

Santosh Ansumali

List of Publications by Year in descending order

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68
papers

2,514
citations

218592

26
h-index

197736

49
g-index

72
all docs

72
docs citations

72
times ranked

1500
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinetic boundary conditions in the lattice Boltzmann method. <i>Physical Review E</i> , 2002, 66, 026311.	0.8	303
2	Minimal entropic kinetic models for hydrodynamics. <i>Europhysics Letters</i> , 2003, 63, 798-804.	0.7	242
3	Global Potential of Rice Husk as a Renewable Feedstock for Ethanol Biofuel Production. <i>Bioenergy Research</i> , 2010, 3, 328-334.	2.2	139
4	Hydrodynamics beyond Navier-Stokes: Exact Solution to the Lattice Boltzmann Hierarchy. <i>Physical Review Letters</i> , 2007, 98, 124502.	2.9	136
5	Entropic Lattice Boltzmann Models for Hydrodynamics in Three Dimensions. <i>Physical Review Letters</i> , 2006, 97, 010201.	2.9	116
6	Single relaxation time model for entropic lattice Boltzmann methods. <i>Physical Review E</i> , 2002, 65, 056312.	0.8	106
7	Entropy Function Approach to the Lattice Boltzmann Method. <i>Journal of Statistical Physics</i> , 2002, 107, 291-308.	0.5	103
8	Consistent Lattice Boltzmann Method. <i>Physical Review Letters</i> , 2005, 95, 260605.	2.9	92
9	Stabilization of the lattice Boltzmann method by the H-theorem: A numerical test. <i>Physical Review E</i> , 2000, 62, 7999-8003.	0.8	83
10	Entropic lattice Boltzmann method for microflows. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 359, 289-305.	1.2	69
11	Isotropic discrete Laplacian operators from lattice hydrodynamics. <i>Journal of Computational Physics</i> , 2013, 234, 1-7.	1.9	62
12	Grad's approximation for missing data in lattice Boltzmann simulations. <i>Europhysics Letters</i> , 2006, 74, 215-221.	0.7	59
13	Modelling a pandemic with asymptomatic patients, impact of lockdown and herd immunity, with applications to SARS-CoV-2. <i>Annual Reviews in Control</i> , 2020, 50, 432-447.	4.4	59
14	Higher-order Galilean-invariant lattice Boltzmann model for microflows: Single-component gas. <i>Physical Review E</i> , 2010, 82, 046701.	0.8	49
15	Kinetic theory of turbulence modeling: smallness parameter, scaling and microscopic derivation of Smagorinsky model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 338, 379-394.	1.2	46
16	Quasi-equilibrium lattice Boltzmann method. <i>European Physical Journal B</i> , 2007, 56, 135-139.	0.6	45
17	Hydrodynamics beyond Navier-Stokes: The slip flow model. <i>Physical Review E</i> , 2008, 78, 016705.	0.8	42
18	Essentially Entropic Lattice Boltzmann Model. <i>Physical Review Letters</i> , 2017, 119, 240602.	2.9	40

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19	Data structure and movement for lattice-based simulations. <i>Physical Review E</i> , 2013, 88, 013314.	0.8	37
20	Three-Dimensional Lattice Pseudo-Potentials for Multiphase Flow Simulations at High Density Ratios. <i>Journal of Statistical Physics</i> , 2015, 161, 1404-1419.	0.5	35
21	Thermodynamic Theory of Incompressible Hydrodynamics. <i>Physical Review Letters</i> , 2005, 94, 080602.	2.9	34
22	Lattice Boltzmann method for multi-dimensional population balance models in crystallization. <i>Chemical Engineering Science</i> , 2012, 70, 121-134.	1.9	31
23	ENTROPIC LATTICE BOLTZMANN SIMULATION OF THE FLOW PAST SQUARE CYLINDER. <i>International Journal of Modern Physics C</i> , 2004, 15, 435-445.	0.8	30
24	Fast High-Resolution Method for Solving Multidimensional Population Balances in Crystallization. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 3862-3872.	1.8	27
25	Lattice Boltzmann method for population balance equations with simultaneous growth, nucleation, aggregation and breakage. <i>Chemical Engineering Science</i> , 2012, 69, 316-328.	1.9	27
26	Simulation of binary mixtures with the lattice Boltzmann method. <i>Physical Review E</i> , 2006, 74, 056707.	0.8	26
27	Kinetically reduced local Navier-Stokes equations for simulation of incompressible viscous flows. <i>Physical Review E</i> , 2007, 76, 066704.	0.8	26
28	Diffused bounce-back condition and refill algorithm for the lattice Boltzmann method. <i>Physical Review E</i> , 2014, 89, 033313.	0.8	26
29	Crystallographic Lattice Boltzmann Method. <i>Scientific Reports</i> , 2016, 6, 27172.	1.6	26
30	Higher-order lattice Boltzmann model for thermohydrodynamics. <i>Physical Review E</i> , 2018, 98, .	0.8	26
31	Lattice differential operators for computational physics. <i>Europhysics Letters</i> , 2013, 101, 50006.	0.7	24
32	Entropic lattice Boltzmann method for simulation of thermal flows. <i>Mathematics and Computers in Simulation</i> , 2006, 72, 179-183.	2.4	23
33	Kinetically reduced local Navier-Stokes equations: An alternative approach to hydrodynamics. <i>Physical Review E</i> , 2006, 74, 035702.	0.8	19
34	QUASIEQUILIBRIUM LATTICE BOLTZMANN MODELS WITH TUNABLE PRANDTL NUMBER FOR INCOMPRESSIBLE HYDRODYNAMICS. <i>International Journal of Modern Physics C</i> , 2013, 24, 1340004.	0.8	19
35	Entropic lattice Boltzmann method for simulation of binary mixtures. <i>Mathematics and Computers in Simulation</i> , 2006, 72, 79-83.	2.4	18
36	Fokker-Planck model of hydrodynamics. <i>Physical Review E</i> , 2015, 91, 033303.	0.8	18

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37	Renormalization of the lattice Boltzmann hierarchy. <i>Physical Review E</i> , 2007, 76, 025701.	0.8	17
38	Entropic lattice Boltzmann method for crystallization processes. <i>Chemical Engineering Science</i> , 2010, 65, 3928-3936.	1.9	17
39	ON VECTORIZATION FOR LATTICE BASED SIMULATIONS. <i>International Journal of Modern Physics C</i> , 2013, 24, 1340011.	0.8	14
40	Lattice Boltzmann Method for Wave Propagation in Elastic Solids. <i>Communications in Computational Physics</i> , 2018, 23, .	0.7	13
41	Gaseous microflow modeling using the Fokker-Planck equation. <i>Physical Review E</i> , 2016, 94, 063307.	0.8	12
42	Estimating the herd immunity threshold by accounting for the hidden asymptomatics using a COVID-19 specific model. <i>PLoS ONE</i> , 2020, 15, e0242132.	1.1	12
43	Lattice Fokker Planck for dilute polymer dynamics. <i>Physical Review E</i> , 2013, 88, 013301.	0.8	11
44	Energy Conserving Lattice Boltzmann Models for Incompressible Flow Simulations. <i>Communications in Computational Physics</i> , 2013, 13, 603-613.	0.7	11
45	Mean-Field Model Beyond Boltzmann-Enskog Picture for Dense Gases. <i>Communications in Computational Physics</i> , 2011, 9, 1106-1116.	0.7	10
46	A lattice Boltzmann method for dilute polymer solutions. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011, 369, 2301-2310.	1.6	10
47	Microflow Simulations via the Lattice Boltzmann Method. <i>Communications in Computational Physics</i> , 2011, 9, 1128-1136.	0.7	9
48	Universal mechanism for saturation of vorticity growth in fully developed fluid turbulence. <i>Journal of Fluid Mechanics</i> , 2013, 728, .	1.4	9
49	Lattice Boltzmann model for weakly compressible flows. <i>Physical Review E</i> , 2020, 101, 013309.	0.8	9
50	Extended BGK Boltzmann for Dense Gases. <i>Communications in Computational Physics</i> , 2013, 13, 629-648.	0.7	8
51	Delayed Difference Scheme for Large Scale Scientific Simulations. <i>Physical Review Letters</i> , 2014, 113, 218701.	2.9	8
52	Efficient lattice Boltzmann algorithm for Brownian suspensions. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011, 369, 2237-2245.	1.6	7
53	Minimal and adaptive numerical strategy for critical resource planning in a pandemic. <i>Physical Review E</i> , 2020, 102, 021301.	0.8	7
54	Isotropic finite-difference discretization of stochastic conservation laws preserving detailed balance. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2017, 2017, 103202.	0.9	6

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55	Shock waves in a dilute granular gas. , 2014, , .		5
56	Fokkerâ€“Planck model for binary mixtures. Journal of Fluid Mechanics, 2020, 899, .	1.4	4
57	Extended BGK model for diatomic gases. Journal of Computational Science, 2020, 45, 101179.	1.5	4
58	Discrete differential operators on a class of lattices. Journal of Computational Science, 2020, 44, 101172.	1.5	3
59	Modelling the COVID-19 Pandemic: Asymptomatic Patients, Lockdown and Herd Immunity. IFAC-PapersOnLine, 2020, 53, 823-828.	0.5	3
60	DIRECT SIMULATION MONTE CARLO FOR DENSE HARD SPHERES. International Journal of Modern Physics C, 2014, 25, 1340023.	0.8	2
61	Molecular dice: Random number generators Ã¡ la Boltzmann. Physical Review E, 2018, 98, .	0.8	2
62	A Steady Trickle-Down from Metro Districts and Improving Epidemic-Parameters Characterize the Increasing COVID-19 Cases in India. SSRN Electronic Journal, 0, , .	0.4	2
63	Lattice Boltzmann Method and Kinetic Theory. , 2006, , 403-422.		1
64	The lattice Fokkerâ€“Planck equation for models of wealth distribution. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190401.	1.6	1
65	Fluid dynamics, soft matter and complex systems: recent results and new methods. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190395.	1.6	1
66	LES/DNS of flow past T106 LPT cascade using a higher-order LB model. , 2021, , .		1
67	Using High Effective Risk of Adultâ€“Senior Duo in Multigenerational Homes to Prioritize COVID-19 Vaccination. Current Science, 2021, 120, 1698.	0.4	1
68	A Model-Free Entropic Lattice Boltzmann Method for Cavity Aeroacoustics at Transonic Speeds. , 2022, , .		0