

Rajender Gupta

List of Publications by Year in descending order

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105
papers

7,416
citations

101384

36
h-index

54797

84
g-index

108
all docs

108
docs citations

108
times ranked

7969
citing authors

#	ARTICLE	IF	CITATIONS
1	Progress in carbon dioxide separation and capture: A review. Journal of Environmental Sciences, 2008, 20, 14-27.	3.2	1,765
2	Post-Combustion CO ₂ Capture Using Solid Sorbents: A Review. Industrial & Engineering Chemistry Research, 2012, 51, 1438-1463.	1.8	1,524
3	A review on mercury in coal combustion process: Content and occurrence forms in coal, transformation, sampling methods, emission and control technologies. Progress in Energy and Combustion Science, 2019, 73, 26-64.	15.8	327
4	Trace elements in coal: Associations with coal and minerals and their behavior during coal utilization – A review. Fuel, 2010, 89, 904-911.	3.4	325
5	Low-Grade Coals: A Review of Some Prospective Upgrading Technologies. Energy & Fuels, 2009, 23, 3392-3405.	2.5	179
6	Carbon Dioxide Adsorption on Amine-Impregnated Mesoporous SBA-15 Sorbents: Experimental and Kinetics Study. Industrial & Engineering Chemistry Research, 2013, 52, 6480-6491.	1.8	158
7	K ₂ CO ₃ catalyzed CO ₂ gasification of ash-free coal. Interactions of the catalyst with carbon in N ₂ and CO ₂ atmosphere. Fuel, 2014, 117, 1181-1189.	3.4	154
8	Advanced Coal Characterization: A Review. Energy & Fuels, 2007, 21, 451-460.	2.5	151
9	Assessing slagging and fouling during biomass combustion: A thermodynamic approach allowing for alkali/ash reactions. Fuel Processing Technology, 2007, 88, 1044-1052.	3.7	125
10	An overview of inorganic particulate matter emission from coal/biomass/MSW combustion: Sampling and measurement, formation, distribution, inorganic composition and influencing factors. Fuel Processing Technology, 2021, 213, 106657.	3.7	113
11	Kinetic Study and Thermal Decomposition Behavior of Lignite Coal. International Journal of Chemical Engineering, 2015, 2015, 1-9.	1.4	112
12	Chemical speciation and leaching characteristics of hazardous trace elements in coal and fly ash from coal-fired power plants. Fuel, 2018, 232, 463-469.	3.4	94
13	Review on chemical upgrading of coal: Production processes, potential applications and recent developments. Fuel Processing Technology, 2017, 158, 35-56.	3.7	87
14	A computational fluid dynamics based study of the combustion characteristics of coal blends in pulverised coal-fired furnace. Fuel, 2004, 83, 1543-1552.	3.4	85
15	Production and characterization of ash-free coal from low-rank Canadian coal by solvent extraction. Fuel Processing Technology, 2013, 115, 88-98.	3.7	82
16	Study of factors affecting syngas quality and their interactions in fluidized bed gasification of lignite coal. Fuel, 2013, 103, 308-320.	3.4	75
17	Hydrothermal liquefaction of lignocellulosic biomass feedstock to produce biofuels: Parametric study and products characterization. Fuel, 2020, 271, 117534.	3.4	74
18	Carbon Nanotube-Silver Composite for Mercury Capture and Analysis. Energy & Fuels, 2010, 24, 419-426.	2.5	71

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19	Co-gasification of Biomass with Coal and Oil Sand Coke in a Drop Tube Furnace. Energy & Fuels, 2010, 24, 232-240.	2.5	66
20	Modelling Underground Coal Gasification—A Review. Energies, 2015, 8, 12603-12668.	1.6	59
21	Evaluation of the Performance of Air Dense Medium Fluidized Bed (ADMFB) for Low-Ash Coal Beneficiation. Part 1: Effect of Operating Conditions. Energy & Fuels, 2013, 27, 5595-5606.	2.5	57
22	Steam Regeneration of Polyethylenimine-Impregnated Silica Sorbent for Postcombustion CO ₂ Capture: A Multicyclic Study. Industrial & Engineering Chemistry Research, 2016, 55, 2210-2220.	1.8	57
23	Mercury co-beneficial capture in air pollution control devices of coal-fired power plants. International Journal of Coal Geology, 2017, 170, 48-53.	1.9	57
24	The physical character of coal char formed during rapid pyrolysis at high pressure. Fuel, 2005, 84, 63-69.	3.4	56
25	Release Behaviors of Arsenic in Fine Particles Generated from a Typical High-Arsenic Coal at a High Temperature. Energy & Fuels, 2016, 30, 6201-6209.	2.5	55
26	Thermal stability, chemical speciation and leaching characteristics of hazardous trace elements in FGD gypsum from coal-fired power plants. Fuel, 2018, 231, 94-100.	3.4	54
27	Hydration reaction and strength development of calcium sulfoaluminate cement-based mortar cured at cold temperatures. Construction and Building Materials, 2019, 224, 493-503.	3.2	53
28	Postcombustion CO ₂ capture using N-(3-trimethoxysilylpropyl)diethylenetriamine-grafted solid adsorbent. Energy Science and Engineering, 2015, 3, 207-220.	1.9	50
29	Inherent thermal regeneration performance of different MnO ₂ crystallographic structures for mercury removal. Journal of Hazardous Materials, 2019, 374, 267-275.	6.5	50
30	Silica-Silver Nanocomposites as Regenerable Sorbents for Hg ⁰ Removal from Flue Gases. Environmental Science & Technology, 2017, 51, 11909-11917.	4.6	49
31	Bromination of petroleum coke for elemental mercury capture. Journal of Hazardous Materials, 2017, 336, 232-239.	6.5	47
32	A first approximation kinetic model to predict methane generation from an oil sands tailings settling basin. Chemosphere, 2008, 72, 1573-1580.	4.2	46
33	Chemical-mechanical bromination of biomass ash for mercury removal from flue gases. Fuel, 2013, 108, 54-59.	3.4	44
34	Enrichment characteristics, thermal stability and volatility of hazardous trace elements in fly ash from a coal-fired power plant. Fuel, 2018, 225, 490-498.	3.4	43
35	Post-combustion CO ₂ capture using polyethyleneimine impregnated mesoporous cellular foams. Separation and Purification Technology, 2015, 156, 259-268.	3.9	40
36	Nanocomposites of graphene oxide, Ag nanoparticles, and magnetic ferrite nanoparticles for elemental mercury (Hg ⁰) removal. RSC Advances, 2015, 5, 15634-15640.	1.7	39

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37	High-purity hydrogen production from ash-free coal by catalytic steam gasification integrated with dry-sorption CO ₂ capture. <i>Fuel</i> , 2016, 178, 272-282.	3.4	37
38	Understanding of mineralogy and residence of trace elements in coals via a novel method combining low temperature ashing and float-sink technique. <i>International Journal of Coal Geology</i> , 2014, 131, 162-171.	1.9	35
39	Evaluation of the Performance of Air Dense Medium Fluidized Bed (ADMFB) for Low-Ash Coal Beneficiation. Part 2: Characteristics of the Beneficiated Coal. <i>Energy & Fuels</i> , 2013, 27, 5607-5616.	2.5	34
40	Synergistic effect on the co-gasification of petroleum coke and carbon-based feedstocks: A state-of-the-art review. <i>Journal of the Energy Institute</i> , 2022, 102, 1-13.	2.7	33
41	A Review of Hydrothermal Liquefaction of Biomass for Biofuels Production with a Special Focus on the Effect of Process Parameters, Co-Solvents, and Extraction Solvents. <i>Energies</i> , 2021, 14, 4916.	1.6	32
42	Understanding of physicochemical properties and formation mechanisms of fine particular matter generated from Canadian coal combustion. <i>Fuel</i> , 2016, 165, 224-234.	3.4	29
43	What is the production cost of renewable diesel from woody biomass and agricultural residue based on experimentation? A comparative assessment. <i>Fuel Processing Technology</i> , 2019, 191, 79-92.	3.7	27
44	Utilization and performance evaluation of molasses as a retarder and plasticizer for calcium sulfoaluminate cement-based mortar. <i>Construction and Building Materials</i> , 2020, 243, 118201.	3.2	27
45	A Techno-Economic Assessment of Renewable Diesel and Gasoline Production from Aspen Hardwood. <i>Waste and Biomass Valorization</i> , 2019, 10, 2745-2760.	1.8	25
46	Elemental mercury reaction chemistry on brominated petroleum cokes. <i>Carbon</i> , 2017, 124, 89-96.	5.4	25
47	Inorganic Matter Behavior during Coal Gasification: Effect of Operating Conditions and Particle Trajectory on Ash Deposition and Slag Formation. <i>Energy & Fuels</i> , 2015, 29, 1503-1519.	2.5	24
48	Effect of Acidic Conditions on Surface Properties and Metal Binding Capacity of Clay Minerals. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2421-2429.	1.2	24
49	Dissect the capacity of low-temperature oxidation of coal with different metamorphic degrees. <i>Fuel</i> , 2021, 292, 120256.	3.4	24
50	Adsorption Behavior of CO ₂ in Coal and Coal Char. <i>Energy & Fuels</i> , 2014, 28, 5241-5251.	2.5	23
51	Entrained-Flow Gasification of Oil Sand Coke with Coal: Assessment of Operating Variables and Blending Ratio via Response Surface Methodology. <i>Energy & Fuels</i> , 2012, 26, 219-232.	2.5	22
52	Investigation of corrosion and fouling in syngas cooler tubes. <i>Fuel Processing Technology</i> , 2016, 141, 202-209.	3.7	22
53	Simulations of Axial Mixing of Liquids in a Long Horizontal Pipe for Industrial Applications. <i>Energy & Fuels</i> , 2010, 24, 5844-5850.	2.5	21
54	Development of a process simulation model for energy analysis of hydrogen production from underground coal gasification (UCG). <i>International Journal of Hydrogen Energy</i> , 2015, 40, 10705-10719.	3.8	20

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55	The performance of calcium sulfoaluminate cement for preventing early-age frost damage. <i>Construction and Building Materials</i> , 2020, 254, 119322.	3.2	20
56	Thermal properties of calcium sulfoaluminate cement-based mortars incorporated with expanded perlite cured at cold temperatures. <i>Construction and Building Materials</i> , 2021, 274, 122082.	3.2	20
57	The char structure characterization from the coal reflectogram. <i>Fuel</i> , 2005, 84, 1268-1276.	3.4	19
58	Emission Control of Mercury and Sulfur by Mild Thermal Upgrading of Coal. <i>Energy & Fuels</i> , 2009, 23, 766-773.	2.5	19
59	Statistical Analysis of Coal Beneficiation Performance in a Continuous Air Dense Medium Fluidized Bed Separator. <i>International Journal of Coal Preparation and Utilization</i> , 2017, 37, 12-32.	1.2	17
60	Influence of coal properties on the CO ₂ adsorption capacity of coal gasification residues. <i>Energy Science and Engineering</i> , 2018, 6, 321-335.	1.9	17
61	Solvent- ^{Co} Mineral Interaction during Solvent Extraction of Coal. <i>Energy & Fuels</i> , 2012, 26, 6834-6842.	2.5	15
62	Chemistry, mineralogical, and residence of arsenic in a typical high arsenic coal. <i>International Journal of Mineral Processing</i> , 2015, 141, 61-67.	2.6	15
63	Pyrolysis of asphaltenes in an atmospheric entrained flow reactor: A study on char characterization. <i>Fuel</i> , 2015, 152, 29-37.	3.4	15
64	Effect of Direct Coal Liquefaction Conditions on Coal Liquid Quality. <i>Energy & Fuels</i> , 2015, 29, 3649-3657.	2.5	14
65	Numerical simulation of 3-phase fluidized bed particle segregation. <i>Fuel</i> , 2015, 150, 347-359.	3.4	14
66	Particulate Emission from Municipal Solid Waste Combustion: Effect of Si-Al-Based Additives for Its Mitigation. <i>Energy & Fuels</i> , 2020, 34, 15399-15410.	2.5	14
67	Thermomechanical analysis of laboratory ash, combustion ash and deposits from coal combustion. <i>Fuel Processing Technology</i> , 2007, 88, 1099-1107.	3.7	13
68	Numerical Simulation and Evaluation of Cavity Growth in In Situ Coal Gasification. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 11712-11722.	1.8	13
69	Contribution to the Understanding of Secondary Pyrolysis of Biomass-Based Slurry under Entrained-Flow Gasification Conditions. <i>Energy & Fuels</i> , 2016, 30, 6448-6457.	2.5	13
70	Distribution of Vanadium, Nickel, and Other Trace Metals in Soot and Char from Asphaltene Pyrolysis and Gasification. <i>Energy & Fuels</i> , 2016, 30, 1605-1615.	2.5	13
71	Changes in Physicochemical Properties and the Release of Inorganic Species during Hydrothermal Dewatering of Lignite. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 13294-13302.	1.8	13
72	Particulate matter emission during municipal solid waste combustion: Submicron particulates formation mechanism. <i>Fuel</i> , 2022, 310, 122271.	3.4	13

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73	Particulate matter emission during MSW/RDF/WW combustion: Inorganic minerals distribution, transformation and agglomeration. <i>Fuel Processing Technology</i> , 2022, 228, 107166.	3.7	13
74	Characterization of Ash Deposition and Heat Transfer Behavior of Coals during Combustion in a Pilot-Scale Facility and Full-Scale Utility. <i>Energy & Fuels</i> , 2009, 23, 2570-2575.	2.5	12
75	Analysis of syngas cooler fouling from asphaltene gasification. <i>Fuel Processing Technology</i> , 2016, 152, 7-14.	3.7	11
76	Analysis of Soot Formed during the Pyrolysis of Athabasca Oil Sand Asphaltenes. <i>Energy & Fuels</i> , 2015, 29, 6823-6831.	2.5	10
77	Extending blending proportions of ordinary Portland cement and calcium sulfoaluminate cement blends: Its effects on setting, workability, and strength development. <i>Frontiers of Structural and Civil Engineering</i> , 2021, 15, 1249-1260.	1.2	9
78	The fate of char structure and active groups in petroleum coke gasification in a drop tube furnace. <i>Fuel</i> , 2022, 310, 122438.	3.4	9
79	Evaluation of Copper-Aluminum Oxides as Sorbents for High-Temperature Air Separation. <i>Energy & Fuels</i> , 2014, 28, 319-328.	2.5	8
80	Carbon dioxide capture under postcombustion conditions using amine-functionalized SBA-15: Kinetics and multicyclic performance. <i>Separation Science and Technology</i> , 2018, 53, 2683-2694.	1.3	8
81	Evaluation of ash-free coal for chemical looping combustion -part I: Thermogravimetric single cycle study and the reaction mechanism. <i>Canadian Journal of Chemical Engineering</i> , 2017, 95, 623-633.	0.9	7
82	Metal oxide nanoparticle-modified graphene oxide for removal of elemental mercury. <i>Environmental Technology (United Kingdom)</i> , 2019, 40, 3602-3610.	1.2	7
83	Effects of sodium gluconate on hydration reaction, setting, workability, and strength development of calcium sulfoaluminate belite cement mixtures. <i>Journal of Sustainable Cement-Based Materials</i> , 2022, 11, 273-285.	1.7	7
84	Study on the spatial and temporal distribution of the bed density in an air dense medium fluidized bed (ADMFB) based on the electrical capacitance tomography (ECT) measurement system. <i>Powder Technology</i> , 2021, 393, 659-669.	2.1	7
85	Reduction of HgCl ₂ to HgO in flue gas at high temperature. Part II: Influences of oxidative species. <i>Fuel</i> , 2022, 324, 124417.	3.4	7
86	Characterization and Refining Pathways of Straight-Run Heavy Naphtha and Distillate from the Solvent Extraction of Lignite. <i>Energy & Fuels</i> , 2014, 28, 4486-4495.	2.5	6
87	Single Particle Asphaltene Pyrolysis in a Drop-Tube Furnace. <i>Energy & Fuels</i> , 2016, 30, 6132-6142.	2.5	6
88	Performance Evaluation of Functionalized Biocarbon for Mercury Capture. <i>Energy & Fuels</i> , 2019, 33, 5867-5874.	2.5	6
89	A Comparative Study on Lignite Coal Drying by Different Methods. <i>International Journal of Coal Preparation and Utilization</i> , 2020, 40, 90-106.	1.2	6
90	Effect of the Composition of Additive Ash on the Thermal Behavior of Petroleum Coke Ash during Gasification. <i>Energy & Fuels</i> , 2020, 34, 12126-12134.	2.5	6

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91	Thermo-catalytic reforming of alberta-based biomass feedstock to produce biofuels. Biomass and Bioenergy, 2021, 152, 106203.	2.9	6
92	ZrO ₂ –CuO Sorbents for High-Temperature Air Separation. Industrial & Engineering Chemistry Research, 2014, 53, 10990-10999.	1.8	5
93	Thermal behaviour of nitrogen oxides relevant to oxidative denitrogenation. Journal of Chemical Thermodynamics, 2019, 136, 28-43.	1.0	5
94	Predicting the biomass conversion performance in a fluidized bed reactor using isoconversional model-free method. Canadian Journal of Chemical Engineering, 2019, 97, 1263-1273.	0.9	5
95	Reduction of HgCl ₂ to Hg ₀ in flue gas at high temperature. Part â€¦; Acid remover. Fuel, 2022, 324, 124412.	3.4	5
96	Factors affecting the vaporisation of silica during coal combustion. Fuel Processing Technology, 2007, 88, 157-164.	3.7	4
97	Effect of Synthesis Route on Properties of CuO as a High Temperature Oxygen Carrier. Industrial & Engineering Chemistry Research, 2014, 53, 18852-18862.	1.8	4
98	Experimental and Numerical Study of Volt–Ampere Characteristics of a Packed Tube Heated by Joule Heating. Journal of Energy Resources Technology, Transactions of the ASME, 2022, 144, .	1.4	4
99	Effect of initial coal particle size on coal liquefaction conversion. International Journal of Oil, Gas and Coal Technology, 2016, 12, 63.	0.1	3
100	Intrinsic gasification rate of oil sands fluid coke with carbon dioxide and steam. Canadian Journal of Chemical Engineering, 2017, 95, 1045-1053.	0.9	3
101	Microbially-mediated de-watering and consolidation (‘‘Biodensification’’) of oil sands mature fine tailings, amended with agri-business by-products. Nova Scientia, 2020, 12, .	0.0	3
102	Experimental and numerical verifications of biochar gasification kinetics using TGA. Renewable Energy, 2022, 185, 717-733.	4.3	3
103	Numerical modeling of temperature profiles in hardening belitic calcium sulfoaluminate cement-based mortars for permafrost region applications. Journal of Sustainable Cement-Based Materials, 2023, 12, 331-344.	1.7	3
104	27th International Conference on the Impact of Fuel Quality on Power Production and Environment. Energy & Fuels, 2019, 33, 5789-5789.	2.5	2
105	Evaluation of ash-free coal for chemical looping combustion â€¢part II: Thermogravimetric multi-cycle performance. Canadian Journal of Chemical Engineering, 2017, 95, 832-838.	0.9	1