

Cheng Qiang

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

107
papers

999
citations

17
h-index

27
g-index

112
ext. papers

1,348
ext. citations

3.4
avg, IF

4.79
L-index

#	Paper	IF	Citations
107	Experimental and molecular dynamics examination of the interface interaction between magnesium oxide and magnetite in a high temperature oxidation environment. <i>Materials and Design</i> , 2022 , 215, 110434	8.1	0
106	A density functional theory study on the adsorption reaction mechanism of double CO on the surface of graphene defects.. <i>Journal of Molecular Modeling</i> , 2022 , 28, 118	2	1
105	Predictive Modeling of Blast Furnace Gas Utilization Rate Using Different Data Pre-Processing Methods. <i>Metals</i> , 2022 , 12, 535	2.3	0
104	Feasibility Study of Bio-Sludge Hydrochar as Blast Furnace Injectant. <i>Sustainability</i> , 2022 , 14, 5510	3.6	0
103	Comparative Analysis on the Corrosion Resistance to Molten Iron of Four Kinds of Carbon Bricks Used in Blast Furnace Hearth. <i>Metals</i> , 2022 , 12, 871	2.3	0
102	The interaction of nanoparticulate Fe with vacancies during melting and sintering: A molecular dynamics simulation. <i>AIP Advances</i> , 2022 , 12, 055330	1.5	
101	Review on biomass metallurgy: Pretreatment technology, metallurgical mechanism and process design. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2022 , 29, 1133-1149	3.1	3
100	Model and application of hearth activity in a commercial blast furnace. <i>Ironmaking and Steelmaking</i> , 2021 , 48, 742-748	1.3	0
99	Investigation of Formation and Shedding Behavior of Slag Crust in a Large Blast Furnace with Copper Stave: Flow Properties and Crystallization Characteristics. <i>Journal of Sustainable Metallurgy</i> , 2021 , 7, 506-518	2.7	1
98	Design and performance evaluation of additively manufactured composite lattice structures of commercially pure Ti (CP-Ti). <i>Bioactive Materials</i> , 2021 , 6, 1215-1222	16.7	3
97	The interaction of nanoparticulate Fe ₃ O ₄ during the diffusion-limited aggregation process: A molecular dynamics simulation. <i>Powder Technology</i> , 2021 , 384, 141-147	5.2	3
96	Melting Erosion Failure Mechanism of Tuyere in Blast Furnace. <i>ISIJ International</i> , 2021 , 61, 71-78	1.7	3
95	Occurrence State and Behavior of Carbon Brick Brittle in a Large Dissected Blast Furnace Hearth. <i>Steel Research International</i> , 2021 , 92, 2100273	1.6	2
94	Graphitization and Performance of Deadman Coke in a Large Dissected Blast Furnace. <i>ACS Omega</i> , 2021 , 6, 25430-25439	3.9	1
93	Study on Chemical Bond Dissociation and the Removal of Oxygen-Containing Functional Groups of Low-Rank Coal during Hydrothermal Carbonization: DFT Calculations. <i>ACS Omega</i> , 2021 , 6, 25772-25781	3.9	0
92	Structural Characteristics of CaO-SiO ₂ -Al ₂ O ₃ -FeO Slag with Various FeO Contents Based on Molecular Dynamics Simulations. <i>Jom</i> , 2021 , 73, 1637-1645	2.1	5
91	Characterization of Ti(C,N) Superstructure Derived from Hot Metal. <i>ISIJ International</i> , 2021 , 61, 138-145	1.7	1

90	Characteristics of novel Ti-10Mo-xCu alloy by powder metallurgy for potential biomedical implant applications. <i>Bioactive Materials</i> , 2020 , 5, 659-666	16.7	15
89	Numerical simulation of combustion behaviors of hydrochar derived from low-rank coal in the raceway of blast furnace. <i>Fuel</i> , 2020 , 278, 118267	7.1	11
88	Assessment on the effect of unburned pulverized coal on the properties of coke in blast furnace. <i>Ironmaking and Steelmaking</i> , 2020 , 47, 228-237	1.3	6
87	Sintering neck growth mechanism of Fe nanoparticles: A molecular dynamics simulation. <i>Chemical Engineering Science</i> , 2020 , 218, 115583	4.4	7
86	Study on the Structure and Properties of High-Calcium Coal Ash in the High-Temperature Zone of a Blast Furnace: A Molecular Dynamics Simulation Investigation. <i>Jom</i> , 2020 , 72, 2713-2720	2.1	1
85	Hydrothermal carbonization of maize straw for hydrochar production and its injection for blast furnace. <i>Applied Energy</i> , 2020 , 266, 114818	10.7	36
84	Physiochemical, structural and combustion properties of hydrochar obtained by hydrothermal carbonization of waste polyvinyl chloride. <i>Fuel</i> , 2020 , 270, 117526	7.1	16
83	The interaction of nanoparticulate Fe ₂ O ₃ in the sintering process: A molecular dynamics simulation. <i>Powder Technology</i> , 2020 , 367, 97-104	5.2	11
82	Erosion of Carbon Brick by Zinc in Hearth of Blast Furnace. <i>ISIJ International</i> , 2020 , 60, 226-232	1.7	4
81	The influence of basicity and TiO ₂ on the crystallization behavior of high Ti-bearing slags. <i>CrystEngComm</i> , 2020 , 22, 361-370	3.3	7
80	Novel sintering indexes to evaluate and correlate the crystal characteristics and compressive strength in magnetite pellets. <i>Powder Technology</i> , 2020 , 362, 517-526	5.2	5
79	Transferability of interatomic potentials with insights into the structure-property relationship of SiO ₂ -CaO-MgO-Al ₂ O ₃ melts. <i>Molecular Simulation</i> , 2020 , 46, 289-299	2	3
78	Three-body aggregation of Fe ₂ O ₃ nanoparticles: A molecular dynamics simulation. <i>Chemical Physics Letters</i> , 2020 , 760, 137901	2.5	2
77	Effect of Ash on Coal Combustion Performance and Kinetics Analysis. <i>Combustion Science and Technology</i> , 2020 , 1-16	1.5	2
76	Catalytic graphitization of coke carbon by iron: Understanding the evolution of carbon Structure, morphology and lattice fringes. <i>Fuel</i> , 2020 , 279, 118531	7.1	18
75	A Comprehensive Study of Pore Characteristics, Formation Mechanism and Reliability Analysis with Advanced Characterization Methods Within Pellets. <i>Transactions of the Indian Institute of Metals</i> , 2020 , 73, 2503-2510	1.2	
74	A Prediction Model of Blast Furnace Slag Viscosity Based on Principal Component Analysis and K-Nearest Neighbor Regression. <i>Jom</i> , 2020 , 72, 3908-3916	2.1	3
73	Application of BP neural network to the prediction of coal ash melting characteristic temperature. <i>Fuel</i> , 2020 , 260, 116324	7.1	35

72	Advanced converter sludge utilization technologies for the recovery of valuable elements: A review. <i>Journal of Hazardous Materials</i> , 2020 , 381, 120902	12.8	11
71	Rings growth behavior within a pre-reduction rotary kiln: The layered structure and formation mechanism. <i>Powder Technology</i> , 2019 , 356, 73-82	5.2	5
70	Effect of Carbonization Conditions on the Property and Structure of Bamboo Char for Injection in Blast Furnace. <i>ISIJ International</i> , 2019 , 59, 442-449	1.7	2
69	Phase and mineral behavior of coke in cohesive zone. <i>Fuel</i> , 2019 , 253, 32-39	7.1	7
68	Mineralogical Characteristics and Isothermal Oxidation Kinetics of Ironsand Pellets. <i>Metals</i> , 2019 , 9, 265-273	2.3	4
67	Factors Influencing Gas Generation Behaviours of Lump Coal Used in COREX Gasifier. <i>High Temperature Materials and Processes</i> , 2019 , 38, 30-41	0.9	1
66	Distribution of harmful elements in dissected 125 m ³ blast furnace. <i>Canadian Metallurgical Quarterly</i> , 2019 , 58, 400-409	0.9	3
65	Study on Carbothermal Reduction of Titania in Molten Iron. <i>High Temperature Materials and Processes</i> , 2019 , 38, 143-150	0.9	0
64	Atomic-Scale Understanding about Coke Carbon Structural Evolution by Experimental Characterization and ReaxFF Molecular Dynamics. <i>Energy & Fuels</i> , 2019 , 33, 10941-10952	4.1	8
63	Central Band Structures: New Insights into the Coupling Effects Between the Pores and Minerals of Sinter. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2019 , 50, 607-616	2.5	5
62	Effect of coal blending on ash fusion behavior for blast furnace injection of high calcium bituminous coal. <i>Energy Science and Engineering</i> , 2019 , 7, 3332-3343	3.4	3
61	Insights into phase and mineral matter of metallurgical coke in cohesive zone. <i>Fuel</i> , 2019 , 254, 115707	7.1	1
60	Status, technological progress, and development directions of the ironmaking industry in China. <i>Ironmaking and Steelmaking</i> , 2019 , 46, 937-941	1.3	7
59	Formation of Multiple Microstructures During the Reduction of Ironsand. <i>Jom</i> , 2019 , 71, 1776-1784	2.1	3
58	Effect of MgO/Al ₂ O ₃ Ratio on Viscosity of Blast Furnace Primary Slag. <i>High Temperature Materials and Processes</i> , 2019 , 38, 354-361	0.9	6
57	Review of viscosity prediction models of liquid pure metals and alloys. <i>Philosophical Magazine</i> , 2019 , 99, 853-868	1.6	11
56	Molecular Dynamics Simulation on the Effect of MgO/Al ₂ O ₃ Ratio on Structure and Properties of Blast Furnace Slag Under Different Basicity Conditions. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2019 , 50, 367-375	2.5	25
55	Study on CO ₂ Gasification Reactivity and Structure Characteristics of Carbonaceous Materials from the Corex Furnace. <i>Energy & Fuels</i> , 2018 , 32, 6155-6166	4.1	10

54	ReaxFF Molecular Dynamics Simulation for the Graphitization of Amorphous Carbon: A Parametric Study. <i>Journal of Chemical Theory and Computation</i> , 2018 , 14, 2322-2331	6.4	28
53	Physicochemical properties evolution of chars from palm kernel shell pyrolysis. <i>Journal of Thermal Analysis and Calorimetry</i> , 2018 , 133, 1271-1280	4.1	27
52	Damage mechanism of blast furnace tuyere by zinc. <i>Ironmaking and Steelmaking</i> , 2018 , 45, 560-565	1.3	8
51	Melting Features and Viscosity of TiO ₂ -Containing Primary Slag in a Blast Furnace. <i>High Temperature Materials and Processes</i> , 2018 , 37, 149-156	0.9	6
50	Viscosity measurement and prediction model of molten iron. <i>Ironmaking and Steelmaking</i> , 2018 , 45, 773-777	1.3	12
49	Behavior of Alkali Accumulation of Coke in the Cohesive Zone. <i>Energy & Fuels</i> , 2018 , 32, 8383-8391	4.1	10
48	Influence of Structure and Mineral Association of Tuyere-Level Coke on Gasification Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2018 , 49, 2611-2621	2.5	9
47	Effects of Pre-Reduction Degree of Ironsand on Slag Properties in Melting Separation Process. <i>Steel Research International</i> , 2018 , 89, 1700363	1.6	7
46	Influence Mechanism of Lignite and Lignite Semi-coke Addition on Drum Strength of Coke. <i>ISIJ International</i> , 2018 , 58, 253-258	1.7	10
45	Graphitization Behavior of Coke in the Cohesive Zone. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2018 , 49, 2956-2962	2.5	15
44	High-temperature capture of CO ₂ by Li ₄ SiO ₄ prepared with blast furnace slag and kinetic analysis. <i>Journal of Thermal Analysis and Calorimetry</i> , 2018 , 133, 981-989	4.1	13
43	Effect of Chlorine on the Viscosities and Structures of CaO-SiO ₂ -CaCl ₂ Slags. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017 , 48, 328-334	2.5	11
42	Dissection Investigation of Ti(C,N) Behavior in Blast Furnace Hearth during Vanadium Titano-magnetite Smelting. <i>ISIJ International</i> , 2017 , 57, 48-54	1.7	31
41	Effect of MnO on High-Alumina Slag Viscosity and Corrosion Behavior of Refractory in Slags. <i>ISIJ International</i> , 2017 , 57, 1887-1894	1.7	19
40	Gaseous Reduction of Titania-ferrous Solution Ore by H ₂ /Ar Mixture. <i>ISIJ International</i> , 2017 , 57, 443-452	1.7	8
39	Cold Strength and High Temperature Behaviors of Self-Reducing Briquette Containing Electric Arc Furnace Dust and Anthracite. <i>ISIJ International</i> , 2017 , 57, 1364-1373	1.7	8
38	Analysis of the Relationship between Productivity and Hearth Wall Temperature of a Commercial Blast Furnace and Model Prediction. <i>Steel Research International</i> , 2017 , 88, 1600475	1.6	17
37	Synthesis and Non-isothermal Carbothermic Reduction of FeTiO ₃ -Fe ₂ O ₃ Solid Solution Systems. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017 , 48, 2419-2427	2.5	4

36	Gasification Characteristics and Kinetics of Coke with Chlorine Addition. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017 , 48, 2428-2439	2.5	5
35	Molecular Dynamics Investigation on Coke Ash Behavior in the High-Temperature Zones of a Blast Furnace: Influence of Alkalis. <i>Energy & Fuels</i> , 2017 , 31, 13466-13474	4.1	16
34	A molecular dynamic simulation on the factors influencing the fluidity of molten coke ash during alkalization with K ₂ O and Na ₂ O. <i>Chemical Engineering Journal</i> , 2017 , 313, 1184-1193	14.7	33
33	Experiments and Kinetic Modeling for Reduction of Ferric Oxide-biochar Composite Pellets. <i>ISIJ International</i> , 2017 , 57, 1374-1383	1.7	10
32	Research on the Combustion Characteristics and Kinetic Analysis of the Recycling Dust for a COREX Furnace. <i>Energies</i> , 2017 , 10, 255	3.1	10
31	Devolatilization Characteristics and Kinetic Analysis of Lump Coal from China COREX3000 Under High Temperature. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016 , 47, 2535-2548	2.5	22
30	Microstructure and Phase Transformation of a Sinter Bearing Low Ti During Reduction. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016 , 47, 3046-3055	2.5	3
29	Isothermal kinetic analysis on fast pyrolysis of lump coal used in COREX process. <i>Journal of Thermal Analysis and Calorimetry</i> , 2016 , 123, 773-783	4.1	20
28	Characteristics and kinetic analysis of co-combustion of brown coal and anthracite. <i>Journal of Thermal Analysis and Calorimetry</i> , 2016 , 126, 447-454	4.1	16
27	Mathematical Modeling of the Energy Consumption and Carbon Emission for the Oxygen Blast Furnace with Top Gas Recycling. <i>Steel Research International</i> , 2016 , 87, 320-329	1.6	22
26	Graphitization of Coke and Its Interaction with Slag in the Hearth of a Blast Furnace. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2016 , 47, 811-818	2.5	23
25	Interfaces Between Coke, Slag, and Metal in the Tuyere Level of a Blast Furnace. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015 , 46, 1104-1111	2.5	22
24	Study on CO ₂ gasification properties and kinetics of biomass chars and anthracite char. <i>Bioresource Technology</i> , 2015 , 177, 66-73	11	129
23	Application of Carbon Composite Bricks for Blast Furnace Hearth 2015 , 595-602		
22	Oxidation Character of Carbon Composite Bricks Used in Blast Furnace 2015 , 603-609		
21	Effects of Packed Structure and Operation Conditions on Liquid Flow Behavior in Blast Furnace Hearth 2015 , 351-356		
20	Research on Simultaneous Injection of Waste Tires with Pulverized Coal for Blast Furnace. <i>Ceramic Transactions</i> , 2015 , 135-144	0.1	
19	Research on Deep Reduction and Magnetic Separation of Marine Placer Based on Carbon Composite Pellet 2015 , 691-698		

18	Research on Using Blast Furnace Slag to Produce Building Stone. <i>Ceramic Transactions</i> , 2015 , 145-155	0.1	
17	Improvement of the Blast Furnace Viscosity Prediction Model Based on Discrete Points Data. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015 , 46, 378-387	2.5	2
16	Influence of alkaline (Na, K) vapors on carbon and mineral behavior in blast furnace cokes. <i>Fuel</i> , 2015 , 145, 202-213	7.1	53
15	Optimization of the Number of Burner Nozzles in a Hot Blast Stove by the Way of Simulation. <i>Jom</i> , 2014 , 66, 1241-1252	2.1	5
14	Zinc Accumulation and Behavior in Tuyere Coke. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2014 , 45, 1581-1588	2.5	22
13	Novel Recognition Method of Blast Furnace Dust Composition by Multifeature Analysis Based on Comprehensive Image-Processing Techniques. <i>Jom</i> , 2014 , 66, 2377-2389	2.1	2
12	The Numerical Simulation of Flow-Field Inside the Raceway in Blast Furnace Based on CFD 2013 , 3051-3061		
11	Effects of permanent magnetic field on calcium carbonate scaling of circulating water. <i>Desalination and Water Treatment</i> , 2013 , 1-11		3
10	Energy Conservation for Granular Coal Injection into a Blast Furnace. <i>Jom</i> , 2012 , 64, 1002-1010	2.1	3
9	Combustion-Supporting Effect of Common Carbonous Solid Waste on Anthracites. <i>Jom</i> , 2012 , 64, 1011-1016		
8	Thermal behaviors and growth of reduced ferronickel particles in carbon-laterite composites. <i>Rare Metals</i> , 2011 , 30, 681-687	5.5	15
7	Machine Learning Modeling of Gas Utilization Rate in Blast Furnace. <i>Jom</i> ,	2.1	2
6	Comparative Study on the Microstructure Evolution of Semicoke and Lump Coal Under High Temperature. <i>Ceramic Transactions</i> , 59-67	0.1	
5	Chemical, Physical and Morphological Changes of Sintering Dust by Mechanical Activation 501-509		
4	Relationship between interaction under non-load condition and softening & melting behaviour of typical blast furnace feed. <i>Ironmaking and Steelmaking</i> , 1-8	1.3	0
3	The Effects of FeO and Fe ₂ O ₃ on the Structure and Properties of Aluminosilicate System: A Molecular Dynamics Study. <i>Jom</i> , 1	2.1	
2	Compound Use of Chemical Waste as Flux in Iron Ore Sintering. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 1	2.5	0
1	Effect of CO ₂ and H ₂ O on the reduction degree of fluxed pellets: reduction mechanism within hydrogen-rich blast furnace. <i>Ironmaking and Steelmaking</i> , 1-8	1.3	

