

Rahul R Bhosale

List of Publications by Year in descending order

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118
papers

3,382
citations

109137

35
h-index

161609

54
g-index

121
all docs

121
docs citations

121
times ranked

2879
citing authors

#	ARTICLE	IF	CITATIONS
1	Heavy metal ions removal from industrial wastewater using magnetic nanoparticles (MNP). <i>Applied Surface Science</i> , 2020, 506, 144924.	3.1	179
2	A decade of ceria based solar thermochemical H ₂ O/CO ₂ splitting cycle. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 34-60.	3.8	126
3	Combustion synthesis of bifunctional LaMO ₃ (M = Cr, Mn, Fe, Co, Ni) perovskites for oxygen reduction and oxygen evolution reaction in alkaline media. <i>Journal of Electroanalytical Chemistry</i> , 2018, 809, 22-30.	1.9	120
4	Thermodynamic analysis of solar driven SnO ₂ /SnO based thermochemical water splitting cycle. <i>Energy Conversion and Management</i> , 2017, 135, 226-235.	4.4	110
5	Review on sustainable production of biochar through hydrothermal liquefaction: Physico-chemical properties and applications. <i>Bioresource Technology</i> , 2020, 310, 123414.	4.8	109
6	Impact of CO ₂ concentration and ambient conditions on microalgal growth and nutrient removal from wastewater by a photobioreactor. <i>Science of the Total Environment</i> , 2019, 662, 662-671.	3.9	105
7	Catalytic hydrothermal liquefaction of biomass into bio-oils and other value-added products – A review. <i>Fuel</i> , 2021, 285, 119053.	3.4	95
8	Thermochemical water-splitting for H ₂ generation using sol-gel derived Mn-ferrite in a packed bed reactor. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 2924-2934.	3.8	92
9	Bio-carrier and operating temperature effect on ammonia removal from secondary wastewater effluents using moving bed biofilm reactor (MBBR). <i>Science of the Total Environment</i> , 2019, 693, 133425.	3.9	79
10	Electrochemical oxidation of ammonia on nickel oxide nanoparticles. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 10398-10408.	3.8	79
11	Solar hydrogen production via thermochemical iron oxide-iron sulfate water splitting cycle. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 1639-1650.	3.8	77
12	Removal of emerging pharmaceuticals from wastewater by ozone-based advanced oxidation processes. <i>Environmental Progress and Sustainable Energy</i> , 2016, 35, 982-995.	1.3	77
13	Intergraded wastewater treatment and carbon bio-fixation from flue gases using <i>Spirulina platensis</i> and mixed algal culture. <i>Chemical Engineering Research and Design</i> , 2019, 124, 240-250.	2.7	75
14	A review on the conversion of volatile fatty acids to polyhydroxyalkanoates using dark fermentative effluents from hydrogen production. <i>Bioresource Technology</i> , 2019, 287, 121427.	4.8	74
15	Enhancing the production of biogas through anaerobic co-digestion of agricultural waste and chemical pre-treatments. <i>Chemosphere</i> , 2020, 255, 126805.	4.2	69
16	Solar thermochemical ZnO/ZnSO ₄ water splitting cycle for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 23474-23483.	3.8	67
17	Solar Hydrogen Production via a Samarium Oxide-Based Thermochemical Water Splitting Cycle. <i>Energies</i> , 2016, 9, 316.	1.6	63
18	Bio-sorption of toxic metals from industrial wastewater by algae strains <i>Spirulina platensis</i> and <i>Chlorella vulgaris</i> : Application of isotherm, kinetic models and process optimization. <i>Science of the Total Environment</i> , 2021, 755, 142654.	3.9	60

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19	Cellulose assisted combustion synthesis of porous Cu–Ni nanopowders. RSC Advances, 2015, 5, 28703-28712.	1.7	59
20	Assessment of Ce Zr Hf O ₂ based oxides as potential solar thermochemical CO ₂ splitting materials. Ceramics International, 2016, 42, 9354-9362.	2.3	57
21	A comparative thermodynamic analysis of samarium and erbium oxide based solar thermochemical water splitting cycles. International Journal of Hydrogen Energy, 2017, 42, 23416-23426.	3.8	56
22	Thermodynamic efficiency analysis of zinc oxide based solar driven thermochemical H ₂ O splitting cycle: Effect of partial pressure of O ₂ , thermal reduction and H ₂ O splitting temperatures. International Journal of Hydrogen Energy, 2018, 43, 14915-14924.	3.8	55
23	Industrial wastewater to biohydrogen: Possibilities towards successful biorefinery route. Bioresource Technology, 2020, 298, 122378.	4.8	55
24	In situ DRIFTS Studies on Cu, Ni and CuNi catalysts for Ethanol Decomposition Reaction. Catalysis Letters, 2016, 146, 778-787.	1.4	54
25	A review on valorization of spent coffee grounds (SCG) towards biopolymers and biocatalysts production. Bioresource Technology, 2020, 314, 123800.	4.8	54
26	Study of ethanol dehydrogenation reaction mechanism for hydrogen production on combustion synthesized cobalt catalyst. International Journal of Hydrogen Energy, 2017, 42, 23464-23473.	3.8	49
27	Solar hydrogen production via erbium oxide based thermochemical water splitting cycle. Journal of Renewable and Sustainable Energy, 2016, 8, .	0.8	47
28	Effectiveness of Ni incorporation in iron oxide crystal structure towards thermochemical CO ₂ splitting reaction. Ceramics International, 2017, 43, 5150-5155.	2.3	47
29	Solar Thermochemical Hydrogen Production via Terbium Oxide Based Redox Reactions. International Journal of Photoenergy, 2016, 2016, 1-9.	1.4	46
30	Photocatalytic conversion of CO ₂ and H ₂ O to useful fuels by nanostructured composite catalysis. Applied Surface Science, 2019, 483, 363-372.	3.1	45
31	Cobalt oxide nanopowder synthesis using cellulose assisted combustion technique. Ceramics International, 2016, 42, 12771-12777.	2.3	43
32	Sol–gel derived CeO ₂ –Fe ₂ O ₃ nanoparticles: Synthesis, characterization and solar thermochemical application. Ceramics International, 2016, 42, 6728-6737.	2.3	42
33	Influence of draw solution type and properties on the performance of forward osmosis process: Energy consumption and sustainable water reuse. Chemosphere, 2019, 233, 234-244.	4.2	40
34	Various potential techniques to reduce the water footprint of microalgal biomass production for biofuel—A review. Science of the Total Environment, 2020, 749, 142218.	3.9	40
35	Propylene oxide assisted sol–gel synthesis of zinc ferrite nanoparticles for solar fuel production. Ceramics International, 2016, 42, 2431-2438.	2.3	37
36	Potential use of solar photocatalytic oxidation in removing emerging pharmaceuticals from wastewater: A pilot plant study. Solar Energy, 2018, 172, 128-140.	2.9	37

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37	Kinetics of Absorption of Carbon Dioxide in Aqueous Solution of Ethylaminoethanol Modified with N-methyl-2-pyrrolidone. Separation Science and Technology, 2013, 48, 2324-2337.	1.3	35
38	Harvesting of intact microalgae in single and sequential conditioning steps by chemical and biological based flocculants: Effect on harvesting efficiency, water recovery and algal cell morphology. Bioresource Technology, 2019, 281, 250-259.	4.8	34
39	H ₂ generation from two-step thermochemical water-splitting reaction using sol-gel derived Sn _x FeyO _z . Journal of Renewable and Sustainable Energy, 2011, 3, .	0.8	32
40	CO ₂ Capture Using Aqueous Potassium Carbonate Promoted by Ethylaminoethanol: A Kinetic Study. Industrial & Engineering Chemistry Research, 2016, 55, 5238-5246.	1.8	32
41	Solar co-production of samarium and syngas via methanothermal reduction of samarium sesquioxide. Energy Conversion and Management, 2016, 112, 413-422.	4.4	32
42	Influence of fuel ratio on the performance of combustion synthesized bifunctional cobalt oxide catalysts for fuel cell application. International Journal of Hydrogen Energy, 2019, 44, 436-445.	3.8	32
43	Solar thermocatalytic conversion of CO ₂ using Pr _x Sr(1-x)MnO ₃ perovskites. Fuel, 2019, 254, 115624.	3.4	31
44	Sol-Gel Derived NiFe ₂ O ₄ Modified with ZrO ₂ for Hydrogen Generation from Solar Thermochemical Water-Splitting Reaction. Materials Research Society Symposia Proceedings, 2012, 1387, 1.	0.1	30
45	Combustion synthesized A _{0.5} Sr _{0.5} MnO ₃ perovskites (where, A = La, Nd, Sm, Gd, Tb, Pr, Dy, and Y) as redox materials for thermochemical splitting of CO ₂ . Applied Surface Science, 2019, 489, 80-91.	3.1	28
46	Thermodynamic analysis of EMISE Water as a working pair for absorption refrigeration system. Applied Thermal Engineering, 2019, 148, 787-795.	3.0	27
47	Thermodynamic investigation of hydrogen enrichment and carbon suppression using chemical additives in ethanol dry reforming. International Journal of Hydrogen Energy, 2016, 41, 15149-15157.	3.8	23
48	Thermodynamic analysis of Ni-ferrite based solar thermochemical H ₂ O splitting cycle for H ₂ production. International Journal of Hydrogen Energy, 2019, 44, 61-71.	3.8	23
49	Nitrogen-fixing cyanobacteria as a potential resource for efficient biodiesel production. Fuel, 2020, 279, 118440.	3.4	23
50	Thermochemical splitting of CO ₂ using solution combustion synthesized lanthanum-strontium-manganese perovskites. Fuel, 2021, 285, 119154.	3.4	22
51	Kinetics of thermal degradation of renewably prepared amines useful for flue gas treatment. Journal of Renewable and Sustainable Energy, 2013, 5, .	0.8	20
52	Sol-Gel Synthesis of Nanocrystalline Ni-Ferrite and Co-Ferrite Redox Materials for Thermochemical Production of Solar Fuels. Materials Research Society Symposia Proceedings, 2014, 1675, 203-208.	0.1	20
53	La-Based Perovskites as Oxygen-Exchange Redox Materials for Solar Syngas Production. MRS Advances, 2017, 2, 3365-3370.	0.5	20
54	Thermocatalytic splitting of CO ₂ using sol-gel synthesized Co-ferrite redox materials. Fuel, 2019, 257, 115965.	3.4	20

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55	Cost effective biomethanation via surfactant coupled ultrasonic liquefaction of mixed microalgal biomass harvested from open raceway pond. <i>Bioresource Technology</i> , 2020, 304, 123021.	4.8	20
56	Treatment of waste gas contaminated with dichloromethane using photocatalytic oxidation, biodegradation and their combinations. <i>Journal of Hazardous Materials</i> , 2021, 405, 123735.	6.5	19
57	Mineralization of dichloromethane using solar-oxidation and activated TiO ₂ : Pilot scale study. <i>Solar Energy</i> , 2018, 172, 116-127.	2.9	15
58	Thermochemical splitting of CO ₂ using Co-precipitation synthesized Ce _{0.75} Zr _{0.2} M _{0.05} O _{2-δ} (M = Cr, Mn, Tj ETQq 0 0 rgBT /Ove	3.4	14
59	Thermodynamic efficiency analysis of ZnO/Zn based solar thermochemical CH ₄ reforming and H ₂ O splitting cycle. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 5760-5771.	3.8	14
60	A novel three-step GeO ₂ /GeO thermochemical water splitting cycle for solar hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 5816-5828.	3.8	14
61	Solar oxidation of toluene over Co doped nano-catalyst. <i>Chemosphere</i> , 2020, 255, 126878.	4.2	14
62	Solar hydrogen production via ZnO/Zn based thermochemical water splitting cycle: Effect of partial reduction of ZnO. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 4739-4748.	3.8	14
63	Solar photo-catalytic production of hydrogen by irradiation of cobalt co-doped TiO ₂ . <i>International Journal of Hydrogen Energy</i> , 2021, 46, 12068-12081.	3.8	14
64	Sol-gel synthesized Ni _x Fe _{3-x} O ₄ for thermochemical conversion of CO ₂ . <i>Applied Surface Science</i> , 2019, 489, 693-700.	3.1	13
65	Application of Li-, Mg-, Ba-, Sr-, Ca-, and Sn-doped ceria for solar-driven thermochemical conversion of carbon dioxide. <i>Journal of Materials Science</i> , 2020, 55, 11797-11807.	1.7	13
66	Advanced wastewater treatment using microalgae: effect of temperature on removal of nutrients and organic carbon. <i>IOP Conference Series: Earth and Environmental Science</i> , 2017, 67, 012032.	0.2	12
67	Application of cobalt incorporated Iron oxide catalytic nanoparticles for thermochemical conversion of CO ₂ . <i>Applied Surface Science</i> , 2019, 495, 143508.	3.1	12
68	Thermochemical H ₂ production via solar driven hybrid SrO/SrSO ₄ water splitting cycle. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 118-127.	3.8	11
69	Thermochemical splitting of CO ₂ using solution combustion synthesized LaMO ₃ (where, M = Co, Fe, Mn, Tj ETQq 1 1 0.784314 rgBT /	3.1	10
70	Solar hydrogen production via thermochemical magnesium oxide " Magnesium sulfate water splitting cycle. <i>Fuel</i> , 2020, 275, 117892.	3.4	10
71	Synthesis and characterization of nanocrystalline CoFe ₂ O ₄ -zirconia via propylene oxide aided sol-gel method. <i>Ceramics International</i> , 2018, 44, 8679-8683.	2.3	9
72	Hydrogen production via solar driven thermochemical cerium oxide " cerium sulfate water splitting cycle. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 10381-10390.	3.8	9

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73	Thermochemical CO ₂ splitting using a sol-gel synthesized Mg-ferrite based redox system. International Journal of Energy Research, 2019, 43, 6983.	2.2	8
74	Thermodynamic analysis of solar-driven chemical looping steam methane reforming over Cr ₂ O ₃ /Cr redox pair. International Journal of Hydrogen Energy, 2020, 45, 10370-10380.	3.8	8
75	Investigation of Zr-doped ceria for solar thermochemical valorization of CO ₂ . International Journal of Energy Research, 2020, 44, 12284-12294.	2.2	8
76	Ni incorporation in MgFe ₂ O ₄ for improved CO ₂ -splitting activity during solar fuel production. Journal of Materials Science, 2020, 55, 11086-11094.	1.7	8
77	Concentrated solar power driven water splitting cycle using Zn-ferrite based thermochemical redox reactions. International Journal of Hydrogen Energy, 2020, 45, 10342-10352.	3.8	7
78	Co-precipitation synthesized nanostructured Ce _{0.9} Ln _{0.05} Ag _{0.05} O ₂ materials for solar thermochemical conversion of CO ₂ into fuels. Journal of Materials Science, 2020, 55, 9748-9761.	1.7	7
79	Mathematical modeling, simulation and optimization of solar thermal powered Encontech engine for desalination. Solar Energy, 2018, 172, 104-115.	2.9	6
80	Solar thermochemical H ₂ production via MnSO ₄ /MnO water splitting cycle: Thermodynamic equilibrium and efficiency analysis. International Journal of Hydrogen Energy, 2020, 45, 10324-10333.	3.8	6
81	Terbium oxide based solar thermochemical CO ₂ splitting cycle: A thermodynamic investigation. , 2020, 10, 703-714.		5
82	Nickel/Cobalt nanoparticles for electrochemical production of hydrogen. International Journal of Hydrogen Energy, 2021, 46, 11369-11377.	3.8	5
83	Mn-ferrite based solar thermochemical water splitting cycle: A thermodynamic evaluation. Fuel, 2019, 256, 115847.	3.4	4
84	Solar driven CdSO ₄ /CdO thermochemical water splitting cycle for hydrogen generation. International Journal of Hydrogen Energy, 2020, 45, 5829-5839.	3.8	4
85	Application of chromium oxide-based redox reactions for hydrogen production via solar thermochemical splitting of water. Fuel, 2020, 277, 118160.	3.4	4
86	Solar thermochemical conversion of CO ₂ via erbium oxide based redox cycle. , 2020, 10, 865-874.		4
87	CO ₂ Capture Using an Aqueous Formulated Solvent Containing Ethylaminoethanol, N-Methyl-2-Pyrrolidone, and Hydroxyl Radical Scavengers: Study of Solvent Degradation and Absorption Kinetics. , 2015, , 11-19.		4
88	Thermochemical Conversion of CO ₂ into Solar Fuels Using Ferrite Nanomaterials. , 2015, , 141-148.		3
89	Thermodynamic exergy analysis of dysprosium oxide-based solar thermochemical water-splitting cycle. International Journal of Exergy, 2017, 23, 226.	0.2	3
90	Solar driven two-step CH ₄ reforming and H ₂ O splitting using Al ₂ O ₃ for Co-production of Al, syngas, and H ₂ . Solar Energy, 2018, 172, 232-241.	2.9	3

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91	Kinetics of reactive absorption of CO ₂ using aqueous blend of potassium carbonate, ethylaminoethanol, and N-methyl-2-Pyrrolidone (APCEN solvent). Journal of the Taiwan Institute of Chemical Engineers, 2018, 89, 191-197.	2.7	3
92	Evaluation of redox performance of silver and transition metal doped ternary ceria oxides for thermochemical splitting of CO ₂ . International Journal of Energy Research, 2019, 43, 3616-3627.	2.2	3
93	Experimental measurements and modelling of viscosity and density of calcium and potassium chlorides ternary solutions. Scientific Reports, 2020, 10, 16312.	1.6	3
94	Thermodynamic study of the effect of partial thermal reduction of dysprosium oxide on solar-to-fuel energy conversion efficiency. Fuel, 2020, 278, 118249.	3.4	3
95	Application of Zn-ferrite towards thermochemical utilization of carbon dioxide: A thermodynamic investigation. Energy Conversion and Management, 2021, 245, 114528.	4.4	3
96	Evacuated tube heat pipe solar collector for Encontech engine driven reverse osmosis solar desalination. International Journal of Energy Research, 2020, 44, 12460-12473.	2.2	3
97	SnO ₂ / SnO based redox thermochemical CO ₂ splitting cycle: Effect of inert gas flowrate, reduction temperature, and gas separation on the solar-to-fuel energy conversion efficiency. International Journal of Energy Research, 2022, 46, 9267-9280.	2.2	3
98	Thermodynamic evaluation of solar assisted ZnO/Zn thermochemical CO ₂ splitting cycle. Environmental Research, 2022, 212, 113266.	3.7	3
99	Hydrogen production via thermochemical H ₂ O splitting using CaSO ₄ ↔ CaO redox reactions. International Journal of Hydrogen Energy, 2020, 45, 3444-3456.	3.8	2
100	Production of solar CO via two-step neodymium oxide based thermochemical CO ₂ splitting cycle. Fuel, 2020, 282, 118803.	3.4	2
101	H ₂ generation via solar assisted CaO/Ca thermochemical H ₂ O splitting cycle. International Journal of Hydrogen Energy, 2021, 46, 12095-12104.	3.8	2
102	Thermodynamic analysis of Mg _x Fe _{3x} O ₄ redox CO ₂ conversion solar thermochemical cycle. International Journal of Energy Research, 2022, 46, 923-936.	2.2	2
103	Solar Fuel Production via Non-Stoichiometric CexZryHfzO2-Î Based Two-Step Thermochemical Redox Cycle. , 2015, , 117-124.		1
104	Thermodynamic Analysis of Solar Fuel Production via Thermochemical H ₂ O and/or CO ₂ Splitting Using Tin Oxide Based Redox Reactions. , 2015, , 39-48.		1
105	Catalytic Reduction of CO ₂ into Solar Fuels via Ferrite Based Thermochemical Redox Reactions. MRS Advances, 2017, 2, 3389-3395.	0.5	1
106	Solar Energy Storage via Thermochemical Metal Oxide/Metal Sulfate Water Splitting Cycle. MRS Advances, 2018, 3, 1341-1346.	0.5	1
107	Experimental Investigation of Isothermal Vapor-Liquid Equilibrium and Estimation of Excess Thermodynamic Properties (hE) of CH ₂ O-H ₂ O from 278.15 to 423.15 K. Journal of Chemical & Engineering Data, 2019, 64, 1488-1500.	1.0	1
108	Solar syngas production via methanothermal reduction of strontium oxide. Fuel, 2020, 280, 118466.	3.4	1

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109	Energetic and exergetic performance of $\text{NH}_3\text{-H}_2\text{O}$ -based absorption refrigeration cycle: effect of operating factor. International Journal of Exergy, 2020, 31, 352.	0.2	1
110	Solar driven MgO/Mg based methane reforming and water splitting process: A thermodynamic inspection. International Journal of Hydrogen Energy, 2020, 45, 10313-10323.	3.8	1
111	Estimation of solar-fuel energy conversion efficiency of a solar driven samarium oxide-based thermochemical CO_2 splitting cycle. , 2020, 10, 725-735.		1
112	Utilization of Niobium Pentoxide based redox reactions for solar hydrogen generation via thermochemical water splitting cycle. International Journal of Hydrogen Energy, 2021, 46, 11242-11251.	3.8	1
113	Solar assisted methanothermal reduction of barium oxide for the co-production of barium and syngas. International Journal of Energy Research, 2021, 45, 8168-8179.	2.2	1
114	Solar thermochemical splitting of H_2O using Ca-Ferrite based redox reactions: Effect of partial pressure of O_2 . International Journal of Hydrogen Energy, 2021, 46, 11232-11241.	3.8	1
115	A solar thermochemical praseodymium sesquioxide assisted CO_2 splitting cycle. International Journal of Energy Research, 2021, 45, 9999-10011.	2.2	1
116	Guest editorial for the special issue energy research for better sustainability. International Journal of Energy Research, 2020, 44, 12208-12208.	2.2	0
117	Moderate Temperature Treatment of Gas-Phase Volatile Organic Toluene Using NiO and NiO-TiO ₂ Nano-catalysts: Characterization and Kinetic Behaviors. Waste and Biomass Valorization, 2021, 12, 3075-3089.	1.8	0
118	Solar thermochemical conversion of CO_2 into fuels using gadolinium sesquioxide: A thermodynamic efficiency analysis. International Journal of Energy Research, 2021, 45, 8202-8213.	2.2	0