Manuel Romero

List of Publications by Year
in descending order

66 papers	3,360 citations	236925 25 h-index	144013 57 g-index
66 all docs	66 docs citations	66 times ranked	2752 citing authors

#	Article	IF	Citations
1	Concentrating solar thermal power and thermochemical fuels. Energy and Environmental Science, 2012, 5, 9234.	30.8	591
2	Solar Energy on Demand: A Review on High Temperature Thermochemical Heat Storage Systems and Materials. Chemical Reviews, 2019, 119, 4777-4816.	47.7	335
3	An Update on Solar Central Receiver Systems, Projects, and Technologies. Journal of Solar Energy Engineering, Transactions of the ASME, 2002, 124, 98-108.	1.8	258
4	Evaluation of porous silicon carbide monolithic honeycombs as volumetric receivers/collectors of concentrated solar radiation. Solar Energy Materials and Solar Cells, 2007, 91, 474-488.	6.2	185
5	Thermochemical energy storage at high temperature via redox cycles of Mn and Co oxides: Pure oxides versus mixed ones. Solar Energy Materials and Solar Cells, 2014, 123, 47-57.	6.2	137
6	SOLAR PHOTOCATALYTIC DEGRADATION OF WATER AND AIR POLLUTANTS: CHALLENGES AND PERSPECTIVES. Solar Energy, 1999, 66, 169-182.	6.1	128
7	Numerical and experimental studies on heat transfer characteristics of thermal energy storage system packed with molten salt PCM capsules. Applied Thermal Engineering, 2015, 90, 970-979.	6.0	127
8	Methodology for generation of heliostat field layout in central receiver systems based on yearly normalized energy surfaces. Solar Energy, 2006, 80, 861-874.	6.1	121
9	Solar thermal <scp>CSP</scp> technology. Wiley Interdisciplinary Reviews: Energy and Environment, 2014, 3, 42-59.	4.1	109
10	Solar hydrogen production by two-step thermochemical cycles: Evaluation of the activity of commercial ferrites. International Journal of Hydrogen Energy, 2009, 34, 2918-2924.	7.1	107
11	Review of experimental investigation on directly irradiated particles solar reactors. Renewable and Sustainable Energy Reviews, 2015, 41, 53-67.	16.4	105
12	Numerical analysis of charging and discharging performance of a thermal energy storage system with encapsulated phase change material. Applied Thermal Engineering, 2014, 71, 481-500.	6.0	99
13	The melting process of storage materials with relatively high phase change temperatures in partially filled spherical shells. Applied Energy, 2014, 116, 243-252.	10.1	77
14	Thermal and hydrodynamic behavior of ceramic volumetric absorbers for central receiver solar power plants: A review. Renewable and Sustainable Energy Reviews, 2016, 57, 648-658.	16.4	66
15	Optimal integration of a solid-oxide electrolyser cell into a direct steam generation solar tower plant for zero-emission hydrogen production. Applied Energy, 2014, 131, 238-247.	10.1	59
16	Kinetics of Mn₂O₃â€“Mn₃O₄ and Mn₃O₄â€“MnO Redox Reactions Performed under Concentrated Thermal Radiative Flux. Energy & Fuels, 2013, 27, 4884-4890.	5.1	57
17	Influence of temperature on gas-phase photo-assisted mineralization of TCE using tubular and monolithic catalysts. Catalysis Today, 1999, 54, 369-377.	4.4	53
18	Design and off-design performance comparison of supercritical carbon dioxide Brayton cycles for particle-based high temperature concentrating solar power plants. Energy Conversion and Management, 2021, 232, 113870.	9.2	53

#	Article	IF	Citations
19	Annual performance of solar tower aided coal-fired power generation system. Energy, 2017, 119, 662-674.	8.8	49
20	Part load operation of a solid oxide electrolysis system for integration with renewable energy sources. International Journal of Hydrogen Energy, 2015, 40, 8291-8303.	7.1	40
21	Numerical analysis of radiation propagation in a multi-layer volumetric solar absorber composed of a stack of square grids. Solar Energy, 2015, 121, 94-102.	6.1	37
22	Soiling effect in solar energy conversion systems: A review. Renewable and Sustainable Energy Reviews, 2022, 162, 112434.	16.4	36
23	Optical Analysis of a Hexagonal 42kWe High-flux Solar Simulator. Energy Procedia, 2014, 57, 590-596.	1.8	35
24	Analysis of air return alternatives for CRS-type open volumetric reciever. Energy, 2004, 29, 677-686.	8.8	30
25	Thermal performance of lab-scale solar reactor designed for kinetics analysis at high radiation fluxes. Chemical Engineering Science, 2013, 101, 81-89.	3.8	28
26	Macroencapsulation of sodium chloride as phase change materials for thermal energy storage. Solar Energy, 2018, 167, 1-9.	6.1	26
27	Performance comparison of different thermodynamic cycles for an innovative central receiver solar power plant. AIP Conference Proceedings, 2017, , .	0.4	24
28	Analysis of Net Zero-energy Building in Spain. Integration of PV, Solar Domestic Hot Water and Air-conditioning Systems. Energy Procedia, 2014, 48, 828-836.	1.8	21
29	Distributed power from solar tower systems: a MIUS approach. Solar Energy, 1999, 67, 249-264.	6.1	20
30	Optimization of solar aided coal-fired power plant layouts using multi-criteria assessment. Applied Thermal Engineering, 2018, 137, 406-418.	6.0	20
31	Numerical Investigation of PCM-based Thermal Energy Storage System. Energy Procedia, 2015, 69, 758-768.	1.8	18
32	Coupling of a Solid-oxide Cell Unit and a Linear Fresnel Reflector Field for Grid Management. Energy Procedia, 2014, 57, 706-715.	1.8	17
33	A directly irradiated solar reactor for kinetic analysis of non-volatile metal oxides reductions. International Journal of Energy Research, 2015, 39, 1217-1228.	4.5	17
34	Optical performance of vertical heliostat fields integrated in building faÃ§ades for concentrating solar energy uses. Solar Energy, 2013, 97, 447-459.	6.1	15
35	Comparative System Performance Analysis of Direct Steam Generation Central Receiver Solar Thermal Power Plants in Megawatt Range. Journal of Solar Energy Engineering, Transactions of the ASME, 2014, 136, .	1.8	15
36	Thermo-economic analysis of a particle-based multi-tower solar power plant using unfired combined cycle for evening peak power generation. Energy, 2022, 240, 122798.	8.8	15

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37	Transient Numerical Analysis of Storage Tanks Based on Encapsulated PCMs for Heat Storage in Concentrating Solar Power Plants. Energy Procedia, 2014, 57, 672-681.	1.8	14
38	Solar-Driven Thermochemical Water-Splitting by Cerium Oxide: Determination of Operational Conditions in a Directly Irradiated Fixed Bed Reactor. Energies, 2018, 11, 2451.	3.1	13
39	Liquid fuels from concentrated sunlight: An overview on development and integration of a 50 kW solar thermochemical reactor and high concentration solar field for the SUN-to-LIQUID project. AIP Conference Proceedings, 2019, , .	0.4	13
40	Analysis of solid-state reaction in the performance of doped calcium manganites for thermal storage. Solid State Ionics, 2019, 338, 47-57.	2.7	12
41	A Novel Lab-scale Solar Reactor for Kinetic Analysis of Non-volatile Metal Oxides Thermal Reductions. Energy Procedia, 2014, 57, 561-569.	1.8	11
42	Numerical analysis of radiation propagation in innovative volumetric receivers based on selective laser melting techniques. AIP Conference Proceedings, 2016, , .	0.4	11
43	Multi-Tubular Reactor for Hydrogen Production: CFD Thermal Design and Experimental Testing. Processes, 2019, 7, 31.	2.8	11
44	Exergetic analysis of hybrid power plants with biomass and photovoltaics coupled with a solid-oxide electrolysis system. Energy, 2016, 94, 304-315.	8.8	10
45	Ultra-modular 500m2 heliostat field for high flux/high temperature solar-driven processes. AIP Conference Proceedings, 2017, , .	0.4	10
46	Performance assessment of concentrated solar power plants based on carbon and hydrogen fuel cells. International Journal of Hydrogen Energy, 2018, 43, 5852-5862.	7.1	10
47	Optical and thermal integration analysis of supercritical CO2 Brayton cycles with a particle-based solar thermal plant based on annual performance. Renewable Energy, 2022, 189, 164-179.	8.9	10
48	Phase Change and Heat Transfer Numerical Analysis during Solidification on an Encapsulated Phase Change Material. Energy Procedia, 2014, 57, 653-661.	1.8	9
49	Numerical Modeling of Solar Thermochemical Reactor for Kinetic Analysis. Energy Procedia, 2014, 49, 735-742.	1.8	9
50	Comparison of Experimental and Numerical Air Temperature Distributions Behind a Cylindrical Volumetric Solar Absorber Module. Journal of Solar Energy Engineering, Transactions of the ASME, 2008, 130, .	1.8	8
51	Analysis of solar shading caused by building-integrated Vertical Heliostat Fields. Energy and Buildings, 2014, 76, 199-210.	6.7	8
52	A new laboratory-scale experimental facility for detailed aerothermal characterizations of volumetric absorbers. AIP Conference Proceedings, 2016, , .	0.4	8
53	Recent experiences on reflectant module components for innovative heliostats. Solar Energy Materials and Solar Cells, 1991, 24, 320-332.	0.4	7
54	A new calorimetric facility to investigate radiative-convective heat exchangers for concentrated solar power applications. International Journal of Energy Research, 2018, 42, 966-976.	4.5	7

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55	Application of un-fired closed Brayton cycle with mass flow regulation and particles-based thermal energy storage systems for CSP. AIP Conference Proceedings, 2019, , .	0.4	7
56	Particles-based thermal energy storage systems for concentrated solar power. AIP Conference Proceedings, 2018, , .	0.4	6
57	Drift analysis in tilt-roll heliostats. Solar Energy, 2020, 211, 1170-1183.	6.1	6
58	Analysis of glint and glare produced by the receiver of small heliostat fields integrated in building faÃ§ades. Methodology applicable to conventional central receiver systems. Solar Energy, 2015, 121, 68-77.	6.1	5
59	A parametric experimental study of aerothermal performance and efficiency in monolithic volumetric absorbers. AIP Conference Proceedings, 2017, , .	0.4	5
60	Heat exchanger modelling in central receiver solar power plant using dense particle suspension. AIP Conference Proceedings, 2017, , .	0.4	5
61	Design of â€œSIREC-1â€•Wire Mesh Open Volumetric Solar Receiver Prototype. , 2001, , .		4
62	CRISPTower â€“ A Solar Power Tower R&D Initiative in India. Energy Procedia, 2014, 57, 301-310.	1.8	3
63	Determination of Glint and Glare of Heliostat Fields Integrated on Building FaÃ§ades.. Energy Procedia, 2014, 57, 331-340.	1.8	3
64	Numerical modelling of a 100-Wh lab-scale thermochemical heat storage system for concentrating solar power plants. AIP Conference Proceedings, 2016, , .	0.4	3
65	Integrated solar combined cycle using particles as heat transfer fluid and thermal energy storage medium for flexible electricity dispatch. AIP Conference Proceedings, 2020, , .	0.4	2
66	Performance of a CRS with stretched membrane heliostats for steam reforming of methane. Solar Energy Materials and Solar Cells, 1991, 24, 707-719.	0.4	0