Jiangkuan Xing

List of Publications by Year
in descending order

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92 papers	2,858 citations	147801 31 h-index	197818 49 g-index
93 all docs	93 docs citations	93 times ranked	1545 citing authors

#	Article	IF	Citations
1	CFD-DEM coupled with thermochemical sub-models for biomass gasification: Validation and sensitivity analysis. Chemical Engineering Science, 2020, 217, 115550.	3.8	123
2	Investigations of data-driven closure for subgrid-scale stress in large-eddy simulation. Physics of Fluids, 2018, 30, 125101.	4.0	122
3	CFD-DEM simulation of heat transfer in fluidized beds: Model verification, validation, and application. Chemical Engineering Science, 2019, 197, 280-295.	3.8	116
4	Impact of operating parameters on biomass gasification in a fluidized bed reactor: An Eulerian-Lagrangian approach. Powder Technology, 2018, 333, 304-316.	4.2	112
5	A comprehensive study on estimating higher heating value of biomass from proximate and ultimate analysis with machine learning approaches. Energy, 2019, 188, 116077.	8.8	102
6	CFD-DEM modelling of hydraulic conveying of solid particles in a vertical pipe. Powder Technology, 2019, 354, 893-905.	4.2	97
7	CFD-DEM study of the effect of cyclone arrangements on the gas-solid flow dynamics in the full-loop circulating fluidized bed. Chemical Engineering Science, 2017, 172, 199-215.	3.8	96
8	Parallel LES-DEM simulation of dense flows in fluidized beds. Applied Thermal Engineering, 2017, 111, 1523-1535.	6.0	79
9	Particleâ€resolved direct numerical simulation of gasâ€“solid dynamics in experimental fluidized beds. AICHE Journal, 2016, 62, 1917-1932.	3.6	74
10	Predictive single-step kinetic model of biomass devolatilization for CFD applications: A comparison study of empirical correlations (EC), artificial neural networks (ANN) and random forest (RF). Renewable Energy, 2019, 136, 104-114.	8.9	72
11	High-fidelity simulation of the 3-D full-loop gasâ€“solid flow characteristics in the circulating fluidized bed. Chemical Engineering Science, 2015, 123, 22-38.	3.8	67
12	Particleâ€scale investigation of the solid dispersion and residence properties in a 3â€D spoutâ€fluid bed. AICHE Journal, 2014, 60, 2788-2804.	3.6	65
13	A mass conserving level set method for detailed numerical simulation of liquid atomization. Journal of Computational Physics, 2015, 298, 495-519.	3.8	60
14	LES of pulverized coal combustion with a multi-regime flamelet model. Fuel, 2017, 188, 661-671.	6.4	57
15	A ghost-cell immersed boundary method for simulations of heat transfer in compressible flows under different boundary conditions. International Journal of Heat and Mass Transfer, 2016, 92, 708-717.	4.8	54
16	Direct Numerical Simulation of Pulverized Coal Combustion in a Hot Vitiated Co-flow. Energy & Fuels, 2012, 26, 6128-6136.	5.1	53
17	Level set method for atomization and evaporation simulations. Progress in Energy and Combustion Science, 2019, 73, 65-94.	31.2	53
18	Large eddy simulation of a semi-industrial scale coal furnace using non-adiabatic three-stream flamelet/progress variable model. Applied Energy, 2016, 183, 1086-1097.	10.1	49

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19	Estimating biomass major chemical constituents from ultimate analysis using a random forest model. Bioresource Technology, 2019, 288, 121541.	9.6	49
20	Numerical investigation of coal gasification in supercritical water with the ReaxFF molecular dynamics method. International Journal of Hydrogen Energy, 2018, 43, 20513-20524.	7.1	47
21	Particle behaviours of biomass gasification in a bubbling fluidized bed. Chemical Engineering Journal, 2022, 428, 131847.	12.7	46
22	Evaluation of flamelet/progress variable model for laminar pulverized coal combustion. Physics of Fluids, 2017, 29, .	4.0	45
23	Large eddy simulation of piloted pulverised coal combustion using extended flamelet/progress variable model. Combustion Theory and Modelling, 2017, 21, 925-953.	1.9	44
24	Wake and performance interference between adjacent wind farms: Case study of Xinjiang in China by means of mesoscale simulations. Energy, 2019, 166, 1168-1180.	8.8	43
25	Large Eddy Simulation of piloted pulverized coal combustion using the velocity-scalar joint filtered density function model. Fuel, 2015, 158, 494-502.	6.4	42
26	Analysis of pulverized coal flame stabilized in a 3D laminar counterflow. Combustion and Flame, 2018, 189, 106-125.	5.2	42
27	Predicting kinetic parameters for coal devolatilization by means of Artificial Neural Networks. Proceedings of the Combustion Institute, 2019, 37, 2943-2950.	3.9	40
28	Detailed numerical simulation of swirling primary atomization using a mass conservative level set method. International Journal of Multiphase Flow, 2017, 89, 57-68.	3.4	38
29	CFD-DEM study of the effect of ring baffles on system performance of a full-loop circulating fluidized bed. Chemical Engineering Science, 2019, 196, 130-144.	3.8	36
30	A three mixture fraction flamelet model for multi-stream laminar pulverized coal combustion. Proceedings of the Combustion Institute, 2019, 37, 2901-2910.	3.9	35
31	DNS investigation on flame structure and scalar dissipation of a supersonic lifted hydrogen jet flame in heated coflow. International Journal of Hydrogen Energy, 2013, 38, 9886-9896.	7.1	32
32	The effects of collisional parameters on the hydrodynamics and heat transfer in spouted bed: A CFD-DEM study. Powder Technology, 2019, 353, 132-144.	4.2	30
33	Molecular dynamics investigation on the gasification of a coal particle in supercritical water. International Journal of Hydrogen Energy, 2020, 45, 4254-4267.	7.1	30
34	Mesoscale simulations of a real onshore wind power base in complex terrain: Wind farm wake behavior and power production. Energy, 2022, 241, 122873.	8.8	30
35	Direct numerical simulation and analysis of a hydrogen/air swirling premixed flame in a micro combustor. International Journal of Hydrogen Energy, 2011, 36, 13838-13849.	7.1	28
36	Influence of particle shape on liner wear in tumbling mills: A DEM study. Powder Technology, 2019, 350, 26-35.	4.2	28

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37	Analysis and development of novel data-driven drag models based on direct numerical simulations of fluidized beds. Chemical Engineering Science, 2021, 231, 116245.	3.8	27
38	Numerical investigation of two-phase flame structures in a simplified coal jet flame. Fuel, 2016, 182, 944-957.	6.4	26
39	Direct numerical simulation of turbulenceÂmodulation by particles in compressibleÂisotropic turbulence. Journal of Fluid Mechanics, 2017, 832, 438-482.	3.4	26
40	Three-dimensional full-loop numerical simulation of co-combustion of coal and refuse derived fuel in a pilot-scale circulating fluidized bed boiler. Chemical Engineering Science, 2020, 220, 115612.	3.8	25
41	Ignition dynamics of DME/methane-air reactive mixing layer under reactivity controlled compression ignition conditions: Effects of cool flames. Applied Energy, 2019, 249, 343-354.	10.1	24
42	Direct Numerical Simulation Study of an Experimental Lifted H₂/N₂ Flame. Part 1: Validation and Flame Structure. Energy & Fuels, 2012, 26, 6118-6127.	5.1	23
43	Universal Devolatilization Process Model for Numerical Simulations of Coal Combustion. Energy & Fuels, 2017, 31, 6525-6540.	5.1	22
44	Prediction of product distributions in coal devolatilization by an artificial neural network model. Combustion and Flame, 2018, 193, 283-294.	5.2	22
45	Direct numerical simulation of particle dispersion in a three-dimensional spatially developing compressible mixing layer. Physics of Fluids, 2018, 30, .	4.0	22
46	Impact of substantial wind farms on the local and regional atmospheric boundary layer: Case study of Zhangbei wind power base in China. Energy, 2019, 183, 1136-1149.	8.8	22
47	A priori assessment of convolutional neural network and algebraic models for flame surface density of high Karlovitz premixed flames. Physics of Fluids, 2021, 33, .	4.0	22
48	An efficient level set remedy approach for simulations of two-phase flow based on sigmoid function. Chemical Engineering Science, 2017, 172, 335-352.	3.8	21
49	Numerical investigation of the effects of volatile matter composition and chemical reaction mechanism on pulverized coal combustion characteristics. Fuel, 2017, 210, 695-704.	6.4	21
50	High-fidelity numerical analysis of non-premixed hydrothermal flames: Flame structure and stabilization mechanism. Fuel, 2020, 259, 116162.	6.4	21
51	Influences of secondary gas injection pattern on fluidized bed combustion process: A CFD-DEM study. Fuel, 2020, 268, 117314.	6.4	21
52	Numerical investigation of coal flamelet characteristics in a laminar counterflow with detailed chemistry. Fuel, 2017, 195, 232-242.	6.4	19
53	Large-eddy simulation of multiphase combustion jet in cross-flow using flamelet model. International Journal of Multiphase Flow, 2018, 108, 211-225.	3.4	19
54	Dynamics of triple-flames in ignition of turbulent dual fuel mixture: A direct numerical simulation study. Proceedings of the Combustion Institute, 2019, 37, 4625-4633.	3.9	18

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55	Eulerianâ€“Lagrangian direct numerical simulation of preferential accumulation of inertial particles in a compressible turbulent boundary layer. Journal of Fluid Mechanics, 2020, 903, .	3.4	18
56	Direct numerical simulation of a three-dimensional spatially evolving compressible mixing layer laden with particles. II. Turbulence anisotropy and growth rate. Physics of Fluids, 2019, 31, 083303.	4.0	17
57	Predictive models for flame evolution using machine learning: A priori assessment in turbulent flames without and with mean shear. Physics of Fluids, 2021, 33, .	4.0	16
58	A priori study of an extended flamelet/progress variable model for NO prediction in pulverized coal flames. Energy, 2019, 175, 768-780.	8.8	15
59	A finite difference discretization method for heat and mass transfer with Robin boundary conditions on irregular domains. Journal of Computational Physics, 2020, 400, 108890.	3.8	13
60	A lower-dimensional approximation model of turbulent flame stretch and its related quantities with machine learning approaches. Physics of Fluids, 2020, 32, .	4.0	13
61	Recent advances in high-fidelity simulations of pulverized coal combustion. Advanced Powder Technology, 2020, 31, 3062-3079.	4.1	13
62	Comparative Study on Different Treatments of Coal Devolatilization for Pulverized Coal Combustion Simulation. Energy & Fuels, 2020, 34, 3816-3827.	5.1	12
63	A coupled vaporization model based on temperature/species gradients for detailed numerical simulations using conservative level set method. International Journal of Heat and Mass Transfer, 2018, 127, 743-760.	4.8	11
64	Three-dimensional modeling study of the oxy-fuel co-firing of coal and biomass in a bubbling fluidized bed. Energy, 2022, 247, 123496.	8.8	11
65	Particle-Scale Simulation of Solid Mixing Characteristics of Binary Particles in a Bubbling Fluidized Bed. Energies, 2020, 13, 4442.	3.1	10
66	A DNS study on temporally evolving jet flames of pulverized coal/biomass co-firing with different blending ratios. Proceedings of the Combustion Institute, 2021, 38, 4005-4012.	3.9	10
67	Full-loop simulation of a 1 MWth pilot-scale chemical looping combustion system. Chemical Engineering Science, 2022, 249, 117301.	3.8	10
68	Numerical Studies of Coal Devolatilization Characteristics with Gas Temperature Fluctuation. Energy & Fuels, 2018, 32, 8760-8767.	5.1	9
69	Large eddy simulations and analysis of NO emission characteristics in a laboratory pulverized coal flame. Fuel, 2020, 279, 118316.	6.4	9
70	Simulated potential wind power sensitivity to the planetary boundary layer parameterizations combined with various topography datasets in the weather research and forecasting model. Energy, 2022, 239, 122047.	8.8	9
71	An a priori study of different tabulation methods for turbulent pulverised coal combustion. Combustion Theory and Modelling, 2018, 22, 505-530.	1.9	8
72	Novel Sensitivity Study for Biomass Directional Devolatilization by Random Forest Models. Energy & Fuels, 2020, 34, 8414-8423.	5.1	8

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73	Direct numerical simulations of turbulent non-premixed flames: Assessment of turbulence within swirling flows. Physics of Fluids, 2021, 33, 015112.	4.0	8
74	Particle-scale study of coal-direct chemical looping combustion (CLC). Energy, 2022, 250, 123859.	8.8	8
75	Experimental and Kinetic Studies on Tobacco Pyrolysis under a Wide Range of Heating Rates. ACS Omega, 2022, 7, 1420-1427.	3.5	8
76	Evaluation of real-fluid flamelet/progress variable model for laminar hydrothermal flames. Journal of Supercritical Fluids, 2019, 143, 232-241.	3.2	7
77	Direct numerical simulation of turbulence modulation by premixed flames in a model annular swirling combustor. Proceedings of the Combustion Institute, 2021, 38, 3013-3020.	3.9	7
78	Three-dimensional simulation of a gas-fueled chemical looping combustion system with dual circulating fluidized bed reactors. Energy, 2022, 246, 123293.	8.8	7
79	Effects of solid particles and wall roughness on turbulent boundary layer in a two-phase horizontal channel flow. Powder Technology, 2019, 353, 48-56.	4.2	6
80	Structure of tetrabrachial flames in non-premixed autoigniting dimethyl ether/air mixtures. Fuel, 2018, 232, 90-98.	6.4	5
81	Fluctuations of thermodynamic variables in compressible isotropic turbulence laden with inertial particles. Physics of Fluids, 2021, 33, .	4.0	5
82	Molecular dynamics investigation on supercritical water oxidation of a coal particle. Journal of Analytical and Applied Pyrolysis, 2021, 159, 105291.	5.5	5
83	Analysis of Gas-Assisted Pulverized Coal Combustion in Cambridge Coal Burner CCB1 Using FPV-LES. Energy & Fuels, 2020, 34, 7477-7489.	5.1	5
84	Molecular Dynamic Study of a Pyrolysis Process of a Coal Particle in Different Environments. Journal of Energy Resources Technology, Transactions of the ASME, 2020, 142, .	2.3	5
85	Experimental study of the wake characteristics of a two-blade horizontal axis wind turbine by time-resolved PIV. Science China Technological Sciences, 2017, 60, 593-601.	4.0	4
86	Imposing mixed Dirichlet-Neumann-Robin boundary conditions on irregular domains in a level set/ghost fluid based finite difference framework. Computers and Fluids, 2021, 214, 104772.	2.5	4
87	A Priori Modeling of NO Formation with Principal Component Analysis and the Convolutional Neural Network in the Context of Large Eddy Simulation. Energy & Fuels, 2021, 35, 20272-20283.	5.1	4
88	Numerical simulation of gas-particle dense flow with LES/VFDF/SC model. Computers and Fluids, 2019, 183, 43-52.	2.5	3
89	Dual-Scale Flamelet/Progress Variable Approach for Prediction of Polycyclic Aromatic Hydrocarbons Formation under the Condition of Coal Combustion. Energy & Fuels, 2020, 34, 10010-10018.	5.1	2
90	Large eddy simulation of Cambridge bluff-body coal (CCB2) flames with a flamelet progress variable model. Proceedings of the Combustion Institute, 2021, 38, 5347-5354.	3.9	2

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91	Numerical Simulation of a 10 kW Gas-Fueled Chemical Looping Combustion Unit. Energies, 2022, 15, 1973.	3.1	2
92	Hybrid Flamelet/Progress Variable Approach for NO Prediction in Pulverized Coal Flames. Energy & Fuels, 2020, 34, 10000-10009.	5.1	0