Jian Xu

List of Publications by Year in descending order

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	A novel method for removing organic sulfur from high-sulfur coal: Migration of organic sulfur during microwave treatment with NaOH-H2O2. Fuel, 2021, 289, 119800.	6.4	70
2	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
3	Strength degradation mechanism of iron coke prepared by mixed coal and Fe2O3. Journal of Analytical and Applied Pyrolysis, 2020, 150, 104897.	5.5	62
4	Basic Characteristics of the Shaft Furnace of COREXÂ® Smelting Reduction Process Based on Iron Oxides Reduction Simulation. ISIJ International, 2010, 50, 1032-1039.	1.4	50
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	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
7	Circumferential burden distribution behaviors at bell-less top blast furnace with parallel type hoppers. Applied Mathematical Modelling, 2011, 35, 1439-1455.	4.2	41
8	Structural transformation of fluid phase extracted from coal matrix during thermoplastic stage of coal pyrolysis. Fuel, 2018, 232, 374-383.	6.4	40
9	The adsorption behaviors of CO and H2 on FeO surface: A density functional theory study. Powder Technology, 2016, 303, 100-108.	4.2	35
10	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
11	Effect of TiO₂ on the Liquid Zone and Apparent Viscosity of SiO₂-CaO-8wt%MgO-14wt%Al₂O₃ System. ISIJ International, 2017, 57, 31-36.	1.4	31
12	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
13	Transient local segregation grids of binary size particles discharged from a wedge-shaped hopper. Powder Technology, 2017, 308, 273-289.	4.2	30
14	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
15	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
16	Sintering Properties and Optimal Blending Schemes of Iron Ores. Journal of Iron and Steel Research International, 2012, 19, 1-5.	2.8	26
17	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
18	Numerical investigation of particle mixing and segregation in spouted beds with binary mixtures of particles. Powder Technology, 2016, 301, 1159-1171.	4.2	24

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19	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
20	The competitive adsorption behavior of CO and H2 molecules on FeO surface in the reduction process. International Journal of Hydrogen Energy, 2019, 44, 6427-6436.	7.1	22
21	Effect of ultrasonic vibration treatment on solid-state reactions between Fe2O3 and CaO. Ultrasonics Sonochemistry, 2017, 38, 281-288.	8.2	19
22	Numerical Analysis on Effect of Areal Gas Distribution Pipe on Characteristics Inside COREX Shaft Furnace. Jom, 2014, 66, 1265-1276.	1.9	18
23	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
24	Microscopic behavior and metallic iron morphology from reduction of iron oxide by CO/H₂in a fluidized bed. Journal of Applied Crystallography, 2018, 51, 1641-1651.	4.5	17
25	Image-based prediction of granular flow behaviors in a wedge-shaped hopper by combing DEM and deep learning methods. Powder Technology, 2021, 383, 159-166.	4.2	16
26	The Dissolution Kinetics of Al2O3 into Molten CaO-Al2O3-Fe2O3 Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 2106-2117.	2.1	15
27	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
28	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
29	Self-limited growth of an oxyhydroxide phase at the Fe3O4(001) surface in liquid and ambient pressure water. Journal of Chemical Physics, 2019, 151, 154702.	3.0	15
30	Numerical Investigation of Coke Collapse and Size Segregation in the Bell-less Top Blast Furnace. ISIJ International, 2018, 58, 2018-2024.	1.4	14
31	DEM study on ternary-sized particle segregation during the sinter burden charging process. Powder Technology, 2019, 343, 422-435.	4.2	14
32	Quest for a pristine unreconstructed <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> surface: An atomically resolved study via noncontact atomic force microscopy. Physical Review B, 2021, 103, .	3.2	14
33	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
34	Dissolution Kinetics of SiO2 into CaO-Fe2O3-SiO2 Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 2063-2071.	2.1	13
35	Innovative evaluation of COâ€“H2 interaction during gaseous wustite reduction controlled by external gas diffusion. International Journal of Hydrogen Energy, 2017, 42, 14047-14057.	7.1	12
36	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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37	Fabrication of graphite via electrochemical conversion of CO2 in a CaCl2 based molten salt at a relatively low temperature. RSC Advances, 2019, 9, 8585-8593.	3.6	11
38	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
39	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
40	Reducing gas composition optimization for COREXÂ® pre-reduction shaft furnace based on CO-H2 mixture. Procedia Engineering, 2011, 15, 4702-4706.	1.2	9
41	Prediction of structural and electronic properties of Cl2 adsorbed on TiO2(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
42	Carbon formation on the surface during the reduction of iron oxide particles by CO and CO/H2 mixtures. Chemical Engineering Science, 2019, 205, 238-247.	3.8	8
43	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
44	Theoretical Parameter-Free Analysis Model for Temperature-Programmed Desorption (TPD) Spectra. ACS Omega, 2020, 5, 4148-4157.	3.5	7
45	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
46	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
47	Hydrogen impact on the shrinkage behaviors of wustite packed beds above 900ÂÂ°C. International Journal of Hydrogen Energy, 2019, 44, 19555-19562.	7.1	6
48	Effects of Blast Furnace Main Trough Geometry on the Slagâ€Metal Separation Based on Numerical Simulation. Steel Research International, 2019, 90, 1800383.	1.8	6
49	Improving the property of calcium ferrite using a sonochemical method. Ultrasonics Sonochemistry, 2018, 43, 110-113.	8.2	5
50	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
51	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
52	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
53	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
54	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

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55	Transient shrinkage behavior of wustite-centered binary/ternary/quaternary/quinary-component oxide packed beds in a reducing atmosphere up to 1773ÂK. Ceramics International, 2020, 46, 11854-11860.	4.8	3
56	Influence of the Residual Iron on the Erosion of Carbon Bricks in a 4000 m3 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
57	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
58	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
59	Application of an Intelligent Integrated Planning and Scheduling System for DHCR. , 2009, , .		1
60	Influences of CaO/SiO2/MgO/Al2O3 on the Formation Behavior of FeO-Bearing Primary-Slags in Blast Furnace. Minerals, Metals and Materials Series, 2017, , 251-258.	0.4	1
61	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
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