

Shibo Kuang

List of Publications by Year in descending order

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papers

3,925
citations

126907

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docs citations

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times ranked

1517
citing authors

#	ARTICLE	IF	CITATIONS
1	Discrete particle simulation of particle–fluid flow: model formulations and their applicability. <i>Journal of Fluid Mechanics</i> , 2010, 661, 482-510.	3.4	605
2	CFD-DEM modelling and simulation of pneumatic conveying: A review. <i>Powder Technology</i> , 2020, 365, 186-207.	4.2	166
3	Review on Modeling and Simulation of Blast Furnace. <i>Steel Research International</i> , 2018, 89, 1700071.	1.8	133
4	Numerical study of liquid–gas–solid flow in classifying hydrocyclones: Effect of feed solids concentration. <i>Minerals Engineering</i> , 2012, 31, 17-31.	4.3	112
5	Computational Investigation of Horizontal Slug Flow in Pneumatic Conveying. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 470-480.	3.7	109
6	CFD-DEM modelling of hydraulic conveying of solid particles in a vertical pipe. <i>Powder Technology</i> , 2019, 354, 893-905.	4.2	97
7	Numerical analysis of hydrocyclones with different conical section designs. <i>Minerals Engineering</i> , 2014, 62, 74-84.	4.3	92
8	Computational investigation of the effect of particle density on the multiphase flows and performance of hydrocyclone. <i>Minerals Engineering</i> , 2016, 90, 55-69.	4.3	90
9	Numerical Simulation of the Interaction Between Supersonic Oxygen Jets and Molten Slag–Metal Bath in Steelmaking BOF Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015, 46, 1494-1509.	2.1	85
10	Numerical analysis of hydrocyclones with different vortex finder configurations. <i>Minerals Engineering</i> , 2014, 63, 125-138.	4.3	83
11	Application of periodic boundary conditions to CFD-DEM simulation of gas–solid flow in pneumatic conveying. <i>Chemical Engineering Science</i> , 2013, 93, 214-228.	3.8	78
12	DEM-based virtual experimental blast furnace: A quasi-steady state model. <i>Powder Technology</i> , 2017, 314, 557-566.	4.2	74
13	Computational Study of Flow Regimes in Vertical Pneumatic Conveying. <i>Industrial & Engineering Chemistry Research</i> , 2009, 48, 6846-6858.	3.7	72
14	Numerical study of horizontal pneumatic conveying: Effect of material properties. <i>Powder Technology</i> , 2014, 251, 15-24.	4.2	69
15	Micromechanic modeling and analysis of the flow regimes in horizontal pneumatic conveying. <i>AIChE Journal</i> , 2011, 57, 2708-2725.	3.6	68
16	Numerical study of hot charge operation in ironmaking blast furnace. <i>Minerals Engineering</i> , 2014, 63, 45-56.	4.3	63
17	Computational Study of the Multiphase Flow and Performance of Hydrocyclones: Effects of Cyclone Size and Spigot Diameter. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 16019-16031.	3.7	61
18	Computational analysis and optimization of hydrocyclone size to mitigate adverse effect of particle density. <i>Separation and Purification Technology</i> , 2017, 174, 251-263.	7.9	59

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19	Gasâ€“Solid Flow and Energy Dissipation in Inclined Pneumatic Conveying. Industrial & Engineering Chemistry Research, 2012, 51, 14289-14302.	3.7	53
20	Prediction of wear and its effect on the multiphase flow and separation performance of dense medium cyclone. Minerals Engineering, 2014, 56, 91-101.	4.3	53
21	CFD modeling and analysis of the multiphase flow and performance of dense medium cyclones. Minerals Engineering, 2014, 62, 43-54.	4.3	48
22	Modeling and analysis of flow regimes in hydraulic conveying of coarse particles. Powder Technology, 2020, 373, 543-554.	4.2	48
23	Dissection Investigation of Ti(C,N) Behavior in Blast Furnace Hearth during Vanadium Titano-magnetite Smelting. ISIJ International, 2017, 57, 48-54.	1.4	47
24	Investigation on vertical plug formation of coarse particles in a non-mechanical feeder by CFD-DEM coupling method. Powder Technology, 2018, 332, 79-89.	4.2	45
25	Particle shape effect on bubble dynamics in central air jet pseudo-2D fluidized beds: A CFD-DEM study. Chemical Engineering Science, 2019, 201, 448-466.	3.8	44
26	Discrete particle simulation of jet-induced cratering of a granular bed. Powder Technology, 2013, 239, 319-336.	4.2	42
27	Modeling the Multiphase Flow in Hydrocyclones Using the Coarse-Grained Volume of Fluidâ€“Discrete Element Method and Mixture-Discrete Element Method Approaches. Industrial & Engineering Chemistry Research, 2018, 57, 9641-9655.	3.7	41
28	Numerical investigation of burden distribution in ironmaking blast furnace. Powder Technology, 2019, 353, 385-397.	4.2	40
29	Particle scale modelling of the multiphase flow in a dense medium cyclone: Effect of fluctuation of solids flowrate. Minerals Engineering, 2012, 33, 34-45.	4.3	39
30	CFD simulation of dilute-phase pneumatic conveying of powders. Powder Technology, 2019, 349, 70-83.	4.2	38
31	Determination of Cavity Dimensions Induced by Impingement of Gas Jets onto a Liquid Bath. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 116-126.	2.1	36
32	CFD-DEM analysis of hydraulic conveying bends: Interaction between pipe orientation and flow regime. Powder Technology, 2021, 392, 619-631.	4.2	35
33	Numerical investigation of the separation behaviours of fine particles in large dense medium cyclones. International Journal of Mineral Processing, 2015, 142, 35-45.	2.6	34
34	Computational Investigation of the Splashing Phenomenon Induced by the Impingement of Multiple Supersonic Jets onto a Molten Slagâ€“Metal Bath. Industrial & Engineering Chemistry Research, 2016, 55, 3630-3640.	3.7	34
35	CFD-DEM Simulation of Large-Scale Dilute-Phase Pneumatic Conveying System. Industrial & Engineering Chemistry Research, 2020, 59, 4150-4160.	3.7	34
36	A new point-locating algorithm under three-dimensional hybrid meshes. International Journal of Multiphase Flow, 2008, 34, 1023-1030.	3.4	33

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37	Three-Dimensional Modeling of an Ironmaking Blast Furnace with a Layered Cohesive Zone. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 258-275.	2.1	33
38	CFD-DEM study of particle-fluid flow and retention performance of sand screen. Powder Technology, 2021, 378, 410-420.	4.2	33
39	Lattice Boltzmann investigation of the wake effect on the interaction between particle and power-law fluid flow. Powder Technology, 2018, 326, 208-221.	4.2	32
40	Coalescence Characteristics of Supersonic Jets From Multi-Nozzle Oxygen Lance in Steelmaking BOF. Steel Research International, 2015, 86, 1517-1529.	1.8	31
41	Numerical Investigation of Novel Oxygen Blast Furnace Ironmaking Processes. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 1995-2010.	2.1	31
42	Numerical Investigation of Hydrocyclone Feed Inlet Configurations for Mitigating Particle Misplacement. Industrial & Engineering Chemistry Research, 2019, 58, 16823-16833.	3.7	31
43	Prediction of separation performance of hydrocyclones by a PC-based model. Separation and Purification Technology, 2019, 211, 141-150.	7.9	31
44	Capillary forces on wet particles with a liquid bridge transition from convex to concave. Powder Technology, 2020, 363, 59-73.	4.2	31
45	Computational study on the behaviours of supersonic jets and their impingement onto molten liquid free surface in BOF steelmaking. Canadian Metallurgical Quarterly, 2014, 53, 340-351.	1.2	30
46	Numerical modeling and analysis of hydrogen blast furnace ironmaking process. Fuel, 2022, 323, 124368.	6.4	28
47	Visual lab tests: Proppant transportation in a 3D printed vertical hydraulic fracture with two-sided rough surfaces. Journal of Petroleum Science and Engineering, 2021, 196, 107738.	4.2	27
48	Direct numerical simulation of turbulent non-Newtonian flow using OpenFOAM. Applied Mathematical Modelling, 2019, 72, 50-67.	4.2	26
49	Lattice Boltzmann investigation of non-Newtonian fluid flow through a packed bed of uniform spheres. Powder Technology, 2019, 343, 225-236.	4.2	26
50	Bubble dynamics in bubbling fluidized beds of ellipsoidal particles. AIChE Journal, 2019, 65, e16736.	3.6	25
51	Numerical investigation of oxygen-enriched operations in blast furnace ironmaking. Fuel, 2021, 296, 120662.	6.4	25
52	Model A vs. Model B in the modelling of particle-fluid flow. Powder Technology, 2018, 329, 47-54.	4.2	24
53	Turbulent coarse-particle suspension flow: Measurement and modelling. Powder Technology, 2020, 373, 647-659.	4.2	24
54	A process scaling approach for CFD-DEM modelling of thermochemical behaviours in moving bed reactors. Fuel Processing Technology, 2020, 202, 106369.	7.2	24

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55	A DEM-based approach for analyzing energy transitions in granular and particle-fluid flows. <i>Chemical Engineering Science</i> , 2017, 161, 67-79.	3.8	23
56	Numerical simulation of the in-line pressure jig unit in coal preparation. <i>Minerals Engineering</i> , 2010, 23, 301-312.	4.3	22
57	Investigation of mini-hydrocyclone performance in removing small-size microplastics. <i>Particuology</i> , 2022, 71, 1-10.	3.6	22
58	Numerical simulation of dense-phase pneumatic transport of powder in horizontal pipes. <i>Powder Technology</i> , 2020, 361, 62-73.	4.2	21
59	Lattice Boltzmann investigation on fluid flows through packed beds: Interaction between fluid rheology and bed properties. <i>Powder Technology</i> , 2020, 369, 248-260.	4.2	21
60	LBM-LES Simulation of the Transient Asymmetric Flow and Free Surface Fluctuations under Steady Operating Conditions of Slab Continuous Casting Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017, 48, 456-470.	2.1	20
61	Particle scale modelling of bubble properties in central air jet gas-solid fluidized beds. <i>Powder Technology</i> , 2018, 339, 70-80.	4.2	20
62	A Transient Discrete Element Method-Based Virtual Experimental Blast Furnace Model. <i>Steel Research International</i> , 2020, 91, 2000071.	1.8	20
63	Transferring Characteristics of Momentum/Energy during Oxygen Jetting into the Molten Bath in BOFs: A Computational Exploration. <i>Steel Research International</i> , 2016, 87, 288-300.	1.8	19
64	Numerical Investigation of the Inner Profiles of Ironmaking Blast Furnaces: Effect of Throat-to-Belly Diameter Ratio. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017, 48, 602-618.	2.1	19
65	Effect of van der Waals force on bubble dynamics in bubbling fluidized beds of ellipsoidal particles. <i>Chemical Engineering Science</i> , 2020, 212, 115343.	3.8	19
66	Discrete particle simulation of heterogeneous gas-solid flows in riser and downer reactors. <i>Powder Technology</i> , 2020, 375, 221-232.	4.2	19
67	CFD Modeling and Analysis of Particle Size Reduction and Its Effect on Blast Furnace Ironmaking. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2021, 52, 138-155.	2.1	18
68	Characteristics of red mud slurry flow in carbonation reactor. <i>Powder Technology</i> , 2017, 311, 66-76.	4.2	17
69	Turbulent coarse-particle non-Newtonian suspension flow in a pipe. <i>International Journal of Multiphase Flow</i> , 2021, 142, 103698.	3.4	16
70	Numerical investigation of elbow erosion in the conveying of dry and wet particles. <i>Powder Technology</i> , 2021, 393, 265-279.	4.2	16
71	Particle shape effect on hydrodynamics and heat transfer in spouted bed: A CFD-DEM study. <i>Particuology</i> , 2022, 69, 10-21.	3.6	16
72	Modeling of the variations of permeate flux, concentration polarization, and solute rejection in nanofiltration system. <i>AIChE Journal</i> , 2019, 65, 1076-1087.	3.6	15

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73	Understanding Characteristic of Abrasion of Refractory Lining Caused by Bath Oscillation in BOF Steelmaking. <i>Jom</i> , 2016, 68, 3126-3133.	1.9	14
74	Mathematical Modeling of Liquid Slag Layer Fluctuation and Slag Droplets Entrainment in a Continuous Casting Mold Based on VOF-LES Method. <i>High Temperature Materials and Processes</i> , 2017, 36, 551-565.	1.4	14
75	Orientation of spheroidal particles in single jet bubbling fluidized beds. <i>Powder Technology</i> , 2020, 361, 363-373.	4.2	14
76	On a modified pseudopotential lattice Boltzmann model for multicomponent flows. <i>Applied Mathematics Letters</i> , 2021, 114, 106926.	2.7	14
77	Multi-objective optimization of hydrocyclone by combining mechanistic and data-driven models. <i>Powder Technology</i> , 2022, 407, 117674.	4.2	14
78	Experimental and numerical analysis of Chinese hamster ovary cell viability loss in mini-hydrocyclones. <i>Separation and Purification Technology</i> , 2022, 295, 121203.	7.9	13
79	CFD-DEM evaluation of screen types for sand control applications. <i>Powder Technology</i> , 2022, 404, 117496.	4.2	13
80	A generalized lattice Boltzmann model for solid-liquid phase change with variable density and thermophysical properties. <i>Applied Mathematics Letters</i> , 2020, 104, 106250.	2.7	11
81	Numerical Simulation of 3D Asymmetric Inner States of an Ironmaking Blast Furnace Resulting from Tuyere Closure. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2021, 52, 2642-2658.	2.1	11
82	Numerical Investigation of Gas-Liquid Flow in a Newly Developed Carbonation Reactor. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 380-391.	3.7	10
83	Numerical Simulation of the Pilot-Scale High-Density Circulating Fluidized Bed Riser. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 3184-3197.	3.7	10
84	Experimental investigation of the leak-off effect on proppant transportation and distribution in a vertical fracture. <i>Journal of Natural Gas Science and Engineering</i> , 2022, 97, 104358.	4.4	10
85	Optimization of pulverized coal injection (PCI) rate in an ironmaking blast furnace by an integrated process model. <i>Fuel</i> , 2022, 315, 122832.	6.4	10
86	A Reaction Method for Estimating Gibbs Energy and Enthalpy of Formation of Complex Minerals. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017, 48, 1123-1133.	2.1	8
87	An Integrated Mathematical Model for Ironmaking Blast Furnace. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2020, 51, 2211-2229.	2.1	8
88	Experimental and numerical study of coarse particle conveying in the small absorber sphere system: Overview and some recent CFD-DEM simulations. <i>Nuclear Engineering and Design</i> , 2020, 357, 110420.	1.7	7
89	Numerical Investigation of Shaft Gas Injection Operation in Oxygen-Enriched Ironmaking Blast Furnace. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2022, 53, 2712-2734.	2.1	7
90	Numerical investigation of non-uniform sand retention behavior in sand screens. <i>Powder Technology</i> , 2022, 395, 604-617.	4.2	5

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91	Microstructure and Wear Resistance of a Novel Mo-Ni-Si System Intermetallic Composite with Ductile Mo Phase. <i>Materials Transactions</i> , 2016, 57, 721-725.	1.2	4
92	Dense non-Newtonian suspension flow: Effect of solids properties and pipe size. <i>AIChE Journal</i> , 0, , .	3.6	3
93	How Particles with Sizes Close to Cut Size Affect the Multiphase Flows and Performance of Hydrocyclones. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 18477-18489.	3.7	3
94	Flow Regimes in Vertical Pneumatic Conveying. , 2009, , .		2
95	Numerical study of the influence of particle friction on horizontal pneumatic conveying. , 2013, , .		2
96	Numerical study of vertical pneumatic conveying: Effect of friction coefficient. , 2013, , .		2
97	The computation of strain rate tensor in multiple-relaxation-time lattice Boltzmann model. <i>Computers and Mathematics With Applications</i> , 2018, 75, 2888-2902.	2.7	1
98	Numerical study of jet-induced cratering of a granular bed: Effect of gravity. , 2013, , .		0
99	Pump and Pumping System. <i>Advances in Mechanical Engineering</i> , 2014, 6, 827456.	1.6	0