

Cheng Qiang

List of Publications by Year in descending order

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104
papers

1,794
citations

257357

24
h-index

345118

36
g-index

112
all docs

112
docs citations

112
times ranked

1043
citing authors

#	ARTICLE	IF	CITATIONS
1	Study on CO ₂ gasification properties and kinetics of biomass chars and anthracite char. <i>Bioresource Technology</i> , 2015, 177, 66-73.	4.8	161
2	Hydrothermal carbonization of maize straw for hydrochar production and its injection for blast furnace. <i>Applied Energy</i> , 2020, 266, 114818.	5.1	86
3	Application of BP neural network to the prediction of coal ash melting characteristic temperature. <i>Fuel</i> , 2020, 260, 116324.	3.4	75
4	Influence of alkaline (Na, K) vapors on carbon and mineral behavior in blast furnace cokes. <i>Fuel</i> , 2015, 145, 202-213.	3.4	67
5	Catalytic graphitization of coke carbon by iron: Understanding the evolution of carbon Structure, morphology and lattice fringes. <i>Fuel</i> , 2020, 279, 118531.	3.4	48
6	Dissection Investigation of Ti(C,N) Behavior in Blast Furnace Hearth during Vanadium Titano-magnetite Smelting. <i>ISIJ International</i> , 2017, 57, 48-54.	0.6	47
7	Physiochemical, structural and combustion properties of hydrochar obtained by hydrothermal carbonization of waste polyvinyl chloride. <i>Fuel</i> , 2020, 270, 117526.	3.4	45
8	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.	6.6	44
9	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.	2.3	44
10	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.	1.0	42
11	Physicochemical properties evolution of chars from palm kernel shell pyrolysis. <i>Journal of Thermal Analysis and Calorimetry</i> , 2018, 133, 1271-1280.	2.0	41
12	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.	1.0	36
13	Numerical simulation of combustion behaviors of hydrochar derived from low-rank coal in the raceway of blast furnace. <i>Fuel</i> , 2020, 278, 118267.	3.4	35
14	Review on biomass metallurgy: Pretreatment technology, metallurgical mechanism and process design. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2022, 29, 1133-1149.	2.4	35
15	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.	1.0	32
16	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.	1.0	30
17	Viscosity measurement and prediction model of molten iron. <i>Ironmaking and Steelmaking</i> , 2018, 45, 773-777.	1.1	30
18	Sintering neck growth mechanism of Fe nanoparticles: A molecular dynamics simulation. <i>Chemical Engineering Science</i> , 2020, 218, 115583.	1.9	30

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19	Effect of MnO on High-Alumina Slag Viscosity and Corrosion Behavior of Refractory in Slags. ISIJ International, 2017, 57, 1887-1894.	0.6	29
20	Characteristics of novel Ti-10Mo-xCu alloy by powder metallurgy for potential biomedical implant applications. Bioactive Materials, 2020, 5, 659-666.	8.6	29
21	Zinc Accumulation and Behavior in Tuyere Coke. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 1581-1588.	1.0	28
22	Devolatilization Characteristics and Kinetic Analysis of Lump Coal from China COREX3000 Under High Temperature. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 2535-2548.	1.0	26
23	The interaction of nanoparticulate Fe ₂ O ₃ in the sintering process: A molecular dynamics simulation. Powder Technology, 2020, 367, 97-104.	2.1	26
24	Isothermal kinetic analysis on fast pyrolysis of lump coal used in COREX process. Journal of Thermal Analysis and Calorimetry, 2016, 123, 773-783.	2.0	24
25	Analysis of the Relationship between Productivity and Hearth Wall Temperature of a Commercial Blast Furnace and Model Prediction. Steel Research International, 2017, 88, 1600475.	1.0	24
26	Design and performance evaluation of additively manufactured composite lattice structures of commercially pure Ti (CP-Ti). Bioactive Materials, 2021, 6, 1215-1222.	8.6	23
27	Characteristics and kinetic analysis of co-combustion of brown coal and anthracite. Journal of Thermal Analysis and Calorimetry, 2016, 126, 447-454.	2.0	22
28	Advanced converter sludge utilization technologies for the recovery of valuable elements: A review. Journal of Hazardous Materials, 2020, 381, 120902.	6.5	22
29	The influence of basicity and TiO ₂ on the crystallization behavior of high Ti-bearing slags. CrystEngComm, 2020, 22, 361-370.	1.3	21
30	A Prediction Model of Blast Furnace Slag Viscosity Based on Principal Component Analysis and K-Nearest Neighbor Regression. Jom, 2020, 72, 3908-3916.	0.9	20
31	Effect of Chlorine on the Viscosities and Structures of CaO-SiO ₂ -CaCl ₂ Slags. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 328-334.	1.0	18
32	Atomic-Scale Understanding about Coke Carbon Structural Evolution by Experimental Characterization and ReaxFF Molecular Dynamics. Energy & Fuels, 2019, 33, 10941-10952.	2.5	18
33	Review of viscosity prediction models of liquid pure metals and alloys. Philosophical Magazine, 2019, 99, 853-868.	0.7	18
34	Molecular Dynamics Investigation on Coke Ash Behavior in the High-Temperature Zones of a Blast Furnace: Influence of Alkalis. Energy & Fuels, 2017, 31, 13466-13474.	2.5	17
35	Graphitization Behavior of Coke in the Cohesive Zone. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 2956-2962.	1.0	17
36	High-temperature capture of CO ₂ by Li ₄ SiO ₄ prepared with blast furnace slag and kinetic analysis. Journal of Thermal Analysis and Calorimetry, 2018, 133, 981-989.	2.0	17

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37	Erosion of Carbon Brick by Zinc in Hearth of Blast Furnace. ISIJ International, 2020, 60, 226-232.	0.6	17
38	Structural Characteristics of CaO-SiO ₂ -Al ₂ O ₃ -FeO Slag with Various FeO Contents Based on Molecular Dynamics Simulations. Jom, 2021, 73, 1637-1645.	0.9	17
39	Thermal behaviors and growth of reduced ferronickel particles in carbon-laterite composites. Rare Metals, 2011, 30, 681-687.	3.6	16
40	Influence Mechanism of Lignite and Lignite Semi-coke Addition on Drum Strength of Coke. ISIJ International, 2018, 58, 253-258.	0.6	16
41	Influence of Structure and Mineral Association of Tuyere-Level Coke on Gasification Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 2611-2621.	1.0	15
42	Experiments and Kinetic Modeling for Reduction of Ferric Oxide-biochar Composite Pellets. ISIJ International, 2017, 57, 1374-1383.	0.6	14
43	Behavior of Alkali Accumulation of Coke in the Cohesive Zone. Energy & Fuels, 2018, 32, 8383-8391.	2.5	14
44	Status, technological progress, and development directions of the ironmaking industry in China. Ironmaking and Steelmaking, 2019, 46, 937-941.	1.1	14
45	Cold Strength and High Temperature Behaviors of Self-Reducing Briquette Containing Electric Arc Furnace Dust and Anthracite. ISIJ International, 2017, 57, 1364-1373.	0.6	13
46	Phase and mineral behavior of coke in cohesive zone. Fuel, 2019, 253, 32-39.	3.4	13
47	Effect of MgO/Al ₂ O ₃ Ratio on Viscosity of Blast Furnace Primary Slag. High Temperature Materials and Processes, 2019, 38, 354-361.	0.6	13
48	Novel sintering indexes to evaluate and correlate the crystal characteristics and compressive strength in magnetite pellets. Powder Technology, 2020, 362, 517-526.	2.1	13
49	Research on the Combustion Characteristics and Kinetic Analysis of the Recycling Dust for a COREX Furnace. Energies, 2017, 10, 255.	1.6	12
50	Study on CO ₂ Gasification Reactivity and Structure Characteristics of Carbonaceous Materials from the Corex Furnace. Energy & Fuels, 2018, 32, 6155-6166.	2.5	12
51	Damage mechanism of blast furnace tuyere by zinc. Ironmaking and Steelmaking, 2018, 45, 560-565.	1.1	11
52	Distribution of harmful elements in dissected 125m ³ blast furnace. Canadian Metallurgical Quarterly, 2019, 58, 400-409.	0.4	11
53	Machine Learning Modeling of Gas Utilization Rate in Blast Furnace. Jom, 2022, 74, 1633-1640.	0.9	11
54	Effects of Pre-Reduction Degree of Ironsand on Slag Properties in Melting Separation Process. Steel Research International, 2018, 89, 1700363.	1.0	10

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55	The interaction of nanoparticulate Fe ₃ O ₄ during the diffusion-limited aggregation process: A molecular dynamics simulation. Powder Technology, 2021, 384, 141-147.	2.1	10
56	Gaseous Reduction of Titania-ferrous Solution Ore by H ₂ /Ar Mixture. ISIJ International, 2017, 57, 443-452.	0.6	9
57	Rings growth behavior within a pre-reduction rotary kiln: The layered structure and formation mechanism. Powder Technology, 2019, 356, 73-82.	2.1	9
58	Graphitization and Performance of Deadman Coke in a Large Dissected Blast Furnace. ACS Omega, 2021, 6, 25430-25439.	1.6	9
59	Melting Features and Viscosity of TiO ₂ -Containing Primary Slag in a Blast Furnace. High Temperature Materials and Processes, 2018, 37, 149-156.	0.6	8
60	Mineralogical Characteristics and Isothermal Oxidation Kinetics of Ironsand Pellets. Metals, 2019, 9, 265.	1.0	8
61	Occurrence State and Behavior of Carbon Brick Brittle in a Large Dissected Blast Furnace Hearth. Steel Research International, 2021, 92, 2100273.	1.0	8
62	Central Band Structures: New Insights into the Coupling Effects Between the Pores and Minerals of Sinter. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 607-616.	1.0	7
63	Assessment on the effect of unburned pulverized coal on the properties of coke in blast furnace. Ironmaking and Steelmaking, 2020, 47, 228-237.	1.1	7
64	Investigation of Formation and Shedding Behavior of Slag Crust in a Large Blast Furnace with Copper Stave: Flow Properties and Crystallization Characteristics. Journal of Sustainable Metallurgy, 2021, 7, 506-518.	1.1	7
65	Characterization of Ti(C,N) Superstructure Derived from Hot Metal. ISIJ International, 2021, 61, 138-145.	0.6	7
66	Predictive Modeling of Blast Furnace Gas Utilization Rate Using Different Data Pre-Processing Methods. Metals, 2022, 12, 535.	1.0	7
67	Effects of permanent magnetic field on calcium carbonate scaling of circulating water. Desalination and Water Treatment, 0, , 1-11.	1.0	6
68	Optimization of the Number of Burner Nozzles in a Hot Blast Stove by the Way of Simulation. Jom, 2014, 66, 1241-1252.	0.9	6
69	Microstructure and Phase Transformation of a Sinter Bearing Low Ti During Reduction. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 3046-3055.	1.0	6
70	Gasification Characteristics and Kinetics of Coke with Chlorine Addition. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 2428-2439.	1.0	6
71	Transferability of interatomic potentials with insights into the structure-property relationship of SiO ₂ -CaO-MgO-Al ₂ O ₃ melts. Molecular Simulation, 2020, 46, 289-299.	0.9	6
72	Feasibility Study of Bio-Sludge Hydrochar as Blast Furnace Injectant. Sustainability, 2022, 14, 5510.	1.6	6

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73	Synthesis and Non-isothermal Carbothermic Reduction of FeTiO ₃ -Fe ₂ O ₃ Solid Solution Systems. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 2419-2427.	1.0	5
74	Effect of coal blending on ash fusion behavior for blast furnace injection of high calcium bituminous coal. Energy Science and Engineering, 2019, 7, 3332-3343.	1.9	5
75	Insights into phase and mineral matter of metallurgical coke in cohesive zone. Fuel, 2019, 254, 115707.	3.4	5
76	Formation of Multiple Microstructures During the Reduction of Ironsand. Jom, 2019, 71, 1776-1784.	0.9	5
77	Three-body aggregation of Fe ₂ O ₃ nanoparticles: A molecular dynamics simulation. Chemical Physics Letters, 2020, 760, 137901.	1.2	5
78	Melting Erosion Failure Mechanism of Tuyere in Blast Furnace. ISIJ International, 2021, 61, 71-78.	0.6	5
79	Experimental and molecular dynamics examination of the interface interaction between magnesium oxide and magnetite in a high temperature oxidation environment. Materials and Design, 2022, 215, 110434.	3.3	5
80	A density functional theory study on the adsorption reaction mechanism of double CO ₂ on the surface of graphene defects. Journal of Molecular Modeling, 2022, 28, 118.	0.8	5
81	Comparative Analysis on the Corrosion Resistance to Molten Iron of Four Kinds of Carbon Bricks Used in Blast Furnace Hearth. Metals, 2022, 12, 871.	1.0	5
82	Energy Conservation for Granular Coal Injection into a Blast Furnace. Jom, 2012, 64, 1002-1010.	0.9	4
83	Novel Recognition Method of Blast Furnace Dust Composition by Multifeature Analysis Based on Comprehensive Image-Processing Techniques. Jom, 2014, 66, 2377-2389.	0.9	4
84	Effect of Carbonization Conditions on the Property and Structure of Bamboo Char for Injection in Blast Furnace. ISIJ International, 2019, 59, 442-449.	0.6	4
85	Relationship between interaction under non-load condition and softening & melting behaviour of typical blast furnace feed. Ironmaking and Steelmaking, 2022, 49, 626-633.	1.1	4
86	Lump Iron Ore Pre-heating Treatment to Improve Softening-Melting Performance and Reduce Energy Consumption in Ironmaking Process. Jom, 2022, 74, 2733-2741.	0.9	4
87	Improvement of the Blast Furnace Viscosity Prediction Model Based on Discrete Points Data. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 378-387.	1.0	3
88	Study on Carbothermal Reduction of Titania in Molten Iron. High Temperature Materials and Processes, 2019, 38, 143-150.	0.6	3
89	Effect of Ash on Coal Combustion Performance and Kinetics Analysis. Combustion Science and Technology, 2022, 194, 785-800.	1.2	3
90	Study on Chemical Bond Dissociation and the Removal of Oxygen-Containing Functional Groups of Low-Rank Coal during Hydrothermal Carbonization: DFT Calculations. ACS Omega, 2021, 6, 25772-25781.	1.6	3

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91	New Insights into the Traditional Charge Compensation Theory: Amphoteric Behavior of TiO_2 under the Guidance of Supply-Demand Relationship. ACS Omega, 2022, 7, 21225-21232.	1.6	3
92	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. Jom, 2020, 72, 2713-2720.	0.9	2
93	Model and application of hearth activity in a commercial blast furnace. Ironmaking and Steelmaking, 2021, 48, 742-748.	1.1	2
94	The Effects of FeO and Fe 2O_3 on the Structure and Properties of Aluminosilicate System: A Molecular Dynamics Study. Jom, 2022, 74, 4162-4173.	0.9	2
95	Compound Use of Chemical Waste as Flux in Iron Ore Sintering. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2022, 53, 2143-2152.	1.0	2
96	Factors Influencing Gas Generation Behaviours of Lump Coal Used in COREX Gasifier. High Temperature Materials and Processes, 2019, 38, 30-41.	0.6	1
97	A Comprehensive Study of Pore Characteristics, Formation Mechanism and Reliability Analysis with Advanced Characterization Methods Within Pellets. Transactions of the Indian Institute of Metals, 2020, 73, 2503-2510.	0.7	1
98	The Concurrent Sintering-Crystallization Behavior of Fluoride-Containing Wollastonite Glass-Ceramics. Materials, 2021, 14, 681.	1.3	1
99	Effect of CO and CO_2 and H_2 on the reduction degree of fluxed pellets: reduction mechanism within hydrogen-rich blast furnace. Ironmaking and Steelmaking, 2022, 49, 932-939.	1.1	1
100	Migration Behavior of K, Na, S, Ti in Hearth of a Commercial Blast Furnace. ISIJ International, 2022, 62, 2236-2243.	0.6	1
101	Combustion-Supporting Effect of Common Carbonous Solid Waste on Anthracites. Jom, 2012, 64, 1011-1016.	0.9	0
102	Research on Simultaneous Injection of Waste Tires with Pulverized Coal for Blast Furnace. Ceramic Transactions, 2015, , 135-144.	0.1	0
103	The interaction of nanoparticulate Fe with vacancies during melting and sintering: A molecular dynamics simulation. AIP Advances, 2022, 12, 055330.	0.6	0
104	Reinforcement of Pellet Consolidation Strength Based on Iron Filings: Microstructural Evolution and Mechanism. Steel Research International, 0, , .	1.0	0