Haihu Liu

List of Publications by Year
in descending order

75 papers	3,224 citations	147726 31 h-index	155592 55 g-index
79 all docs	79 docs citations	79 times ranked	1964 citing authors

#	Article	IF	Citations
1	Multiphase lattice Boltzmann simulations for porous media applications. Computational Geosciences, 2016, 20, 777-805.	1.2	296
2	Three-dimensional lattice Boltzmann model for immiscible two-phase flow simulations. Physical Review E, 2012, 85, 046309.	0.8	166
3	Droplet formation in a T-shaped microfluidic junction. Journal of Applied Physics, 2009, 106, .	1.1	154
4	Droplet formation in microfluidic cross-junctions. Physics of Fluids, 2011, 23, .	1.6	153
5	Pore-scale simulation of liquid CO2 displacement of water using a two-phase lattice Boltzmann model. Advances in Water Resources, 2014, 73, 144-158.	1.7	152
6	Lattice Boltzmann simulation of immiscible fluid displacement in porous media: Homogeneous versus heterogeneous pore network. Physics of Fluids, 2015, 27, .	1.6	127
7	Phase-field modeling droplet dynamics with soluble surfactants. Journal of Computational Physics, 2010, 229, 9166-9187.	1.9	109
8	Pore-Scale Simulations of Gas Displacing Liquid in a Homogeneous Pore Network Using the Lattice Boltzmann Method. Transport in Porous Media, 2013, 99, 555-580.	1.2	101
9	Lattice <scp>B</scp>oltzmann simulation of immiscible twoâ€phase flow with capillary valve effect in porous media. Water Resources Research, 2017, 53, 3770-3790.	1.7	98
10	Multiple-relaxation-time color-gradient lattice Boltzmann model for simulating two-phase flows with high density ratio. Physical Review E, 2016, 94, 023310.	0.8	97
11	Phase-field-based lattice Boltzmann finite-difference model for simulating thermocapillary flows. Physical Review E, 2013, 87, 013010.	0.8	93
12	Lattice Boltzmann phase-field modeling of thermocapillary flows in a confined microchannel. Journal of Computational Physics, 2014, 256, 334-356.	1.9	89
13	A hybrid lattice Boltzmann and finite difference method for droplet dynamics with insolubleÂsurfactants. Journal of Fluid Mechanics, 2018, 837, 381-412.	1.4	81
14	Lattice Boltzmann modeling of contact angle and its hysteresis in two-phase flow with large viscosity difference. Physical Review E, 2015, 92, 033306.	0.8	80
15	Modeling and simulation of thermocapillary flows using lattice Boltzmann method. Journal of Computational Physics, 2012, 231, 4433-4453.	1.9	74
16	Pore-scale study of counter-current imbibition in strongly water-wet fractured porous media using lattice Boltzmann method. Physics of Fluids, 2019, 31, .	1.6	58
17	An improved pore-scale biofilm model and comparison with a microfluidic flow cell experiment. Water Resources Research, 2013, 49, 8370-8382.	1.7	57
18	Lattice Boltzmann method for contact-line motion of binary fluids with high density ratio. Physical Review E, 2019, 99, 063306.	0.8	55

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19	Deformation and breakup of a compound droplet in three-dimensional oscillatory shear flow. International Journal of Multiphase Flow, 2021, 134, 103472.	1.6	54
20	Modelling double emulsion formation in planar flow-focusing microchannels. Journal of Fluid Mechanics, 2020, 895, .	1.4	52
21	A versatile lattice Boltzmann model for immiscible ternary fluid flows. Physics of Fluids, 2019, 31, 012108.	1.6	48
22	A lattice Boltzmann method for axisymmetric thermocapillary flows. International Journal of Heat and Mass Transfer, 2017, 104, 337-350.	2.5	46
23	Pore scale simulation of liquid and gas two-phase flow based on digital core technology. Science China Technological Sciences, 2015, 58, 1375-1384.	2.0	45
24	Non-equilibrium dynamics of dense gas under tight confinement. Journal of Fluid Mechanics, 2016, 794, 252-266.	1.4	45
25	A lattice Boltzmann method for axisymmetric multicomponent flows with high viscosity ratio. Journal of Computational Physics, 2016, 327, 873-893.	1.9	44
26	Numerical study of droplet dynamics in a steady electric field using a hybrid lattice Boltzmann and finite volume method. Physics of Fluids, 2019, 31, .	1.6	44
27	Modelling thermocapillary migration of a microfluidic droplet on a solid surface. Journal of Computational Physics, 2015, 280, 37-53.	1.9	41
28	Color-gradient lattice Boltzmann model for simulating droplet motion with contact-angle hysteresis. Physical Review E, 2013, 88, 043306.	0.8	40
29	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
30	A fast iterative scheme for the linearized Boltzmann equation. Journal of Computational Physics, 2017, 338, 431-451.	1.9	35
31	Deformation and breakup of a confined droplet in shear flows with power-law rheology. Journal of Rheology, 2017, 61, 741-758.	1.3	33
32	Lattice Boltzmann Simulation of Droplet Generation in a Microfluidic Cross-Junction. Communications in Computational Physics, 2011, 9, 1235-1256.	0.7	32
33	Modelling a surfactant-covered droplet on a solid surface in three-dimensional shear flow. Journal of Fluid Mechanics, 2020, 897, .	1.4	31
34	Influence of intermolecular potentials on rarefied gas flows: Fast spectral solutions of the Boltzmann equation. Physics of Fluids, 2015, 27, .	1.6	29
35	Lattice Boltzmann simulation of immiscible three-phase flows with contact-line dynamics. Physical Review E, 2019, 99, 013308.	0.8	28
36	Preferential imbibition in a dual-permeability pore network. Journal of Fluid Mechanics, 2021, 915, .	1.4	28

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37	Three dimensional simulations of droplet formation in symmetric and asymmetric T-junctions using the color-gradient lattice Boltzmann model. International Journal of Heat and Mass Transfer, 2015, 90, 931-947.	2.5	27
38	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
39	Poreâ€Scale Modeling of Spontaneous Imbibition in Porous Media Using the Lattice Boltzmann Method. Water Resources Research, 2021, 57, e2020WR029219.	1.7	27
40	A coupled LBM-DEM method for simulating the multiphase fluid-solid interaction problem. Journal of Computational Physics, 2022, 454, 110963.	1.9	27
41	Numerical Study of Droplet Dynamics on a Solid Surface with Insoluble Surfactants. Langmuir, 2019, 35, 7858-7870.	1.6	25
42	Prediction of immiscible two-phase flow properties in a two-dimensional Berea sandstone using the pore-scale lattice Boltzmann simulation. European Physical Journal E, 2018, 41, 124.	0.7	23
43	Modeling multidimensional and multispecies biofilms in porous media. Biotechnology and Bioengineering, 2017, 114, 1679-1687.	1.7	19
44	Modeling the deformation of a surfactant-covered droplet under the combined influence of electric field and shear flow. Physics of Fluids, 2021, 33, .	1.6	18
45	A new capillary force model implemented in lattice Boltzmann method for gasâ€“liquidâ€“solid three-phase flows. Physics of Fluids, 2020, 32, .	1.6	17
46	Lattice Boltzmann simulation of three-phase flows with moving contact lines on curved surfaces. Physical Review E, 2021, 104, 015310.	0.8	16
47	Droplet hysteresis investigation on non-wetting striped textured surfaces: A lattice Boltzmann study. Physica A: Statistical Mechanics and Its Applications, 2014, 411, 53-62.	1.2	15
48	Regularized lattice Boltzmann model for immiscible two-phase flows with power-law rheology. Physical Review E, 2018, 97, 033307.	0.8	15
49	Three-dimensional lattice Boltzmann simulations of microdroplets including contact angle hysteresis on topologically structured surfaces. Journal of Computational Science, 2016, 17, 418-430.	1.5	14
50	Three-dimensional phase-field lattice Boltzmann model for incompressible multiphase flows. Journal of Computational Science, 2016, 17, 340-356.	1.5	14
51	Rarefaction cloaking: Influence of the fractal rough surface in gas slider bearings. Physics of Fluids, 2017, 29, 102003.	1.6	14
52	Modeling of three-phase displacement in three-dimensional irregular geometries using a lattice Boltzmann method. Physics of Fluids, 2021, 33, .	1.6	14
53	Lattice Boltzmann Simulation of Immiscible Two-Phase Displacement in Two-Dimensional Berea Sandstone. Applied Sciences (Switzerland), 2018, 8, 1497.	1.3	13
54	Effect of surfactants on droplet generation in a microfluidic T-junction: A lattice Boltzmann study. Physics of Fluids, 2022, 34, .	1.6	13

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55	Extraction of the translational Eucken factor from light scattering by molecular gas. Journal of Fluid Mechanics, 2020, 901, .	1.4	12
56	Prediction of three-phase relative permeabilities of Berea sandstone using lattice Boltzmann method. Physics of Fluids, 2021, 33, .	1.6	12
57	Color-gradient lattice Boltzmann modeling of immiscible two-phase flows on partially wetting surfaces. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 416-430.	1.1	11
58	Direct numerical simulation of the sedimentation of a particle pair in a shear-thinning fluid. Physical Review Fluids, 2020, 5, .	1.0	11
59	Lattice Boltzmann Simulations of Thermocapillary Motion of Droplets in Microfluidic Channels. Communications in Computational Physics, 2015, 17, 1113-1126.	0.7	10
60	Lattice Boltzmann simulation of the trapping of a microdroplet in a well of surface energy. Computers and Fluids, 2017, 155, 68-75.	1.3	9
61	Rayleighâ€“Plateau Instability of a Particle-Laden Liquid Column: AÂLattice Boltzmann Study. Langmuir, 2022, 38, 3453-3468.	1.6	9
62	A modeling approach to droplet contact-line motion dynamics in high-density-ratio two-phase flow. Computers and Fluids, 2013, 73, 175-186.	1.3	7
63	Droplet Dynamics of Newtonian and Inelastic Non-Newtonian Fluids in Conï¬nement. Micromachines, 2017, 8, 57.	1.4	7
64	Pore-Scale Modeling of Two-Phase Flows with Soluble Surfactants in Porous Media. Energy & Fuels, 2021, 35, 19374-19388.	2.5	7
65	The lattice Boltzmann method and its applications in complex flows and fluidâ€“structure interactions. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 403-404.	1.1	5
66	Recent advances in theory, simulations, and experiments on multiphase flows. Physics of Fluids, 2022, 34, .	1.6	5
67	Droplet deformation and breakup in shear-thinning viscoelastic fluid under simple shear flow. Journal of Rheology, 2022, 66, 585-603.	1.3	5
68	Multi-axis dynamic displacement measurement based on a strain shunt structure. Sensors and Actuators A: Physical, 2018, 272, 62-74.	2.0	4
69	Vapor condensation in Rayleighâ€“BÃ©nard convection. Physics of Fluids, 2021, 33, .	1.6	4
70	Lattice Boltzmann modeling of particle dynamics in rotating coordinate system. Physics of Fluids, 2021, 33, 123316.	1.6	4
71	A microfluidic synthesis method for preparation and regulation of 3-aminophenol formaldehyde resin spheres. Reactive and Functional Polymers, 2021, 165, 104973.	2.0	3
72	Lattice Boltzmann simulation of droplet behaviour in microfluidic devices. Houille Blanche, 2009, 95, 84-92.	0.3	0

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73	Physics of Multiphase Microflows and Microdroplets. , 2012, , 1-21.		0
74	2D Lattice Boltzmann Simulation of Droplet Jumping in a Viscous Fluid. , 2015, , .		0
75	Numerical Simulation for Bioconvection of Unsteady Stagnation Point Flow of Oldroyd-B Nanofluid with Activation Energy and Temperature-Based Thermal Conductivity Past a Stretching Disk. CMES - Computer Modeling in Engineering and Sciences, 2022, 130, 233-254.	0.8	0