

# Jian Xu

## List of Publications by Year in descending order

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Version: 2024-02-01

62  
papers

1,126  
citations

361413

20  
h-index

454955

30  
g-index

64  
all docs

64  
docs citations

64  
times ranked

690  
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of the Residual Iron on the Erosion of Carbon Bricks in a 4000 m <sup>3</sup> Blast Furnace Hearth: From the Measured Properties to the Proposed Mechanisms. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2022, 53, 931.	2.1	3
2	A novel method for removing organic sulfur from high-sulfur coal: Migration of organic sulfur during microwave treatment with NaOH-H <sub>2</sub> O <sub>2</sub> . Fuel, 2021, 289, 119800.	6.4	70
3	Image-based prediction of granular flow behaviors in a wedge-shaped hopper by combining DEM and deep learning methods. Powder Technology, 2021, 383, 159-166.	4.2	16
4	Quest for a pristine unreconstructed $\text{SrTiO}_3$ surface: An atomically resolved study via noncontact atomic force microscopy. Physical Review B, 2021, 103, .	3.2	14
5	Utilization and impacts of hydrogen in the ironmaking processes: A review from lab-scale basics to industrial practices. International Journal of Hydrogen Energy, 2021, 46, 26646-26664.	7.1	46
6	Chemical Thermodynamics and Kinetics of Thiophenic Sulfur Removed from Coal by Microwave: A Density Functional Theory Study. Journal of Sustainable Metallurgy, 2021, 7, 1379-1392.	2.3	7
7	Prediction of structural and electronic properties of Cl <sub>2</sub> adsorbed on TiO <sub>2</sub> (100) surface with C or CO in fluidized chlorination process: A first-principles study. Journal of Central South University, 2021, 28, 29-38.	3.0	9
8	Influence of particle packed pattern on the transient granular flow in a wedge-shaped hopper. Advanced Powder Technology, 2020, 31, 670-677.	4.1	7
9	Strength degradation mechanism of iron coke prepared by mixed coal and Fe <sub>2</sub> O <sub>3</sub> . Journal of Analytical and Applied Pyrolysis, 2020, 150, 104897.	5.5	62
10	Numerical Analysis of Effects of Different Blast Parameters on the Gas and Burden Distribution Characteristics Inside Blast Furnace. ISIJ International, 2020, 60, 856-864.	1.4	5
11	Transient shrinkage behavior of wustite-centered binary/ternary/quaternary/quinary-component oxide packed beds in a reducing atmosphere up to 1773ÅK. Ceramics International, 2020, 46, 11854-11860.	4.8	3
12	Theoretical Parameter-Free Analysis Model for Temperature-Programmed Desorption (TPD) Spectra. ACS Omega, 2020, 5, 4148-4157.	3.5	7
13	Transformation of organic sulfur and its functional groups in nantong and laigang coal under microwave irradiation. Journal of Computational Chemistry, 2019, 40, 2749-2760.	3.3	15
14	Causes of Particle Trajectory Fluctuation on the Rotating Chute in Circumferential Direction at Bell-less Top with Parallel Type Hoppers. ISIJ International, 2019, 59, 1527-1533.	1.4	6
15	Self-limited growth of an oxyhydroxide phase at the Fe <sub>3</sub> O <sub>4</sub> (001) surface in liquid and ambient pressure water. Journal of Chemical Physics, 2019, 151, 154702.	3.0	15
16	Effect of cross-section shape of rotating chute on particle movement and distribution at the throat of a bell-less top blast furnace. Particuology, 2019, 44, 194-206.	3.6	18
17	Hydrogen impact on the shrinkage behaviors of wustite packed beds above 900Å°C. International Journal of Hydrogen Energy, 2019, 44, 19555-19562.	7.1	6
18	Carbon formation on the surface during the reduction of iron oxide particles by CO and CO/H <sub>2</sub> mixtures. Chemical Engineering Science, 2019, 205, 238-247.	3.8	8

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19	Fabrication of graphite via electrochemical conversion of CO <sub>2</sub> in a CaCl <sub>2</sub> based molten salt at a relatively low temperature. RSC Advances, 2019, 9, 8585-8593.	3.6	11
20	Phase-field method for growth of iron whiskers in the presence of CO gas convection. Journal of Iron and Steel Research International, 2019, 26, 829-837.	2.8	4
21	The competitive adsorption behavior of CO and H <sub>2</sub> molecules on FeO surface in the reduction process. International Journal of Hydrogen Energy, 2019, 44, 6427-6436.	7.1	22
22	Effects of Blast Furnace Main Trough Geometry on the Slag-Metal Separation Based on Numerical Simulation. Steel Research International, 2019, 90, 1800383.	1.8	6
23	DEM study on ternary-sized particle segregation during the sinter burden charging process. Powder Technology, 2019, 343, 422-435.	4.2	14
24	Quantitative comparison of binary particle mass and size segregation between serial and parallel type hoppers of blast furnace bell-less top charging system. Powder Technology, 2018, 328, 245-255.	4.2	26
25	Effects of bottom base shapes on burden profiles and burden size distributions in the upper part of a COREX shaft furnace based on DEM. Advanced Powder Technology, 2018, 29, 1014-1024.	4.1	24
26	Effect of Density Difference on Particle Segregation Behaviors at Bell-Less Top Blast Furnace with Parallel-Type Hopper. Minerals, Metals and Materials Series, 2018, , 391-399.	0.4	2
27	Improving the property of calcium ferrite using a sonochemical method. Ultrasonics Sonochemistry, 2018, 43, 110-113.	8.2	5
28	Wetting Behavior of Calcium Ferrite Slags on Cristobalite Substrates. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 1331-1345.	2.1	5
29	Numerical Investigation of Coke Collapse and Size Segregation in the Bell-less Top Blast Furnace. ISIJ International, 2018, 58, 2018-2024.	1.4	14
30	Solidification of Calcium Ferrite Melt Using Ultrasonic Vibration: Effect and Mechanism. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 2658-2666.	2.1	3
31	Solidification Behavior of Calcium Ferrite Under Ultrasonic Vibration. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 3200-3210.	2.1	0
32	Transient Interaction Between Reduction and Slagging Reactions of Wustite in Simulated Cohesive Zone of Blast Furnace. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 2308-2321.	2.1	10
33	Structural transformation of fluid phase extracted from coal matrix during thermoplastic stage of coal pyrolysis. Fuel, 2018, 232, 374-383.	6.4	40
34	Microscopic behavior and metallic iron morphology from reduction of iron oxide by CO/H <sub>2</sub> in a fluidized bed. Journal of Applied Crystallography, 2018, 51, 1641-1651.	4.5	17
35	Innovative evaluation of CO-H <sub>2</sub> interaction during gaseous wustite reduction controlled by external gas diffusion. International Journal of Hydrogen Energy, 2017, 42, 14047-14057.	7.1	12
36	Effect of ultrasonic vibration treatment on solid-state reactions between Fe <sub>2</sub> O <sub>3</sub> and CaO. Ultrasonics Sonochemistry, 2017, 38, 281-288.	8.2	19

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37	Transient local segregation grids of binary size particles discharged from a wedge-shaped hopper. Powder Technology, 2017, 308, 273-289.	4.2	30
38	Effects of annealing temperature and time on decrepitation of lump coals and characteristics of resultant coal chars. Asia-Pacific Journal of Chemical Engineering, 2017, 12, 732-744.	1.5	2
39	Effect of $TiO_2$ on the Liquid Zone and Apparent Viscosity of $SiO_2$ - $CaO$ -8wt%MgO-14wt%Al $_2O_3$ -O $_3$ System. ISIJ International, 2017, 57, 31-36.	1.4	31
40	Influences of $CaO/SiO_2/MgO/Al_2O_3$ on the Formation Behavior of FeO-Bearing Primary-Slags in Blast Furnace. Minerals, Metals and Materials Series, 2017, , 251-258.	0.4	1
41	Numerical simulation of iron whisker growth with changing oxygen content in iron oxide using phase-field method. Computational Materials Science, 2016, 125, 263-270.	3.0	10
42	The adsorption behaviors of CO and H $_2$ on FeO surface: A density functional theory study. Powder Technology, 2016, 303, 100-108.	4.2	35
43	Numerical investigation of particle mixing and segregation in spouted beds with binary mixtures of particles. Powder Technology, 2016, 301, 1159-1171.	4.2	24
44	Dissolution Kinetics of $SiO_2$ into $CaO$ - $Fe_2O_3$ - $SiO_2$ Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 2063-2071.	2.1	13
45	Effects of Additives on Sulfur Transformation, Crystallite Structure and Properties of Coke during Coking Of High-sulfur Coal. Journal of Iron and Steel Research International, 2015, 22, 897-904.	2.8	15
46	The Dissolution Kinetics of $Al_2O_3$ into Molten $CaO$ - $Al_2O_3$ - $Fe_2O_3$ Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 2106-2117.	2.1	15
47	Numerical Analysis on Effect of Areal Gas Distribution Pipe on Characteristics Inside COREX Shaft Furnace. Jom, 2014, 66, 1265-1276.	1.9	18
48	DEM simulation of particle size segregation behavior during charging into and discharging from a Paul-Wurth type hopper. Chemical Engineering Science, 2013, 99, 314-323.	3.8	67
49	Numerical Analysis of the Characteristics Inside Pre-reduction Shaft Furnace and Its Operation Parameters Optimization by Using a Three-Dimensional Full Scale Mathematical Model. ISIJ International, 2013, 53, 576-582.	1.4	34
50	Sintering Properties and Optimal Blending Schemes of Iron Ores. Journal of Iron and Steel Research International, 2012, 19, 1-5.	2.8	26
51	Ore-blending optimization model for sintering process based on characteristics of iron ores. International Journal of Minerals, Metallurgy and Materials, 2012, 19, 217-224.	4.9	30
52	Reducing gas composition optimization for COREX® pre-reduction shaft furnace based on CO-H $_2$ mixture. Procedia Engineering, 2011, 15, 4702-4706.	1.2	9
53	Low Temperature Reduction Degradation Characteristics of Sinter, Pellet and Lump Ore. Journal of Iron and Steel Research International, 2011, 18, 20-24.	2.8	26
54	Improvements on Calculation Model of Theoretical Combustion Temperature in a Blast Furnace. Journal of Iron and Steel Research International, 2011, 18, 1-5.	2.8	11

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55	Coke Collapse Model and Collapse Profile Variation Law for Bell-Less Top BF. Journal of Iron and Steel Research International, 2011, 18, 8-12.	2.8	42
56	Prediction of Pre-reduction Shaft Furnace with Top Gas Recycling Technology Aiming to Cut Down CO2 Emission. ISIJ International, 2011, 51, 1344-1352.	1.4	27
57	Numerical simulation of thermal and iron ore reduction conditions in pre-reduction shaft furnace based on reducing gas composition and temperature. Journal of Shanghai Jiaotong University (Science), 2011, 16, 375-379.	0.9	4
58	Circumferential burden distribution behaviors at bell-less top blast furnace with parallel type hoppers. Applied Mathematical Modelling, 2011, 35, 1439-1455.	4.2	41
59	Ore-proportioning optimization technique with high proportion of Yandi ore in sintering. International Journal of Minerals, Metallurgy and Materials, 2010, 17, 11-16.	4.9	13
60	Basic Characteristics of the Shaft Furnace of COREX <sup>®</sup> Smelting Reduction Process Based on Iron Oxides Reduction Simulation. ISIJ International, 2010, 50, 1032-1039.	1.4	50
61	Application of an Intelligent Integrated Planning and Scheduling System for DHCR. , 2009, , .		1
62	An Electric Circuit Analogy Model for Analyzing the Relation Between CO and H2 in Interfacial Reduction Reactions. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 0, , .	2.1	0