

Alicia Bayon

List of Publications by Year in descending order

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42
papers

1,129
citations

430874

18
h-index

395702

33
g-index

43
all docs

43
docs citations

43
times ranked

1008
citing authors

#	ARTICLE	IF	CITATIONS
1	Techno-economic assessment of solid-gas thermochemical energy storage systems for solar thermal power applications. <i>Energy</i> , 2018, 149, 473-484.	8.8	177
2	Thermochemical energy storage at high temperature via redox cycles of Mn and Co oxides: Pure oxides versus mixed ones. <i>Solar Energy Materials and Solar Cells</i> , 2014, 123, 47-57.	6.2	137
3	Kinetics of Solid-Gas Reactions and Their Application to Carbonate Looping Systems. <i>Energies</i> , 2019, 12, 2981.	3.1	69
4	Impact of ambient temperature on supercritical CO ₂ recompression Brayton cycle in arid locations: Finding the optimal design conditions. <i>Energy</i> , 2018, 153, 1016-1027.	8.8	63
5	Experimental, computational and thermodynamic studies in perovskites metal oxides for thermochemical fuel production: A review. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 12653-12679.	7.1	51
6	Efficient ceria nanostructures for enhanced solar fuel production via high-temperature thermochemical redox cycles. <i>Journal of Materials Chemistry A</i> , 2016, 4, 9614-9624.	10.3	49
7	Hydrogen from Sunlight and Water: A Side-by-Side Comparison between Photoelectrochemical and Solar Thermochemical Water-Splitting. <i>ACS Energy Letters</i> , 2021, 6, 3096-3113.	17.4	45
8	Techno-economic assessment of a high-efficiency, low-cost solar-thermal power system with sodium receiver, phase-change material storage, and supercritical CO ₂ recompression Brayton cycle. <i>Solar Energy</i> , 2020, 199, 885-900.	6.1	42
9	Earth-abundant transition metal oxides with extraordinary reversible oxygen exchange capacity for efficient thermochemical synthesis of solar fuels. <i>Nano Energy</i> , 2018, 50, 347-358.	16.0	40
10	Gas-Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. <i>Reviews in Mineralogy and Geochemistry</i> , 2018, 84, 1-56.	4.8	39
11	Friedman method kinetic analysis of CaO-based sorbent for high-temperature thermochemical energy storage. <i>Chemical Engineering Science</i> , 2019, 200, 236-247.	3.8	33
12	Comparative Kinetic Analysis of CaCO ₃ /CaO Reaction System for Energy Storage and Carbon Capture. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 4601.	2.5	32
13	Annual performance of a thermochemical solar syngas production plant based on non-stoichiometric CeO ₂ . <i>International Journal of Hydrogen Energy</i> , 2019, 44, 1409-1424.	7.1	31
14	Lattice Expansion in Optimally Doped Manganese Oxide: An Effective Structural Parameter for Enhanced Thermochemical Water Splitting. <i>ACS Catalysis</i> , 2019, 9, 9880-9890.	11.2	29
15	Particle design and oxidation kinetics of iron-manganese oxide redox materials for thermochemical energy storage. <i>Solar Energy</i> , 2019, 183, 17-29.	6.1	28
16	Study on shell-and-tube heat exchanger models with different degree of complexity for process simulation and control design. <i>Applied Thermal Engineering</i> , 2017, 124, 1425-1440.	6.0	27
17	Novel solid-solid phase-change cascade systems for high-temperature thermal energy storage. <i>Solar Energy</i> , 2019, 177, 274-283.	6.1	25
18	Reduction kinetics for large spherical 2:1 iron-manganese oxide redox materials for thermochemical energy storage. <i>Chemical Engineering Science</i> , 2019, 201, 74-81.	3.8	22

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19	Influence of structural and morphological characteristics on the hydrogen production and sodium recovery in the NaOH-MnO thermochemical cycle. International Journal of Hydrogen Energy, 2013, 38, 13143-13152.	7.1	17
20	Oxidation kinetics of hercynite spinels for solar thermochemical fuel production. Chemical Engineering Journal, 2020, 401, 126015.	12.7	17
21	Operational Limits of Redox Metal Oxides Performing Thermochemical Water Splitting. Energy Technology, 2022, 10, 2100222.	3.8	16
22	Role of the physicochemical properties of hausmannite on the hydrogen production via the Mn ₃ O ₄ -NaOH thermochemical cycle. International Journal of Hydrogen Energy, 2016, 41, 113-122.	7.1	15
23	Reduction kinetics of hercynite redox materials for solar thermochemical water splitting. Chemical Engineering Journal, 2020, 389, 124429.	12.7	13
24	Design and experimental validation of a computational effective dynamic thermal energy storage tank model. Energy, 2018, 152, 840-857.	8.8	12
25	Dysprosium Oxide-Supported CaO for Thermochemical Energy Storage. Frontiers in Materials, 2021, 8, .	2.4	10
26	Towards chemical equilibrium in thermochemical water splitting. Part 1: Thermal reduction. International Journal of Hydrogen Energy, 2022, 47, 10474-10482.	7.1	10
27	Exploring the alternative MnO-Na ₂ CO ₃ thermochemical cycle for water splitting. Journal of CO ₂ Utilization, 2020, 42, 101264.	6.8	9
28	Thermochemical heat storage at high temperature. Advances in Chemical Engineering, 2021, 58, 247-295.	0.9	8
29	Investigation of novel hydroxyapatite-doped CaO material for calcination-carbonation thermochemical energy storage. AIP Conference Proceedings, 2018, , .	0.4	7
30	System-level simulation of a novel solar power tower plant based on a sodium receiver, PCM storage and sCO ₂ power block. AIP Conference Proceedings, 2018, , .	0.4	7
31	Electronic structure and high-temperature thermochemistry of BaZrO ₃ perovskite from first-principles calculations. Physical Chemistry Chemical Physics, 2019, 21, 12468-12476.	2.8	7
32	Dynamic modelling of a continuous hydrogen production plant based on a CeO ₂ thermochemical cycle. AIP Conference Proceedings, 2018, , .	0.4	6
33	Thermal transport and chemical conversion in single reacting sorbent particles. AIChE Journal, 2021, 67, e17267.	3.6	5
34	Annual Performance of a Solar-Thermochemical Hydrogen Production Plant Based on CeO ₂ Redox Cycle. , 2017, , .		5
35	First-principles thermochemical properties of hexagonal and cubic phase BaMnO ₃ . Materials Today Communications, 2022, 31, 103453.	1.9	5
36	Calcium, strontium and barium carbonate mixtures for calcination-carbonation thermochemical energy storage. AIP Conference Proceedings, 2019, , .	0.4	4

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37	Round robin test on enthalpies of redox materials for thermochemical heat storage: Perovskites. AIP Conference Proceedings, 2019, , .	0.4	4
38	Electronic Structure and High-Temperature Thermochemistry of Oxygen-Deficient BaMO ₃ (M = Ti, Cu) Perovskites. Journal of Physical Chemistry C, 2020, 124, 27055-27063.	3.1	4
39	Fundamentals of solar thermochemical gas splitting materials. Advances in Chemical Engineering, 2021, , 55-90.	0.9	3
40	Investigation of lithium sulphate for high temperature thermal energy storage. AIP Conference Proceedings, 2017, , .	0.4	2
41	Effect of plant location on the annual performance of a hydrogen production plant based on CeO ₂ thermochemical cycle. AIP Conference Proceedings, 2019, , .	0.4	2
42	Annual performance of a solar reforming plant for high-temperature thermal processing of minerals. AIP Conference Proceedings, 2019, , .	0.4	1