

# Li-Shi Luo

## List of Publications by Year in descending order

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103  
papers

14,781  
citations

57758

44  
h-index

51608

86  
g-index

109  
all docs

109  
docs citations

109  
times ranked

4423  
citing authors

#	ARTICLE	IF	CITATIONS
1	The lattice Boltzmann method for nearly incompressible flows. <i>Journal of Computational Physics</i> , 2021, 431, 109713.	3.8	52
2	Stokes Eigenmodes on two-dimensional regular polygons. <i>Computers and Fluids</i> , 2021, 228, 105069.	2.5	0
3	Evaluation of Abramowitz functions in the right half of the complex plane. <i>Journal of Computational Physics</i> , 2020, 405, 109169.	3.8	1
4	Lattice Boltzmann equation with Overset method for moving objects in two-dimensional flows. <i>Journal of Computational Physics</i> , 2020, 407, 109223.	3.8	10
5	An exactly force-balanced boundary-conforming arbitrary-Lagrangian-Eulerian method for interfacial dynamics. <i>Journal of Computational Physics</i> , 2020, 408, 109237.	3.8	8
6	Evaluation of Abramowitz functions in the right half of the complex plane. <i>Journal of Computational Physics</i> , 2020, 405, .	3.8	0
7	A comparative study of interface-conforming ALE-FE scheme and diffuse interface AMR-LB scheme for interfacial dynamics. <i>Journal of Computational Physics</i> , 2019, 395, 602-619.	3.8	9
8	An exponential time-integrator scheme for steady and unsteady inviscid flows. <i>Journal of Computational Physics</i> , 2018, 365, 206-225.	3.8	20
9	Numerical simulation for a rising bubble interacting with a solid wall: Impact, bounce, and thin film dynamics. <i>Physics of Fluids</i> , 2018, 30, .	4.0	14
10	Improve the efficiency of the Cartesian tensor based fast multipole method for Coulomb interaction using the traces. <i>Journal of Computational Physics</i> , 2018, 371, 122-136.	3.8	2
11	A weighted multiple-relaxation-time lattice Boltzmann method for multiphase flows and its application to partial coalescence cascades. <i>Journal of Computational Physics</i> , 2017, 341, 22-43.	3.8	77
12	Mesoscopic Methods in Engineering and Science. <i>Computers and Fluids</i> , 2017, 155, 1-2.	2.5	0
13	Fast multipole method using Cartesian tensor in beam dynamic simulation. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	0
14	Stability analysis of a class of globally hyperbolic moment system. <i>Communications in Mathematical Sciences</i> , 2017, 15, 609-633.	1.0	10
15	Finite Volume Lattice Boltzmann Method for Nearly Incompressible Flows on Arbitrary Unstructured Meshes. <i>Communications in Computational Physics</i> , 2016, 20, 301-324.	1.7	27
16	Spectrally accurate Stokes eigen-modes on isosceles triangles. <i>Computers and Fluids</i> , 2016, 132, 1-9.	2.5	6
17	An implicit block LU-SGS finite-volume lattice-Boltzmann scheme for steady flows on arbitrary unstructured meshes. <i>Journal of Computational Physics</i> , 2016, 327, 503-518.	3.8	19
18	Theory of the Lattice Boltzmann method: Derivation of macroscopic equations via the Maxwell iteration. <i>Physical Review E</i> , 2016, 93, 033310.	2.1	41

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19	Analysis and accurate numerical solutions of the integral equation derived from the linearized BGKW equation for the steady Couette flow. Journal of Computational Physics, 2016, 316, 416-434.	3.8	24
20	Intercomparison of 3D pore-scale flow and solute transport simulation methods. Advances in Water Resources, 2016, 95, 176-189.	3.8	105
21	Lattice Boltzmann Methods. , 2015, , 774-778.		1
22	Accurate solution and approximations of the linearized BGK equation for steady Couette flow. Computers and Fluids, 2015, 111, 18-32.	2.5	22
23	Parallel spectral-element direction splitting method for incompressible Navier-Stokes equations. Applied Numerical Mathematics, 2014, 84, 66-79.	2.1	3
24	Lattice-Boltzmann simulations of the thermally driven 2D square cavity at high Rayleigh numbers. Journal of Computational Physics, 2014, 275, 257-272.	3.8	87
25	Lattice Boltzmann simulations of thermal convective flows in two dimensions. Computers and Mathematics With Applications, 2013, 65, 262-286.	2.7	176
26	Accuracy of the viscous stress in the lattice Boltzmann equation with simple boundary conditions. Physical Review E, 2012, 86, 065701.	2.1	30
27	Reply to "Comment on "Numerics of the lattice Boltzmann method: Effects of collision models on the lattice Boltzmann simulations" Physical Review E, 2012, 86, 048701.	2.1	1
28	Numerics of the lattice Boltzmann method: Effects of collision models on the lattice Boltzmann simulations. Physical Review E, 2011, 83, 056710.	2.1	287
29	Mesoscopic methods in engineering and science. Computers and Mathematics With Applications, 2011, 61, 3401-3403.	2.7	0
30	Comment on "Heat transfer and fluid flow in microchannels and nanochannels at high Knudsen number using thermal lattice-Boltzmann method" Physical Review E, 2011, 84, 048301; discussion 048302.	2.1	10
31	Comparison of the lattice Boltzmann and pseudo-spectral methods for decaying turbulence: Low-order statistics. Computers and Fluids, 2010, 39, 568-591.	2.5	52
32	Effects of multitemperature nonequilibrium on compressible homogeneous turbulence. Physical Review E, 2010, 81, 046704.	2.1	4
33	Numerical study of a vortex ring impacting a flat wall. Journal of Fluid Mechanics, 2010, 660, 430-455.	3.4	65
34	Decay of Compressible Homogeneous Turbulence with Multi-Temperature Non-Equilibrium. , 2010, , .		0
35	Gas-kinetic schemes for direct numerical simulations of compressible homogeneous turbulence. Physical Review E, 2009, 80, 046702.	2.1	29
36	Mesoscopic methods in engineering and science. Computers and Mathematics With Applications, 2009, 58, 819-820.	2.7	0

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37	Dedication to Pierre Lallemand on the occasion of his retirement. Computers and Mathematics With Applications, 2009, 58, 821-822.	2.7	0
38	Lattice Boltzmann modeling of microchannel flow in slip flow regime. Journal of Computational Physics, 2009, 228, 147-157.	3.8	177
39	Lattice Boltzmann simulations of 2D laminar flows past two tandem cylinders. Journal of Computational Physics, 2009, 228, 983-999.	3.8	65
40	Gas Kinetic Scheme for DNS of Decaying Compressible Turbulence. , 2009, , .		1
41	A Comparative Study of the Lattice Boltzmann and Pseudo-Spectral Methods for Decaying Homogeneous Isotropic Turbulence. , 2009, , .		0
42	A consistent lattice Boltzmann equation with baroclinic coupling for mixtures. Journal of Computational Physics, 2008, 227, 3878-3895.	3.8	36
43	A comparative study of the LBE and GKS methods for 2D near incompressible laminar flows. Journal of Computational Physics, 2008, 227, 4955-4976.	3.8	120
44	Textbook-efficiency multigrid solver for three-dimensional unsteady compressible Navier-Stokes equations. Journal of Computational Physics, 2008, 227, 7160-7177.	3.8	3
45	A Comparative Study of the LBE and GKS Methods for DNS of Decaying Turbulence. , 2008, , .		2
46	Mesoscopic methods and their applications to CFD. International Journal of Computational Fluid Dynamics, 2008, 22, 441-442.	1.2	0
47	Theory of the lattice Boltzmann equation: Symmetry properties of discrete velocity sets. Physical Review E, 2008, 77, 036709.	2.1	28
48	Comment on "Alternative approach to the solution of the dispersion relation for a generalized lattice Boltzmann equation". Physical Review E, 2008, 78, 068701, discussion 068702.	2.1	0
49	Gas-Kinetic Scheme for Continuum and Near-Continuum Hypersonic Flows. Journal of Spacecraft and Rockets, 2007, 44, 1232-1240.	1.9	12
50	Characteristics of two-dimensional flow around a rotating circular cylinder near a plane wall. Physics of Fluids, 2007, 19, 063601.	4.0	45
51	Textbook Efficiency Multigrid Solver for Three-Dimensional Unsteady Compressible Navier-Stokes Equations. , 2007, , .		0
52	A lattice Boltzmann front-tracking method for interface dynamics with surface tension in two dimensions. Journal of Computational Physics, 2007, 226, 1367-1384.	3.8	71
53	Simulation of flow past a rotating circular cylinder near a plane wall. International Journal of Computational Fluid Dynamics, 2006, 20, 391-400.	1.2	9
54	An evaluation of lattice Boltzmann schemes for porous medium flow simulation. Computers and Fluids, 2006, 35, 898-909.	2.5	617

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55	LES of turbulent square jet flow using an MRT lattice Boltzmann model. Computers and Fluids, 2006, 35, 957-965.	2.5	159
56	Consistent initial conditions for lattice Boltzmann simulations. Computers and Fluids, 2006, 35, 855-862.	2.5	125
57	Mesoscopic methods in engineering and science. International Journal of Computational Fluid Dynamics, 2006, 20, 359-360.	1.2	3
58	DNS and LES of decaying isotropic turbulence with and without frame rotation using lattice Boltzmann method. Journal of Computational Physics, 2005, 209, 599-616.	3.8	218
59	Asymptotic analysis of the lattice Boltzmann equation. Journal of Computational Physics, 2005, 210, 676-704.	3.8	304
60	Nonexistence of H Theorem for Some Lattice Boltzmann Models. Journal of Statistical Physics, 2005, 121, 91-103.	1.2	20
61	Preface: Mesoscopic Methods in Engineering and Science. Journal of Statistical Physics, 2005, 121, 1-2.	1.2	2
62	Lattice Boltzmann simulations of decaying homogeneous isotropic turbulence. Physical Review E, 2005, 71, 016708.	2.1	87
63	Comment on "Discrete Boltzmann Equation for Microfluidics": Physical Review Letters, 2004, 92, 139401; author reply 139402.	7.8	42
64	Lattice Boltzmann method for moving boundaries. Journal of Computational Physics, 2003, 184, 406-421.	3.8	452
65	Viscous flow computations with the method of lattice Boltzmann equation. Progress in Aerospace Sciences, 2003, 39, 329-367.	12.1	746
66	Rotational and orientational behaviour of three-dimensional spheroidal particles in Couette flows. Journal of Fluid Mechanics, 2003, 477, .	3.4	92
67	HYBRID FINITE-DIFFERENCE THERMAL LATTICE BOLTZMANN EQUATION. International Journal of Modern Physics B, 2003, 17, 41-47.	2.0	127
68	LARGE-EDDY SIMULATIONS WITH A MULTIPLE-RELAXATION-TIME LBE MODEL. International Journal of Modern Physics B, 2003, 17, 33-39.	2.0	156
69	Theory of the lattice Boltzmann method: Three-dimensional model for linear viscoelastic fluids. Physical Review E, 2003, 67, 021203.	2.1	46
70	Nonexistence of H theorems for the athermal lattice Boltzmann models with polynomial equilibria. Physical Review E, 2003, 67, 051105.	2.1	28
71	Theory of the lattice Boltzmann method: Acoustic and thermal properties in two and three dimensions. Physical Review E, 2003, 68, 036706.	2.1	357
72	Theory of the lattice Boltzmann method: Two-fluid model for binary mixtures. Physical Review E, 2003, 67, 036302.	2.1	165

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73	SCALAR MIXING AND CHEMICAL REACTION SIMULATIONS USING LATTICE BOLTZMANN METHOD. International Journal of Computational Engineering Science, 2002, 03, 73-87.	0.1	53
74	Multiple“relaxation”time lattice Boltzmann models in three dimensions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2002, 360, 437-451.	3.4	1,494
75	Lattice Boltzmann model for binary mixtures. Physical Review E, 2002, 66, 035301.	2.1	77
76	Force evaluation in the lattice Boltzmann method involving curved geometry. Physical Review E, 2002, 65, 041203.	2.1	325
77	Lateral Migration and Orientation of Elliptical Particles in Poiseuille Flows. Journal of Statistical Physics, 2002, 107, 101-120.	1.2	35
78	Evaluation of PowerFLOW for Aerodynamic Applications. Journal of Statistical Physics, 2002, 107, 423-478.	1.2	52
79	Lattice Boltzmann Equation on a Two-Dimensional Rectangular Grid. Journal of Computational Physics, 2001, 172, 704-717.	3.8	105
80	Lattice Boltzmann Method for 3-D Flows with Curved Boundary. Journal of Computational Physics, 2000, 161, 680-699.	3.8	278
81	Some recent results on discrete velocity models and ramifications for lattice Boltzmann equation. Computer Physics Communications, 2000, 129, 63-74.	7.5	31
82	Theory of the lattice Boltzmann method: Dispersion, dissipation, isotropy, Galilean invariance, and stability. Physical Review E, 2000, 61, 6546-6562.	2.1	1,660
83	Theory of the lattice Boltzmann method: Lattice Boltzmann models for nonideal gases. Physical Review E, 2000, 62, 4982-4996.	2.1	307
84	Lattice Boltzmann method for 3-D flows with curved boundary. , 2000, , .		1
85	The Future of Lattice-Gas and Lattice Boltzmann Methods. , 2000, , 165-187.		9
86	An Accurate Curved Boundary Treatment in the Lattice Boltzmann Method. Journal of Computational Physics, 1999, 155, 307-330.	3.8	487
87	An accurate curved boundary treatment in the lattice Boltzmann method. , 1999, , .		5
88	Unified Theory of Lattice Boltzmann Models for Nonideal Gases. Physical Review Letters, 1998, 81, 1618-1621.	7.8	327
89	Connection Between Lattice-Boltzmann Equation and Beam Scheme. International Journal of Modern Physics C, 1998, 09, 1177-1187.	1.7	9
90	Symmetry Breaking of Flow in 2D Symmetric Channels: Simulations by Lattice-Boltzmann Method. International Journal of Modern Physics C, 1997, 08, 859-867.	1.7	30

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91	A priori derivation of the lattice Boltzmann equation. <i>Physical Review E</i> , 1997, 55, R6333-R6336.	2.1	629
92	Some progress in the lattice Boltzmann method: Reynolds number enhancement in simulations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1997, 239, 276-285.	2.6	53
93	Analytic Solutions of Linearized Lattice Boltzmann Equation for Simple Flows. <i>Journal of Statistical Physics</i> , 1997, 88, 913-926.	1.2	37
94	Lattice Boltzmann Model for the Incompressible Navier–Stokes Equation. <i>Journal of Statistical Physics</i> , 1997, 88, 927-944.	1.2	953
95	Theory of the lattice Boltzmann method: From the Boltzmann equation to the lattice Boltzmann equation. <i>Physical Review E</i> , 1997, 56, 6811-6817.	2.1	1,328
96	Analytic solutions of simple flows and analysis of nonslip boundary conditions for the lattice Boltzmann BGK model. <i>Journal of Statistical Physics</i> , 1997, 87, 115-136.	1.2	589
97	Some Progress in Lattice Boltzmann Method. Part I. Nonuniform Mesh Grids. <i>Journal of Computational Physics</i> , 1996, 129, 357-363.	3.8	310
98	Brownian motion through a two-dimensional glass: Trapping, hopping, and diffusion. <i>Journal of Chemical Physics</i> , 1996, 105, 598-604.	3.0	7
99	Brownian motion on a square Lennard-Jones lattice: Trapping, hopping, and diffusion. <i>Physical Review E</i> , 1995, 51, 43-52.	2.1	10
100	The ordering of critical periodic points in coordinate space by symbolic dynamics. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991, 153, 345-352.	2.1	23
101	Generalized hydrodynamic transport in lattice-gas automata. <i>Physical Review A</i> , 1991, 43, 7097-7100.	2.5	27
102	Exact bounds to one-dimensional potential scattering amplitudes through the classical theory of moments. <i>Physical Review A</i> , 1988, 38, 490-493.	2.5	6
103	Approximation Theory and the Calculation of Energies from Divergent Perturbation Series. <i>Physical Review Letters</i> , 1986, 57, 2241-2243.	7.8	3