method. Journal of Computational Science, 2016, 17, 475-481.	2.9	37
21	Lattice Boltzmann Simulation of Shale Gas Transport in Organic Nano-Pores. Scientific Reports, 2014, 4, 4843.	3.3	60
22	Lattice ellipsoidal statistical BGK model for thermal non-equilibrium flows. Journal of Fluid Mechanics, 2013, 718, 347-370.	3.4	68
23	Consistent pseudopotential interactions in lattice Boltzmann models. Physical Review E, 2011, 84, 036703.	2.1	45
24	Lattice Boltzmann in micro- and nano-flow simulations. IMA Journal of Applied Mathematics, 2011, 76, 650-660.	1.6	10
25	Mass Transport/Diffusion and Surface Reaction Process with Lattice Boltzmann. Communications in Computational Physics, 2011, 9, 1362-1374.	1.7	6
26	Lattice Boltzmann method for adiabatic acoustics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2371-2380.	3.4	20
27	Multiscale lattice Boltzmann approach to modeling gas flows. Physical Review E, 2011, 83, 046701.	2.1	43
28	Multicomponent lattice Boltzmann model from continuum kinetic theory. Physical Review E, 2010, 81, 045701.	2.1	26
29	General solution of lattices for Cartesian lattice Bhatnagar-Gross-Krook models. Physical Review E, 2010, 81, 036702.	2.1	63
30	Propagating high-frequency shear waves in simple fluids. Physics of Fluids, 2009, 21, 013105.	4.0	11
31	Lattice Boltzmann method with self-consistent thermo-hydrodynamic equilibria. Journal of Fluid Mechanics, 2009, 628, 299-309.	3.4	86
32	Application of a Higher Order Lattice Boltzmann/ Hybrid Method for Simulation of Compressible Viscous Flows with Curved Boundary. , 2009, , .		1
33	A Lattice-Boltzmann / Finite-Difference Hybrid Simulation of Transonic Flow. , 2009, , .		23
34	Continuum free-energy formulation for a class of lattice Boltzmann multiphase models. Europhysics Letters, 2009, 86, 24005.	2.0	34
35	Fundamental conditions for N-th-order accurate lattice Boltzmann models. Physica D: Nonlinear Phenomena, 2008, 237, 2003-2008.	2.8	53
36	Lattice Boltzmann spray-like fluids. Europhysics Letters, 2008, 82, 24005.	2.0	32

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37	Thermal lattice Boltzmann model for gases with internal degrees of freedom. <i>Physical Review E</i> , 2008, 77, 035701.	2.1	41
38	Pressure tensor calculation in a class of nonideal gas lattice Boltzmann models. <i>Physical Review E</i> , 2008, 77, 066702.	2.1	152
39	Galilean invariance of lattice Boltzmann models. <i>Europhysics Letters</i> , 2008, 81, 34005.	2.0	69
40	Shape changes and motion of a vesicle in a fluid using a lattice Boltzmann model. <i>Europhysics Letters</i> , 2008, 81, 54002.	2.0	25
41	Lattice Boltzmann models for nonideal fluids with arrested phase-separation. <i>Physical Review E</i> , 2008, 77, 036705.	2.1	39
42	A GENERAL MULTIPLE-RELAXATION-TIME BOLTZMANN COLLISION MODEL. <i>International Journal of Modern Physics C</i> , 2007, 18, 635-643.	1.7	90
43	New direction of computational fluid dynamics and its applications in industry. <i>Science in China Series D: Earth Sciences</i> , 2007, 50, 521-533.	0.9	13
44	Kinetic theory representation of hydrodynamics: a way beyond the Navier-Stokes equation. <i>Journal of Fluid Mechanics</i> , 2006, 550, 413.	3.4	859
45	Analysis and reduction of the spurious current in a class of multiphase lattice Boltzmann models. <i>Physical Review E</i> , 2006, 73, 047701.	2.1	252
46	Efficient kinetic method for fluid simulation beyond the Navier-Stokes equation. <i>Physical Review E</i> , 2006, 74, 046703.	2.1	214
47	Analysis of drag and virtual mass forces in bubbly suspensions using an implicit formulation of the lattice Boltzmann method. <i>Journal of Fluid Mechanics</i> , 2002, 452, 61-96.	3.4	171
48	Bubble flow simulations with the lattice Boltzmann method. <i>Chemical Engineering Science</i> , 1999, 54, 4817-4823.	3.8	58
49	Discrete Boltzmann equation model for nonideal gases. <i>Physical Review E</i> , 1998, 57, R13-R16.	2.1	495
50	Discretization of the Velocity Space in the Solution of the Boltzmann Equation. <i>Physical Review Letters</i> , 1998, 80, 65-68.	7.8	351
51	Evaluation of the external force term in the discrete Boltzmann equation. <i>Physical Review E</i> , 1998, 58, 6855-6857.	2.1	124
52	Simulation of Rayleigh-Bénard convection using a lattice Boltzmann method. <i>Physical Review E</i> , 1997, 55, 2780-2788.	2.1	468
53	Evaluation of Two Lattice Boltzmann Models for Multiphase Flows. <i>Journal of Computational Physics</i> , 1997, 138, 695-713.	3.8	122
54	Diffusion in a multicomponent lattice Boltzmann equation model. <i>Physical Review E</i> , 1996, 54, 3614-3620.	2.1	220

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55	Entropies for Continua: Fluids and Magnetofluids. , 1996, , 303-314.		1
56	Microscopic origins and macroscopic uses of plasma rotation. Journal of Plasma Physics, 1995, 54, 1-10.	2.1	2
57	Multicomponent lattice-Boltzmann model with interparticle interaction. Journal of Statistical Physics, 1995, 81, 379-393.	1.2	498
58	Magnetohydrodynamic turbulence with net currents. , 1995, , 241-254.		1
59	Magnetohydrodynamic Stabilization through Rotation. Physical Review Letters, 1994, 73, 1624-1627.	7.8	28
60	Simulation of nonideal gases and liquid-gas phase transitions by the lattice Boltzmann equation. Physical Review E, 1994, 49, 2941-2948.	2.1	1,136
61	Rotating magnetohydrodynamics. Journal of Plasma Physics, 1994, 52, 113-128.	2.1	8
62	Lattice Boltzmann model for simulating flows with multiple phases and components. Physical Review E, 1993, 47, 1815-1819.	2.1	2,718
63	On the role of the Hartmann number in magnetohydrodynamic activity. Plasma Physics and Controlled Fusion, 1993, 35, 619-631.	2.1	31
64	Global searches of Hartmann-number-dependent stability boundaries. Plasma Physics and Controlled Fusion, 1993, 35, 1019-1032.	2.1	24
65	Navier-Stokes relaxation to sinh-Poisson states at finite Reynolds numbers. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2207-2216.	1.6	59
66	High-resolution turbulent simulations using the Connection Machine-2. Computers in Physics, 1992, 6, 643.	0.5	54
67	Lattice Boltzmann computational fluid dynamics in three dimensions. Journal of Statistical Physics, 1992, 68, 379-400.	1.2	240
68	Effects of uniform rotation on helically-deformed, resistive, magnetohydrodynamic equilibria. Plasma Physics and Controlled Fusion, 1991, 33, 1871-1875.	2.1	5
69	Nonlinear magnetohydrodynamics by Galerkin-method computation. Physical Review A, 1991, 44, 6800-6818.	2.5	61
70	Galerkin approximations for dissipative magnetohydrodynamics. Physical Review A, 1990, 42, 6158-6165.	2.5	23