Li Chen

List of Publications by Year
in descending order

83	4,786	76326 40	95266 68
papers	citations	h-index	g-index

85	85	85	2811
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Application of similarity theory in the study of proton exchange membrane fuel cells: a comprehensive review of recent developments and future research requirements. Energy Storage and Saving, 2022, 1, 3-21.	7.5	6
2	Pore-scale modeling of complex transport phenomena in porous media. Progress in Energy and Combustion Science, 2022, 88, 100968.	31.2	139
3	3D imaging and heat transfer simulation of the tritium breeding ceramic pebbles based on X-ray computed tomography (X-ray CT). Journal of Nuclear Materials, 2022, 559, 153447.	2.7	3
4	Pore-scale study of drainage processes in porous media with various structural heterogeneity. International Communications in Heat and Mass Transfer, 2022, 132, 105914.	5.6	11
5	Improvement of thermal and water management of air-cooled polymer electrolyte membrane fuel cells by adding porous media into the cathode gas channel. Electrochimica Acta, 2022, 412, 140154.	5.2	33
6	Numerical simulation of the calcium hydroxide/calcium oxide system dehydration reaction in a shell-tube reactor. Applied Energy, 2022, 312, 118778.	10.1	9
7	Pore-scale study of three-phase displacement in porous media. Physics of Fluids, 2022, 34, .	4.0	12
8	Particle-scale study of coupled physicochemical processes in Ca(OH)2 dehydration using the lattice Boltzmann method. Energy, 2022, 250, 123835.	8.8	4
9	Pore-scale simulation of two-phase flow and oxygen reactive transport in gas diffusion layer of proton exchange membrane fuel cells: Effects of nonuniform wettability and porosity. Energy, 2022, 253, 124101.	8.8	18
10	Pore-scale study of effects of relative humidity on reactive transport processes in catalyst layers in PEMFC. Applied Energy, 2022, 323, 119553.	10.1	17
11	Numerical Simulation of the Physicalâ€“Chemicalâ€“Thermal Processes During Hydration Reaction of the Calcium Oxide/Calcium Hydroxide System in an Indirect Reactor. Transport in Porous Media, 2021, 140, 667-696.	2.6	5
12	Pore-scale numerical study of multiphase reactive transport processes in cathode catalyst layers of proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2021, 46, 13283-13297.	7.1	25
13	Multiscale modeling of proton exchange membrane fuel cells by coupling pore-scale models of the catalyst layers and cell-scale models. International Journal of Green Energy, 2021, 18, 1147-1160.	3.8	14
14	Pore-scale study of effects of different Pt loading reduction schemes on reactive transport processes in catalyst layers of proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2021, 46, 20037-20053.	7.1	18
15	Pore-Scale Modeling of Airâ€“Water Two Phase Flow and Oxygen Transport in Gas Diffusion Layer of Proton Exchange Membrane Fuel Cell. Energies, 2021, 14, 3812.	3.1	7
16	Pore-scale study of capacitive charging and desalination process in porous electrodes and effects of porous structures. Journal of Molecular Liquids, 2021, 332, 115863.	4.9	8
17	Pore-scale numerical prediction of three-phase relative permeability in porous media using the lattice Boltzmann method. International Communications in Heat and Mass Transfer, 2021, 126, 105403.	5.6	13
18	Lattice Boltzmann mesoscopic modeling of flow boiling heat transfer processes in a microchannel. Applied Thermal Engineering, 2021, 197, 117369.	6.0	32

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19	Numerically investigating two-phase reactive transport in multiple gas channels of proton exchange membrane fuel cells. Applied Energy, 2021, 302, 117625.	10.1	15
20	Macroscopic transport properties of Gyroid structures based on pore-scale studies: Permeability, diffusivity and thermal conductivity. International Journal of Heat and Mass Transfer, 2020, 146, 118837.	4.8	33
21	Pore-scale study of pore-ionomer interfacial reactive transport processes in proton exchange membrane fuel cell catalyst layer. Chemical Engineering Journal, 2020, 391, 123590.	12.7	59
22	Experimental investigation on the ice melting heat transfer with a steam jet impingement method. International Communications in Heat and Mass Transfer, 2020, 118, 104901.	5.6	3
23	Numerical study on flow and heat transfer in a multi-jet microchannel heat sink. International Journal of Heat and Mass Transfer, 2020, 157, 119982.	4.8	32
24	The quantitative analysis for the formation of carbon fiber paper and its influencing factors. Journal of Materials Science, 2020, 55, 6566-6580.	3.7	10
25	Modeling of multi-scale transport phenomena in shale gas production â€" A critical review. Applied Energy, 2020, 262, 114575.	10.1	161
26	Lattice Boltzmann method simulation of ice melting process in the gas diffusion layer of fuel cell. International Journal of Heat and Mass Transfer, 2020, 149, 119121.	4.8	29
27	Pore-scale and multiscale study of effects of Pt degradation on reactive transport processes in proton exchange membrane fuel cells. Applied Energy, 2019, 253, 113590.	10.1	50
28	Pore-Scale Study of Gas Transport in Catalyst Layers of PEMFCs. Energy Procedia, 2019, 158, 1479-1484.	1.8	5
29	Modeling of the effect of ionomer volume fraction on water management for proton exchange membrane fuel cell. Energy Procedia, 2019, 158, 2139-2144.	1.8	7
30	Numerical study and enhancement of Ca(OH)2/CaO dehydration process with porous channels embedded in reactors. Energy, 2019, 181, 417-428.	8.8	30
31	Pore-scale study of reactive transport processes in catalyst layer agglomerates of proton exchange membrane fuel cells. Electrochimica Acta, 2019, 306, 454-465.	5.2	47
32	Harvesting waste heat energy by promoting H+-ion concentration difference with a fuel cell structure. Nano Energy, 2019, 57, 101-107.	16.0	18
33	Pore scale study of multiphase multicomponent reactive transport during CO2 dissolution trapping. Advances in Water Resources, 2018, 116, 208-218.	3.8	57
34	A multi-block lattice Boltzmann method for the thermal contact resistance at the interface of two solids. Applied Thermal Engineering, 2018, 138, 122-132.	6.0	38
35	Pore-scale study of effects of macroscopic pores and their distributions on reactive transport in hierarchical porous media. Chemical Engineering Journal, 2018, 349, 428-437.	12.7	70
36	Influences of the perforation on effective transport properties of gas diffusion layers. International Journal of Heat and Mass Transfer, 2018, 126, 243-255.	4.8	46

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37	Nanoscale simulation of local gas transport in catalyst layers of proton exchange membrane fuel cells. Journal of Power Sources, 2018, 400, 114-125.	7.8	69
38	Lattice Boltzmann modeling of pool boiling with large liquid-gas density ratio. International Journal of Thermal Sciences, 2017, 114, 172-183.	4.9	84
39	Relative permeability of two immiscible fluids flowing through porous media determined by lattice Boltzmann method. International Communications in Heat and Mass Transfer, 2017, 85, 53-61.	5.6	51
40	Beyond-Cassie Mode of Wetting and Local Contact Angles of Droplets on Checkboard-Patterned Surfaces. Langmuir, 2017, 33, 6192-6200.	3.5	34
41	Pore-scale study of multiphase reactive transport in fibrous electrodes of vanadium redox flow batteries. Electrochimica Acta, 2017, 248, 425-439.	5.2	64
42	Numerical predictions of thermal conductivities for the silica aerogel and its composites. Applied Thermal Engineering, 2017, 115, 1277-1286.	6.0	50
43	Nucleate boiling performance evaluation of cavities at mesoscale level. International Journal of Heat and Mass Transfer, 2017, 106, 708-719.	4.8	62
44	Pore-scale lattice Boltzmann simulation of micro-gaseous flow considering surface diffusion effect. International Journal of Coal Geology, 2017, 169, 62-73.	5.0	54
45	Contact Angle Effects on Pore and Corner Arc Menisci in Polygonal Capillary Tubes Studied with the Pseudopotential Multiphase Lattice Boltzmann Model. Computation, 2016, 4, 12.	2.0	16
46	Simulation of Flow in Multi-Scale Porous Media Using the Lattice Boltzmann Method on Quadtree Grids. Communications in Computational Physics, 2016, 19, 998-1014.	1.7	13
47	Changes in porosity, permeability and surface area during rock dissolution: Effects of mineralogical heterogeneity. International Journal of Heat and Mass Transfer, 2016, 103, 900-913.	4.8	38
48	Pore-scale modelling of dynamic interaction between SVOCs and airborne particles with lattice Boltzmann method. Building and Environment, 2016, 104, 152-161.	6.9	22
49	Apparent permeability prediction of organic shale with generalized lattice Boltzmann model considering surface diffusion effect. Fuel, 2016, 181, 478-490.	6.4	91
50	The lattice Boltzmann method for isothermal micro-gaseous flow and its application in shale gas flow: A review. International Journal of Heat and Mass Transfer, 2016, 95, 94-108.	4.8	123
51	Mesoscale investigation of reactionâ€“diffusion and structure evolution during Feâ€“Al inhibition layer formation in hot-dip galvanizing. International Journal of Heat and Mass Transfer, 2016, 92, 370-380.	4.8	9
52	Predictions of effective thermal conductivities for three-dimensional four-directional braided composites using the lattice Boltzmann method. International Journal of Heat and Mass Transfer, 2016, 92, 120-130.	4.8	55
53	Numerical study of gravity-driven droplet displacement on a surface using the pseudopotential multiphase lattice Boltzmann model with high density ratio. Computers and Fluids, 2015, 117, 42-53.	2.5	19
54	Pore-scale simulation of multicomponent multiphase reactive transport with dissolution and precipitation. International Journal of Heat and Mass Transfer, 2015, 85, 935-949.	4.8	115

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55	Numerical study on temperature uniformity in a novel mini-channel heat sink with different flow field configurations. International Journal of Heat and Mass Transfer, 2015, 85, 147-157.	4.8	51
56	Lattice Boltzmann Pore-Scale Investigation of Coupled Physical-electrochemical Processes in C/Pt and Non-Precious Metal Cathode Catalyst Layers in Proton Exchange Membrane Fuel Cells. Electrochimica Acta, 2015, 158, 175-186.	5.2	114
57	Nanoscale simulation of shale transport properties using the lattice Boltzmann method: permeability and diffusivity. Scientific Reports, 2015, 5, 8089.	3.3	206
58	Generalized lattice Boltzmann model for flow through tight porous media with Klinkenberg's effect. Physical Review E, 2015, 91, 033004.	2.1	96
59	Permeability prediction of shale matrix reconstructed using the elementary building block model. Fuel, 2015, 160, 346-356.	6.4	89
60	Pore-scale prediction of transport properties in reconstructed nanostructures of organic matter in shales. Fuel, 2015, 158, 650-658.	6.4	70
61	Coupling finite volume and lattice Boltzmann methods for pore scale investigation on volatile organic compounds emission process. Building and Environment, 2015, 92, 236-245.	6.9	20
62	Poreâ€scale study of dissolutionâ€induced changes in hydrologic properties of rocks with binary minerals. Water Resources Research, 2014, 50, 9343-9365.	4.2	91
63	Mesoscopic study of the formation of pseudomorphs with presence of chemical fluids. Geosciences Journal, 2014, 18, 469-475.	1.2	1
64	Pore-scale study of diffusionâ€“reaction processes involving dissolution and precipitation using the lattice Boltzmann method. International Journal of Heat and Mass Transfer, 2014, 75, 483-496.	4.8	90
65	A critical review of the pseudopotential multiphase lattice Boltzmann model: Methods and applications. International Journal of Heat and Mass Transfer, 2014, 76, 210-236.	4.8	574
66	Pore-scale study of dissolution-induced changes in permeability and porosity of porous media. Journal of Hydrology, 2014, 517, 1049-1055.	5.4	130
67	A multi-component lattice Boltzmann method in consistent with Stefanâ€“Maxwell equations: Derivation, validation and application in porous medium. Computers and Fluids, 2014, 105, 155-165.	2.5	21
68	Multi-scale modeling of proton exchange membrane fuel cell by coupling finite volume method and lattice Boltzmann method. International Journal of Heat and Mass Transfer, 2013, 63, 268-283.	4.8	101
69	Effects of surface microstructures of gas diffusion layer on water droplet dynamic behaviors in a micro gas channel of proton exchange membrane fuel cells. International Journal of Heat and Mass Transfer, 2013, 60, 252-262.	4.8	60
70	Coupled numerical approach combining finite volume and lattice Boltzmann methods for multi-scale multi-physicochemical processes. Journal of Computational Physics, 2013, 255, 83-105.	3.8	64
71	Numerical investigation of the coupled water and thermal management in PEM fuel cell. Applied Energy, 2013, 112, 1115-1125.	10.1	169
72	Pore-scale modeling of multiphase reactive transport with phase transitions and dissolution-precipitation processes in closed systems. Physical Review E, 2013, 87, 043306.	2.1	131

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73	In situ measurement of temperature distribution within a single polymer electrolyte membrane fuel cell. International Journal of Hydrogen Energy, 2012, 37, 11871-11886.	7.1	31
74	Pore-scale simulation of coupled multiple physicochemical thermal processes in micro reactor for hydrogen production using lattice Boltzmann method. International Journal of Hydrogen Energy, 2012, 37, 13943-13957.	7.1	68
75	Mesoscopic Study of the Effects of Gel Concentration and Materials on the Formation of Precipitation Patterns. Langmuir, 2012, 28, 11745-11754.	3.5	31
76	Effects of Roughness of Gas Diffusion Layer Surface on Liquid Water Transport in Micro Gas Channels of a Proton Exchange Membrane Fuel Cell. Numerical Heat Transfer; Part A: Applications, 2012, 62, 295-318.	2.1	30
77	Coupling between finite volume method and lattice Boltzmann method and its application to fluid flow and mass transport in proton exchange membrane fuel cell. International Journal of Heat and Mass Transfer, 2012, 55, 3834-3848.	4.8	63
78	Numerical investigation of liquid water distribution in the cathode side of proton exchange membrane fuel cell and its effects on cell performance. International Journal of Hydrogen Energy, 2012, 37, 9155-9170.	7.1	54
79	Pore-scale flow and mass transport in gas diffusion layer of proton exchange membrane fuel cell with interdigitated flow fields. International Journal of Thermal Sciences, 2012, 51, 132-144.	4.9	183
80	Numerical investigation of liquid water transport and distribution in porous gas diffusion layer of a proton exchange membrane fuel cell using lattice Boltzmann method. Russian Journal of Electrochemistry, 2012, 48, 712-726.	0.9	40
81	Evaluation of the coupling scheme of FVM and LBM for fluid flows around complex geometries. International Journal of Heat and Mass Transfer, 2011, 54, 1975-1985.	4.8	51
82	Microstructure and mechanical properties of three-dimensional five-directional braided composites. International Journal of Solids and Structures, 2009, 46, 3422-3432.	2.7	102
83	EFFECTS OF PHYSICOCHEMICAL PARAMETERS ON THE OPTIMIZED TOPOLOGY OF CATALYST IN MICRO REACTORS. Frontiers in Heat and Mass Transfer, 0, 14, .	0.2	1