

Xiao-Dong Niu

List of Publications by Year in descending order

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98
papers

1,973
citations

218677

26
h-index

315739

38
g-index

102
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102
docs citations

102
times ranked

1622
citing authors

#	ARTICLE	IF	CITATIONS
1	Processing optimization, microstructure, mechanical properties and nanoprecipitation behavior of 18Ni300 maraging steel in selective laser melting. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 830, 142334.	5.6	20
2	Structural material with designed thermal twist for a simple actuation. <i>Nanotechnology Reviews</i> , 2022, 11, 414-422.	5.8	3
3	Maximum Spreading of Impacting Ferrofluid Droplets under the Effect of Nonuniform Magnetic Field. <i>Langmuir</i> , 2022, 38, 2601-2607.	3.5	8
4	Analytical modelling and experiments for hybrid multiaxis flexure hinges. <i>Precision Engineering</i> , 2022, 76, 294-304.	3.4	18
5	A high-order phase-field based lattice Boltzmann model for simulating complex multiphase flows with large density ratios. <i>International Journal for Numerical Methods in Fluids</i> , 2021, 93, 293-313.	1.6	9
6	Study of the hinge thickness deviation for a 316L parallelogram flexure mechanism fabricated via selective laser melting. <i>Journal of Intelligent Manufacturing</i> , 2021, 32, 1411-1420.	7.3	10
7	Closed-form compliance equations for elliptic-revolute notch type multiple-axis flexure hinges. <i>Mechanism and Machine Theory</i> , 2021, 156, 104154.	4.5	21
8	A magnetic field coupling lattice Boltzmann model and its application on the merging process of multiple-ferrofluid-droplet system. <i>Applied Mathematics and Computation</i> , 2021, 393, 125769.	2.2	16
9	Solvent regulation synthesis of single-component white emission carbon quantum dots for white light-emitting diodes. <i>Nanotechnology Reviews</i> , 2021, 10, 465-477.	5.8	23
10	Effect of self-assembly on fluorescence in magnetic multiphase flows and its application on the novel detection for COVID-19. <i>Physics of Fluids</i> , 2021, 33, 042004.	4.0	44
11	Deployable-Structure-Based Artificial Muscles Generating Coded Forces. <i>Advanced Materials Technologies</i> , 2021, 6, 2100493.	5.8	0
12	Deployable-Structure-Based Artificial Muscles Generating Coded Forces (Adv. Mater. Technol. 9/2021). <i>Advanced Materials Technologies</i> , 2021, 6, 2170055.	5.8	0
13	Magnetic field-induced self-assembly of multiple nonmagnetic bubbles inside ferrofluid. <i>Physics of Fluids</i> , 2021, 33, .	4.0	5
14	Dynamic study of ferrodroplet and bubbles merging in ferrofluid by a simplified multiphase lattice Boltzmann method. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 495, 165869.	2.3	14
15	Non-contact manipulation of nonmagnetic materials by using a uniform magnetic field: Experiment and simulation. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 497, 165957.	2.3	62
16	Multi-objective optimization of lithium-ion battery pack casing for electric vehicles: Key role of materials design and their influence. <i>International Journal of Energy Research</i> , 2020, 44, 9414-9437.	4.5	19
17	Flow behavior and heat transfer characteristics in Rayleigh-Bénard laminar convection with fluid-particle interaction. <i>International Journal of Heat and Mass Transfer</i> , 2020, 146, 118840.	4.8	8
18	Cross-like lattices with tailorable mechanical properties. <i>Materials Letters</i> , 2020, 281, 128617.	2.6	2

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19	Unified simplified multiphase lattice Boltzmann method for ferrofluid flows and its application. <i>Physics of Fluids</i> , 2020, 32, .	4.0	16
20	Numerical investigation of magnetic multiphase flows by the fractional-step-based multiphase lattice Boltzmann method. <i>Physics of Fluids</i> , 2020, 32, .	4.0	34
21	Numerical investigation of magnetic-field induced self-assembly of nonmagnetic particles in magnetic fluids. <i>Journal of Fluids and Structures</i> , 2020, 97, 103008.	3.4	4
22	Motion, deformation, and coalescence of ferrofluid droplets subjected to a uniform magnetic field. <i>International Journal for Numerical Methods in Fluids</i> , 2020, 92, 1584-1603.	1.6	12
23	Collaborative Optimization of Density and Surface Roughness of 316L Stainless Steel in Selective Laser Melting. <i>Materials</i> , 2020, 13, 1601.	2.9	38
24	Magnetic field based actuation and amalgamation of ferrofluid droplets on hydrophobic surface: An experimental and numerical study. <i>Physics of Fluids</i> , 2020, 32, .	4.0	6
25	Electrochemical Performance Enhancement of Sodium-Ion Batteries Fabricated With $\text{NaNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$ Cathodes Using Support Vector Regression-Simplex Algorithm Approach. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2020, 17, .	2.1	14
26	Experimental and Numerical Procedure for Studying Effect of Ultrasonic Spot Weld Parameters on Metal Joints for Electronic Components. <i>Lecture Notes on Multidisciplinary Industrial Engineering</i> , 2020, , 11-22.	0.6	0
27	Supervised Machine Learning in Cold Metal Transfer (CMT). <i>Engineering Applications of Computational Methods</i> , 2020, , 57-118.	0.2	1
28	Heat transfer of temperature-sensitive magnetic fluids around single heating pipe. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2020, 64, 1039-1046.	0.6	2
29	Supervised Machine Learning in Friction Stir Welding (FSW). <i>Engineering Applications of Computational Methods</i> , 2020, , 119-185.	0.2	4
30	A numerical investigation of dynamics of bubbly flow in a ferrofluid by a self-correcting procedure-based lattice Boltzmann flux solver. <i>Physics of Fluids</i> , 2019, 31, .	4.0	13
31	An Application of Genetic programming for Lithium-ion Battery Pack Enclosure Design: Modelling of Mass, Minimum Natural Frequency and Maximum Deformation Case. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019, 268, 012065.	0.3	3
32	On the total mass conservation and the volume preservation in the diffuse interface method. <i>Computers and Fluids</i> , 2019, 193, 104291.	2.5	13
33	Design of explicit models for predicting the efficiency of heavy oil-sand detachment process by floatation technology. <i>Measurement: Journal of the International Measurement Confederation</i> , 2019, 137, 122-129.	5.0	12
34	Hybrid Allen-Cahn-based lattice Boltzmann model for incompressible two-phase flows: The reduction of numerical dispersion. <i>Physical Review E</i> , 2019, 99, 023302.	2.1	21
35	Precision Manufacturing of $\text{NaNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$ Cathodes: Study of Structure Evolution and Performance at Varied Calcination Temperatures. <i>Journal of Electronic Materials</i> , 2019, 48, 5301-5309.	2.2	9
36	A combined experimental&numerical framework for residual energy determination in spent lithium&ion battery packs. <i>International Journal of Energy Research</i> , 2019, 43, 4390-4402.	4.5	9

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37	An interfacial lattice Boltzmann flux solver for simulation of multiphase flows at large density ratio. <i>International Journal of Multiphase Flow</i> , 2019, 116, 100-112.	3.4	18
38	A diffuse interface lattice Boltzmann model for thermocapillary flows with large density ratio and thermophysical parameters contrasts. <i>International Journal of Heat and Mass Transfer</i> , 2019, 138, 809-824.	4.8	25
39	Lattice Boltzmann model for the axisymmetric electro-thermo-convection. <i>Computers and Mathematics With Applications</i> , 2019, 78, 55-65.	2.7	10
40	An integrated framework for minimization of inter lithium-ion cell temperature differences and the total volume of the cell of battery pack for electric vehicles. <i>Energy Storage</i> , 2019, 1, e41.	4.3	9
41	A coupled electrochemical-mechanical performance evaluation for safety design of lithium-ion batteries in electric vehicles: An integrated cell and system level approach. <i>Journal of Cleaner Production</i> , 2019, 222, 633-645.	9.3	28
42	A Review of State of Health Estimation of Energy Storage Systems: Challenges and Possible Solutions for Futuristic Applications of Li-Ion Battery Packs in Electric Vehicles. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2019, 16, .	2.1	75
43	Computation of safety design indexes of industry vehicle operators based on the reach angle, the distance from elbow to ground and the popliteal height. <i>International Journal of Industrial Ergonomics</i> , 2019, 71, 155-164.	2.6	2
44	An immersed boundary-lattice Boltzmann method for electro-thermo-convection in complex geometries. <i>International Journal of Thermal Sciences</i> , 2019, 140, 280-297.	4.9	9
45	Study of Effective Hinge Thickness of Additive-manufactured Flexure Mechanisms. , 2019, , .		1
46	Modular metamaterials composed of foldable obelisk-like units with reprogrammable mechanical behaviors based on multistability. <i>Scientific Reports</i> , 2019, 9, 18812.	3.3	8
47	Thermal performance of thin film heat gauges of gold, silver and nano-composite. <i>Applied Thermal Engineering</i> , 2019, 147, 545-550.	6.0	7
48	Microstructures and mechanical properties of a hot-extruded Mg ⁸ Gd ³ Yb ^{1.2} Zn ^{0.5} Zr (wt%) alloy. <i>Journal of Alloys and Compounds</i> , 2019, 776, 666-678.	5.5	48
49	Review of materials used in laser-aided additive manufacturing processes to produce metallic products. <i>Frontiers of Mechanical Engineering</i> , 2019, 14, 282-298.	4.3	42
50	Experimental and numerical procedure for studying strength and heat generation responses of ultrasonic welding of polymer blends. <i>Measurement: Journal of the International Measurement Confederation</i> , 2019, 132, 1-10.	5.0	16
51	Experimental coupled predictive modelling based recycling of waste printed circuit boards for maximum extraction of copper. <i>Journal of Cleaner Production</i> , 2019, 218, 763-771.	9.3	13
52	A mass-conserving multiphase lattice Boltzmann model for simulation of multiphase flows. <i>Physics of Fluids</i> , 2018, 30, .	4.0	35
53	Self-assembly of silica microparticles in magnetic multiphase flows: Experiment and simulation. <i>Physics of Fluids</i> , 2018, 30, .	4.0	26
54	Experimental and numerical modelling of mechanical properties of 3D printed honeycomb structures. <i>Measurement: Journal of the International Measurement Confederation</i> , 2018, 116, 495-506.	5.0	79

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55	Stiffness characteristics of a laser beam melted (LBM) additive-manufactured flexure mechanism. <i>Procedia CIRP</i> , 2018, 78, 144-148.	1.9	6
56	Simplified multiphase lattice Boltzmann method for simulating multiphase flows with large density ratios and complex interfaces. <i>Physical Review E</i> , 2018, 98, .	2.1	54
57	Fabrication, Experiments, and Analysis of an LBM Additive-Manufactured Flexure Parallel Mechanism. <i>Micromachines</i> , 2018, 9, 572.	2.9	14
58	Phase-field-based lattice Boltzmann model for multiphase ferrofluid flows. <i>Physical Review E</i> , 2018, 98, .	2.1	38
59	Fully resolved simulation of particulate flows with heat transfer by smoothed profile-lattice Boltzmann method. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 1164-1167.	4.8	21
60	Study on a supercritical CO ₂ solar water heater system induced by the natural circulation. <i>Advances in Mechanical Engineering</i> , 2018, 10, 168781401877237.	1.6	3
61	A numerical study for WENO scheme-based on different lattice Boltzmann flux solver for compressible flows. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2018, 34, 995-1014.	3.4	6
62	WENO Scheme-Based Lattice Boltzmann Flux Solver for Simulation of Compressible Flows. <i>Communications in Computational Physics</i> , 2018, 23, .	1.7	5
63	Natural Convection Cooling of an Array of Flush Mounted Discrete Heaters Inside a 3D Cavity. <i>Advances in Applied Mathematics and Mechanics</i> , 2017, 9, 698-721.	1.2	4
64	Lattice Boltzmann simulation for three-dimensional natural convection with solid-liquid phase change. <i>International Journal of Heat and Mass Transfer</i> , 2017, 113, 1168-1178.	4.8	40
65	Natural convection in a nanofluid-filled eccentric annulus with constant heat flux wall: A lattice Boltzmann study with immersed boundary method. <i>International Communications in Heat and Mass Transfer</i> , 2017, 86, 262-273.	5.6	19
66	A multiple-relaxation-time lattice Boltzmann model for the flow and heat transfer in a hydrodynamically and thermally anisotropic porous medium. <i>International Journal of Heat and Mass Transfer</i> , 2017, 104, 544-558.	4.8	29
67	NUMERICAL STUDY OF GAS-PHASE FLOW IN A CYCLONE SEPARATOR. <i>International Journal of Modern Physics Conference Series</i> , 2016, 42, 1660171.	0.7	1
68	An Efficient Immersed Boundary-Lattice Boltzmann Method for the Simulation of Thermal Flow Problems. <i>Communications in Computational Physics</i> , 2016, 20, 1210-1257.	1.7	31
69	Lattice Boltzmann flux scheme for the convection-diffusion equation and its applications. <i>Computers and Mathematics With Applications</i> , 2016, 72, 48-63.	2.7	11
70	Finite-volume method with lattice Boltzmann flux scheme for incompressible porous media flow at the representative-elementary-volume scale. <i>Physical Review E</i> , 2016, 93, 023308.	2.1	14
71	AN IMPROVED MOMENTUM-EXCHANGED IMMERSSED BOUNDARY-BASED LATTICE BOLTZMANN METHOD FOR INCOMPRESSIBLE VISCOUS THERMAL FLOWS. <i>International Journal of Modern Physics Conference Series</i> , 2016, 42, 1660161.	0.7	1
72	Unsteady MHD Non-Darcian Flow Over a Vertical Stretching Plate Embedded in a Porous Medium with Thermal Non-Equilibrium Model. <i>Advances in Applied Mathematics and Mechanics</i> , 2016, 8, 52-66.	1.2	13

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73	Immersed boundary-lattice Boltzmann simulation of natural convection in a square enclosure with a cylinder covered by porous layer. International Journal of Heat and Mass Transfer, 2016, 92, 1166-1170.	4.8	44
74	Flow of viscoelastic fluid in curved tube (Visualization of flow in curved tube and analytical) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 707 To 14-00614-14-00614.	0.2	0
75	Bessel Sequences and Its F-Scalability. Advances in Applied Mathematics and Mechanics, 2015, 7, 441-453.	1.2	1
76	An Improved Momentum-exchanged Immersed Boundary-based Lattice Boltzmann Method for Incompressible Viscous Thermal Flows. Procedia Engineering, 2015, 126, 691-695.	1.2	2
77	Performance analyses of a particularly designed turbine for a supercritical CO ₂ -based solar Rankine cycle system. International Journal of Energy Research, 2015, 39, 1819-1827.	4.5	17
78	Modified momentum exchange method for fluid-particle interactions in the lattice Boltzmann method. Physical Review E, 2015, 91, 033301.	2.1	41
79	Full Eulerian lattice Boltzmann model for conjugate heat transfer. Physical Review E, 2015, 92, 063305.	2.1	42
80	Numerical Investigation of "Frog-Leap" Mechanisms of Three Particles Aligned Moving in an Inclined Channel Flow. Advances in Applied Mathematics and Mechanics, 2015, 7, 207-228.	1.2	2
81	Simulation of steady fluid-solid conjugate heat transfer problems via immersed boundary-lattice Boltzmann method. Computers and Mathematics With Applications, 2015, 70, 2227-2237.	2.7	35
82	An efficient smoothed profile-lattice Boltzmann method for the simulation of forced and natural convection flows in complex geometries. International Communications in Heat and Mass Transfer, 2015, 68, 188-199.	5.6	30
83	Study of multiple steady solutions for the 2D natural convection in a concentric horizontal annulus with a constant heat flux wall using immersed boundary-lattice Boltzmann method. International Journal of Heat and Mass Transfer, 2015, 81, 591-601.	4.8	60
84	Characteristics of a MHD power generator using a low-melting-point Gallium alloy. Electrical Engineering, 2014, 96, 37-43.	2.0	10
85	Numerical investigation on the role of discrete element method in combined LBM-IBM-DEM modeling. Computers and Fluids, 2014, 94, 37-48.	2.5	76
86	A momentum exchange-based immersed boundary-lattice Boltzmann method for simulating a flexible filament in an incompressible flow. Computers and Mathematics With Applications, 2014, 67, 1039-1056.	2.7	86
87	An improved momentum exchanged-based immersed boundary-lattice Boltzmann method by using an iterative technique. Computers and Mathematics With Applications, 2014, 68, 140-155.	2.7	64
88	A Numerical Study of Jet Propulsion of an Oblate Jellyfish Using a Momentum Exchange-Based Immersed Boundary-Lattice Boltzmann Method. Advances in Applied Mathematics and Mechanics, 2014, 6, 307-326.	1.2	17
89	A novel thermally driven pump and its test in a supercritical CO ₂ loop system. International Journal of Energy Research, 2013, 37, 1331-1338.	4.5	12
90	Development of an immunochromatographic assay for detection of tylosin and tilmicosin in muscle, liver, fish and eggs. Food and Agricultural Immunology, 2013, 24, 467-480.	1.4	22

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91	Natural Convection in a Concentric Annulus: A Lattice Boltzmann Method Study with Boundary Condition-Enforced Immersed Boundary Method. <i>Advances in Applied Mathematics and Mechanics</i> , 2013, 5, 321-336.	1.2	25
92	NATURAL CONVECTION OF TEMPERATURE-SENSITIVE MAGNETIC FLUIDS IN POROUS MEDIA. <i>International Journal of Modern Physics Conference Series</i> , 2012, 19, 18-26.	0.7	0
93	Lattice Boltzmann simulation for temperature-sensitive magnetic fluids in a porous square cavity. <i>Journal of Magnetism and Magnetic Materials</i> , 2012, 324, 44-51.	2.3	25
94	Natural Convection of Temperature-Sensitive Magnetic Fluids in Porous Media. <i>Advances in Applied Mathematics and Mechanics</i> , 2011, 3, 121-130.	1.2	9
95	Investigation on a low-melting-point gallium alloy MHD power generator. <i>International Journal of Energy Research</i> , 2011, 35, 209-220.	4.5	16
96	Solid-Liquid Two-Phase Flow Measurement Using an Electromagnetically Induced Signal Measurement Method. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2011, 133, .	1.5	4
97	Lattice Boltzmann model for simulating temperature-sensitive ferrofluids. <i>Physical Review E</i> , 2009, 79, 046713.	2.1	26
98	Experimental and numerical investigation of natural convection of magnetic fluids in a cubic cavity. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 3665-3670.	2.3	47