Zhaohui Liu

List of Publications by Year
in descending order

136 papers	3,067 citations	136740 32 h-index	214527 47 g-index
136 all docs	136 docs citations	136 times ranked	1842 citing authors

#	Article	IF	Citations
1	Progress and recent trend in MILD combustion. Science China Technological Sciences, 2011, 54, 255-269.	2.0	133
2	Investigation of Chemical Looping Combustion of Coal with CuFe₂O₄ Oxygen Carrier. Energy & Fuels, 2011, 25, 3344-3354.	2.5	114
3	Moderate or Intense Low-Oxygen Dilution Oxy-combustion Characteristics of Light Oil and Pulverized Coal in a Pilot-Scale Furnace. Energy & Fuels, 2014, 28, 1524-1535.	2.5	96
4	Study on the evolution of the char structure during hydrogasification process using Raman spectroscopy. Fuel, 2015, 157, 97-106.	3.4	86
5	Experimental and numerical investigations on oxy-coal combustion in a 35 MW large pilot boiler. Fuel, 2017, 187, 315-327.	3.4	84
6	Numerical investigation on oxy-combustion characteristics of a 200MWe tangentially fired boiler. Fuel, 2015, 140, 660-668.	3.4	73
7	Effects of furnace chamber shape on the MILD combustion of natural gas. Applied Thermal Engineering, 2015, 76, 64-75.	3.0	65
8	Physical and Chemical Effects of CO₂ and H₂O Additives on Counterflow Diffusion Flame Burning Methane. Energy & Fuels, 2013, 27, 7602-7611.	2.5	62
9	Numerical study of combustion characteristics for pulverized coal under oxy-MILD operation. Fuel Processing Technology, 2015, 135, 80-90.	3.7	62
10	Comparison of Different Global Combustion Mechanisms Under Hot and Diluted Oxidation Conditions. Combustion Science and Technology, 2012, 184, 259-276.	1.2	61
11	Numerical study of H 2 O addition effects on pulverized coal oxy-MILD combustion. Fuel Processing Technology, 2015, 138, 252-262.	3.7	61
12	A novel coupled lattice Boltzmann model for low Mach number combustion simulation. Applied Mathematics and Computation, 2007, 193, 266-284.	1.4	60
13	Chemical looping combustion of a Chinese anthracite with Fe2O3-based and CuO-based oxygen carriers. Fuel Processing Technology, 2012, 96, 104-115.	3.7	57
14	A full spectrum k-distribution based weighted-sum-of-gray-gases model for oxy-fuel combustion. International Journal of Heat and Mass Transfer, 2015, 90, 218-226.	2.5	57
15	An economic feasibility study of O2/CO2 recycle combustion technology based on existing coal-fired power plants in China. Fuel, 2009, 88, 1135-1142.	3.4	56
16	Lattice Boltzmann scheme for simulating thermal micro-flow. Physica A: Statistical Mechanics and Its Applications, 2007, 385, 59-68.	1.2	54
17	Kinetic mechanism studies on reactions of mercury and oxidizing species in coal combustion. Fuel, 2005, 84, 1215-1220.	3.4	49
18	Effects of hydrogen addition on entropy generation in ultra-lean counter-flow methane-air premixed combustion. International Journal of Hydrogen Energy, 2010, 35, 3891-3902.	3.8	49

#	Article	IF	Citations
19	Fundamental and Technical Challenges for a Compatible Design Scheme of Oxyfuel Combustion Technology. Engineering, 2015, 1, 139-149.	3.2	48
20	Impact of a Coal-Fired Power Plant Shutdown Campaign on Heavy Metal Emissions in China. Environmental Science & Technology, 2019, 53, 14063-14069.	4.6	48
21	An experimental study on turbulence modification in the near-wall boundary layer of a dilute gas-particle channel flow. Experiments in Fluids, 2012, 53, 1385-1403.	1.1	47
22	Effect of catalysts on char structural evolution during hydrogasification under high pressure. Fuel, 2017, 188, 474-482.	3.4	47
23	Global reaction mechanisms for MILD oxy-combustion of methane. Energy, 2018, 147, 839-857.	4.5	46
24	A simple lattice Boltzmann scheme for combustion simulation. Computers and Mathematics With Applications, 2008, 55, 1424-1432.	1.4	38
25	A unified stochastic particle Bhatnagar-Gross-Krook method for multiscale gas flows. Journal of Computational Physics, 2020, 400, 108972.	1.9	37
26	Effects of wall temperature on methane MILD combustion and heat transfer behaviors with non-preheated air. Applied Thermal Engineering, 2020, 174, 115282.	3.0	37
27	A full spectrum k-distribution based non-gray radiative property model for fly ash particles. International Journal of Heat and Mass Transfer, 2018, 118, 103-115.	2.5	35
28	Prediction of the radiative heat transfer in small and large scale oxy-coal furnaces. Applied Energy, 2018, 211, 523-537.	5.1	35
29	Evaluation, development, and validation of a new reduced mechanism for methane oxy-fuel combustion. International Journal of Greenhouse Gas Control, 2018, 78, 327-340.	2.3	35
30	Analysis of entropy generation in non-premixed hydrogen versus heated air counter-flow combustion. International Journal of Hydrogen Energy, 2010, 35, 4736-4746.	3.8	34
31	Analysis of entropy generation in hydrogen-enriched ultra-lean counter-flow methaneâ€“air non-premixed combustion. International Journal of Hydrogen Energy, 2010, 35, 12491-12501.	3.8	34
32	Evaluation, development, and application of a new skeletal mechanism for fuel-NO formation under air and oxy-fuel combustion. Fuel Processing Technology, 2020, 199, 106256.	3.7	34
33	Mercury emission and speciation in fly ash from a 35 MW th large pilot boiler of oxyfuel combustion with different flue gas recycle. Fuel, 2017, 195, 174-181.	3.4	33
34	Experimental investigation on turbulence modification in a horizontal channel flow at relatively low mass loading. Acta Mechanica Sinica/Lixue Xuebao, 2006, 22, 99-108.	1.5	32
35	Lattice Boltzmann simulation of two cold particles settling in Newtonian fluid with thermal convection. International Journal of Heat and Mass Transfer, 2016, 93, 477-490.	2.5	30
36	A Benchmark Study of Kinetic Models for Shock Waves. AIAA Journal, 2020, 58, 2596-2608.	1.5	29

#	Article	IF	Citations
37	Mathematical Modeling of Airâ€“ and Oxyâ€“Coal Confined Swirling Flames on Two Extended Eddy-Dissipation Models. Industrial & Engineering Chemistry Research, 2012, 51, 691-703.	1.8	26
38	Exergy-based control strategy selection for flue gas recycle in oxy-fuel combustion plant. Fuel, 2015, 161, 87-96.	3.4	26
39	New Dependence of NO Emissions on the Equivalence Ratio in Moderate or Intense Low-Oxygen Dilution Combustion. Energy & Fuels, 2018, 32, 12905-12918.	2.5	26
40	Re-Recognition of the MILD Combustion Regime by Initial Conditions of T_{in} and X_{O2} for Methane in a Nonadiabatic Well-Stirred Reactor. Energy & Fuels, 2020, 34, 2391-2404.	2.5	26
41	Chemical Looping Combustion of Petroleum Coke with CuFe₂O₄ as Oxygen Carrier. Chemical Engineering and Technology, 2013, 36, 1488-1495.	0.9	25
42	Synthesis and characteristics of BaSrCoFe-based perovskite as a functional material for chemical looping gasification of coal. International Journal of Hydrogen Energy, 2016, 41, 22846-22855.	3.8	25
43	Numerical Investigation on Development of Initial Ash Deposition Layer for a High-Alkali Coal. Energy & Fuels, 2017, 31, 2596-2606.	2.5	25
44	A Particle Fokker-Planck Algorithm with Multiscale Temporal Discretization for Rarefied and Continuum Gas Flows. Communications in Computational Physics, 2017, 22, 338-374.	0.7	25
45	A boundary thickening-based direct forcing immersed boundary method for fully resolved simulation of particle-laden flows. Journal of Computational Physics, 2019, 390, 203-231.	1.9	25
46	LATTICE BOLTZMANN METHOD IN SIMULATION OF THERMAL MICRO-FLOW WITH TEMPERATURE JUMP. International Journal of Modern Physics C, 2006, 17, 603-614.	0.8	24
47	Simulating the interactions of two freely settling spherical particles in Newtonian fluid using lattice-Boltzmann method. Applied Mathematics and Computation, 2015, 250, 533-551.	1.4	24
48	Experimental and Numerical Investigations on Heat Transfer Characteristics of a 35MW Oxy-fuel Combustion Boiler. Energy Procedia, 2017, 114, 481-489.	1.8	24
49	Optimal Equivalence Ratio to Minimize NO Emission during Moderate or Intense Low-Oxygen Dilution Combustion. Energy & Fuels, 2018, 32, 4478-4492.	2.5	24
50	A compatible configuration strategy for burner streams in a 200â€¯MWe tangentially fired oxy-fuel combustion boiler. Applied Energy, 2018, 220, 59-69.	5.1	23
51	Electroosmotic Flow of Viscoelastic Fluid through a Constriction Microchannel. Micromachines, 2021, 12, 417.	1.4	23
52	A NEW NUMERICAL APPROACH FOR FIRE SIMULATION. International Journal of Modern Physics C, 2007, 18, 187-202.	0.8	22
53	Oxy-Fuel Combustion Characteristics of Pulverized Coal in a 3 MW Pilot-Scale Furnace. Energy & Fuels, 2018, 32, 10522-10529.	2.5	22
54	Comparative Study between Flameless Combustion and Swirl Flame Combustion Using Low Preheating Temperature Air for Homogeneous Fuel NO Reduction. Energy & Fuels, 2021, 35, 8181-8193.	2.5	22

#	Article	IF	Citations
55	Natural convection and entropy generation in a vertically concentric annular space. International Journal of Thermal Sciences, 2010, 49, 2439-2452.	2.6	21
56	A full spectrum k-distribution based non-gray radiative property model for unburnt char. Proceedings of the Combustion Institute, 2019, 37, 3081-3089.	2.4	21
57	Experimental research on the characteristics of ash in oxy-fuel combustion. Fuel, 2020, 263, 116799.	3.4	21
58	Dynamic simulation and transient analysis of a 3MWth oxy-fuel combustion system. International Journal of Greenhouse Gas Control, 2015, 35, 138-149.	2.3	20
59	Fully resolved simulation of single-particle dynamics in a microcavity. Microfluidics and Nanofluidics, 2018, 22, 1.	1.0	20
60	Detailed investigation of NO mechanism in non-premixed oxy-fuel jet flames with CH4/H2 fuelÂblends. International Journal of Hydrogen Energy, 2018, 43, 8534-8557.	3.8	19
61	Effects of gas and particle radiation on IFRF 2.5ÂMW swirling flame under oxy-fuel combustion. Fuel, 2020, 263, 116634.	3.4	18
62	Experiments and kinetic modeling of NO reburning by CH4 under high CO2 concentration in a jet-stirred reactor. Fuel, 2020, 270, 117476.	3.4	18
63	NO mechanisms of syngas MILD combustion diluted with N2, CO2, and H2O. International Journal of Hydrogen Energy, 2022, 47, 16649-16664.	3.8	18
64	A novel incompressible finite-difference lattice Boltzmann equation for particle-laden flow. Acta Mechanica Sinica/Lixue Xuebao, 2005, 21, 574-581.	1.5	17
65	Reaction Characteristics and MILD Combustion of Residual Char in a Pilot-Scale Furnace. Energy & Fuels, 2019, 33, 12791-12800.	2.5	16
66	A joint PDF model for turbulent spray evaporation/combustion. Proceedings of the Combustion Institute, 2002, 29, 561-568.	2.4	15
67	Experimental investigation on turbulence modification in a dilute gas-particle axisymmetric opposed jets flow. Chemical Engineering Journal, 2016, 286, 76-90.	6.6	15
68	Experimental and Kinetic Study on the Oxidation of Syngas-Ammonia under Both N₂ and CO₂ Atmospheres in a Jet-Stirred Reactor. Energy & Fuels, 2021, 35, 11445-11456.	2.5	14
69	A second-order-momentâ€“Monte-Carlo model for simulating swirling gasâ€“particle flows. Powder Technology, 2001, 120, 216-222.	2.1	13
70	Numerical and experimental investigations on the performance of a 300 MW pulverized coal furnace. Proceedings of the Combustion Institute, 2002, 29, 811-818.	2.4	13
71	Simulation of the flow around an upstream transversely oscillating cylinder and a stationary cylinder in tandem. Physics of Fluids, 2012, 24, .	1.6	13
72	Inertial migration of aerosol particles in three-dimensional microfluidic channels. Particuology, 2021, 55, 23-34.	2.0	13

#	Article	IF	Citations
73	Assessment of weighted-sum-of-gray-gases models for gas-soot mixture in jet diffusion flames. International Journal of Heat and Mass Transfer, 2021, 181, 121907.	2.5	13
74	MILD combustion of co-firing biomass and pulverized coal fuel blend for heterogeneous fuel NO and PM2.5 emission reduction. Fuel Processing Technology, 2022, 230, 107222.	3.7	13
75	Particle behavior in homogeneous isotropic turbulence. Acta Mechanica Sinica/Lixue Xuebao, 2005, 21, 112-120.	1.5	12
76	Computation of gasâ€“solid flows by finite difference Boltzmann equation. Applied Mathematics and Computation, 2006, 173, 33-49.	1.4	12
77	Lattice Boltzmann simulation of the convective heat transfer from a stream-wise oscillating circular cylinder. International Journal of Heat and Fluid Flow, 2012, 37, 147-153.	1.1	12
78	Experimental investigation on co-firing residual char and pulverized coal under MILD combustion using low-temperature preheating air. Energy, 2022, 244, 122574.	4.5	12
79	Lattice-Boltzmann simulation of particle-laden flow over a backward-facing step. Chinese Physics B, 2004, 13, 1657-1664.	1.3	11
80	A numerical investigation on flame stability of oxy-coal combustion: Effects of blockage ratio, swirl number, recycle ratio and partial pressure ratio of oxygen. International Journal of Greenhouse Gas Control, 2017, 57, 63-72.	2.3	11
81	Opportunities and Challenges of Oxy-fuel Combustion. , 2018, , 1-12.		11
82	Experimental and Numerical Study of the Fuel-NO_x Formation at High CO₂ Concentrations in a Jet-Stirred Reactor. Energy & Fuels, 2019, 33, 6797-6808.	2.5	11
83	Influence of coherent vortex structures in subgrid scale motions on particle statistics in homogeneous isotropic turbulence. International Journal of Multiphase Flow, 2019, 113, 358-370.	1.6	11
84	A full spectrum k â€distributionâ€based weightedâ€sumâ€ofâ€grayâ€gases model for pressurized oxyâ€fuel combustion. International Journal of Energy Research, 2021, 45, 3410-3420.	2.2	11
85	A Novel Lattice Boltzmann Model For Reactive Flows with Fast Chemistry. Chinese Physics Letters, 2006, 23, 656-659.	1.3	10
86	Experimental Investigation of Pressurized Combustion Characteristics of a Single Coal Particle in O₂/N₂ and O₂/CO₂ Environments. Energy & Fuels, 2019, 33, 12781-12790.	2.5	10
87	Research on the slagging behaviors of Shenhua coal in different combustion atmospheres. Fuel, 2021, 287, 118537.	3.4	10
88	Experimental and kinetic study of NO-reburning by syngas under high CO2 concentration in a jet stirred reactor. Fuel, 2021, 304, 121403.	3.4	10
89	A simple and efficient parallel immersed boundary-lattice Boltzmann method for fully resolved simulations of incompressible settling suspensions. Computers and Fluids, 2022, 237, 105322.	1.3	10
90	Chinaâ€™s power transformation may drastically change employment patterns in the power sector and its upstream supply chains. Environmental Research Letters, 2022, 17, 065005.	2.2	10

#	Article	IF	Citations
91	Simulation of Swirling Gas-Particle Flows Using Different Time Scales for the Closure of Two-Phase Velocity Correlation in the Second-Order Moment Two-Phase Turbulence Model1. Journal of Fluids Engineering, Transactions of the ASME, 2003, 125, 247-250.	0.8	9
92	Physical and Chemical Effects of CO2Addition on CH4/H2Flames on a Jet in Hot Coflow (JHC) Burner. Energy & Fuels, 2016, , .	2.5	9
93	Development of Zhundong subbituminous coal char structure during hydrogasification under high pressure. International Journal of Hydrogen Energy, 2017, 42, 4935-4942.	3.8	9
94	Computer-Controlled Scanning Electron Microscopy Investigation on Ash Formation Characteristics of a Calcium-Rich Coal under O2/CO2 Environments. Energy & Fuels, 2017, 31, 319-327.	2.5	9
95	Numerical study of particle behavior in laminar axisymmetric opposed-jet flows. Powder Technology, 2015, 270, 176-184.	2.1	8
96	Numerical simulation of oxyâ€fuel combustion characteristics in a 200 MWe coalâ€fired boiler. , 2019, 9, 276-286.		8
97	Computational Modeling of Boundary Layer Flashback in a Swirling Stratified Flame Using a LES-Based Non-Adiabatic Tabulated Chemistry Approach. Entropy, 2021, 23, 567.	1.1	8
98	A particle-tracking image pyrometer for characterizing ignition of pulverized coal particles. Fuel Processing Technology, 2022, 225, 107065.	3.7	8
99	Fully resolved simulations of viscoelastic suspensions by an efficient immersed boundary-lattice Boltzmann method. Particuology, 2023, 75, 26-49.	2.0	7
100	Effect of particle inertia on temperature statistics in particle-laden homogeneous isotropic turbulence. Science in China Series D: Earth Sciences, 2006, 49, 210-221.	0.9	6
101	Turbulence Modulations in the Boundary Layer of a Horizontal Particle-Laden Channel Flow. Chinese Physics Letters, 2010, 27, 064701.	1.3	6
102	Dynamic Simulation of the Transition Process in a 3 MWth Oxy-fuel Test Facility. Energy Procedia, 2014, 63, 6281-6288.	1.8	6
103	Dynamic Modeling on the Mode Switching Strategy of a 35 MW_{th} Oxy-fuel Combustion Pilot Plant. Energy & Fuels, 2020, 34, 2260-2271.	2.5	6
104	THERMAL LATTICE BOLTZMANN MODEL WITH VISCOUS HEAT DISSIPATION IN THE INCOMPRESSIBLE LIMIT. International Journal of Modern Physics C, 2006, 17, 1131-1139.	0.8	5
105	Experimental Investigation on Turbulence Modulation in the Boundary Layer of a Horizontal Particle-laden Channel Flow with Relative Low Mass Loading Ratios. , 2010, , .		5
106	Eulerian and Lagrangian stagnation plane behavior of moderate Reynolds number round opposed-jets flow. Computers and Fluids, 2016, 133, 116-128.	1.3	5
107	The influence of sub-grid scale motions on particle collision in homogeneous isotropic turbulence. Acta Mechanica Sinica/Lixue Xuebao, 2018, 34, 22-36.	1.5	5
108	Non-gray chemical composition based radiative property model of fly ash particles. Proceedings of the Combustion Institute, 2021, 38, 4281-4290.	2.4	5

#	Article	IF	Citations
109	A heuristic curved-boundary treatment in lattice Boltzmann method. Europhysics Letters, 2010, 92, 54003.	0.7	4
110	Statistical simulation of molecular diffusion effect on turbulent tetrad dispersion. International Journal of Heat and Mass Transfer, 2016, 103, 87-98.	2.5	4
111	Tunable-Focus Liquid Lens through Charge Injection. Micromachines, 2020, 11, 109.	1.4	4
112	Hydrodynamic resolved simulation of a char particle combustion by immersed boundary-lattice Boltzmann method. International Communications in Heat and Mass Transfer, 2022, 132, 105915.	2.9	4
113	Statistical simulation of decaying and forced homogeneous isotropic turbulence. , 2014, , .		3
114	Experimental Study on Dust Removal of Flue Gas under O₂/CO₂ Combustion. Energy & Fuels, 2019, 33, 12549-12557.	2.5	3
115	Tracing energy-water-greenhouse gas nexus in national supply chains: China 2017. Journal of Cleaner Production, 2022, 352, 131586.	4.6	3
116	A simple lattice Boltzmann scheme for low Mach number reactive flows. Science in China Series D: Earth Sciences, 2006, 49, 714-726.	0.9	2
117	Pilot and Industrial Demonstration of Oxy-fuel Combustion. , 2018, , 209-222.		2
118	Effects of potassium additives on the combustion characteristics of graphite as a heating source of heat-not-burn tobacco. RSC Advances, 2021, 11, 1662-1667.	1.7	2
119	Emission of NO and SO2 in a 300 kW Pilot Scale O2/RFG Combustion. , 2013, , 1005-1009.		2
120	Subgrid-Scale Fluid Statistics along the Inertial Particle Trajectory in Isotropic Turbulence. Chinese Physics Letters, 2012, 29, 094701.	1.3	2
121	Volatile Releasing Characteristics of Pulverized Coals under Moderate or Intense Low-Oxygen Dilution Oxy-Combustion Conditions in a Flat-Flame Assisted Entrained Flow Reactor. Processes, 2022, 10, 358.	1.3	2
122	Combustion Stability Assessment for Utility Pulverized Coal-Fired Boilers under Low Loads. Combustion Science and Technology, 2000, 157, 325-340.	1.2	1
123	Passive scalar characteristics along inertial particle trajectory in turbulent non-isothermal flows. Science China Technological Sciences, 2012, 55, 2593-2600.	2.0	1
124	Penetration, accumulation, and swing characteristics of particle cloud in a turbulent axisymmetric opposed-jet flow. Powder Technology, 2018, 329, 33-46.	2.1	1
125	Heat Transfer During Oxy-fuel Combustion and Boiler Design. , 2018, , 189-208.		1
126	Flame Characteristics of Oxy-fuel Combustion and Burner Design. , 2018, , 171-187.		1

#	Article	IF	Citations
127	Effects of Pressure and Coal Rank on the Oxy-Fuel Combustion of Pulverized Coal. Energies, 2022, 15, 265.	1.6	1
128	Scalar Statistics along Inertial Particle Trajectory in Isotropic Turbulence. , 2010, , .		0
129	Numerical Simulation of Temperature Field in Blast Furnace Gas Regenerative Furnace. Journal of Computational and Theoretical Nanoscience, 2012, 9, 1248-1254.	0.4	0
130	Preparation and Application of the SGCS-Made CaO/ZrO2 Sorbent for Cyclic CO2 Capture. , 2013, , 1189-1194.		0
131	Control Concepts, Dynamic Behavior and Mode Transition Strategy for Oxy-fuel Combustion Systems. , 2018, , 239-262.		0
132	System Integration and Optimization for Large Scale Oxy-fuel Combustion Systems. , 2018, , 223-238.		0
133	NO Reburning by CH4-H2 Mixture under High CO2 Concentration in a Jet-Stirred Reactor. IOP Conference Series: Earth and Environmental Science, 0, 621, 012044.	0.2	0
134	Effects of potassium additives on the combustion behavior of chrysanthemum biochar blended with graphite carbon as a heating source for heat-not-burn tobacco. RSC Advances, 2022, 12, 3431-3436.	1.7	0
135	Experimental investigation on MILD combustion of co-firing biomass and pulverized coal fuel blend in a pilot-scale furnace. The Proceedings of the International Conference on Power Engineering (ICOPE), 2021, 2021.15, 2021-0193.	0.0	0
136	A Pressure Compensation Method for Lattice Boltzmann Simulation of Particle-laden Flows in Periodic Geometries. Physics of Fluids, 0, , .	1.6	0