John Pye

List of Publications by Year in descending order

106 papers	2,039 citations	257450 24 h-index	265206 42 g-index
106 all docs	106 docs citations	106 times ranked	1442 citing authors

#	Article	IF	Citations
1	Techno-economic assessment of solidâ€“gas thermochemical energy storage systems for solar thermal power applications. Energy, 2018, 149, 473-484.	8.8	177
2	A new 500m2 paraboloidal dish solar concentrator. Solar Energy, 2011, 85, 620-626.	6.1	170
3	A review of sodium receiver technologies for central receiver solar power plants. Solar Energy, 2015, 122, 749-762.	6.1	101
4	Energy and exergy analysis of concentrated solar supercritical water gasification of algal biomass. Applied Energy, 2018, 228, 1669-1682.	10.1	91
5	Thermoelastic stress in concentrating solar receiver tubes: A retrospect on stress analysis methodology, and comparison of salt and sodium. Solar Energy, 2018, 160, 368-379.	6.1	82
6	Progress in heat transfer research for high-temperature solar thermal applications. Applied Thermal Engineering, 2021, 184, 116137.	6.0	67
7	Impact of ambient temperature on supercritical CO2 recompression Brayton cycle in arid locations: Finding the optimal design conditions. Energy, 2018, 153, 1016-1027.	8.8	63
8	Optics of solar central receiver systems: a review. Optics Express, 2016, 24, A985.	3.4	62
9	Numerical Investigation of Natural Convection Loss From Cavity Receivers in Solar Dish Applications. Journal of Solar Energy Engineering, Transactions of the ASME, 2011, 133, .	1.8	56
10	Efficient ceria nanostructures for enhanced solar fuel production via high-temperature thermochemical redox cycles. Journal of Materials Chemistry A, 2016, 4, 9614-9624.	10.3	49
11	A solar fuel plant via supercritical water gasification integrated with Fischerâ€“Tropsch synthesis: Steady-state modelling and techno-economic assessment. Energy Conversion and Management, 2019, 184, 636-648.	9.2	47
12	Heliostat Cost Reduction â€“ Where to Now?. Energy Procedia, 2014, 49, 60-70.	1.8	46
13	Verification of optical modelling of sunshape and surface slope error for concentrating solar power systems. Solar Energy, 2020, 195, 461-474.	6.1	44
14	Techno-economic assessment of a high-efficiency, low-cost solar-thermal power system with sodium receiver, phase-change material storage, and supercritical CO2 recompression Brayton cycle. Solar Energy, 2020, 199, 885-900.	6.1	42
15	Investigation of Heat Loss from a Solar Cavity Receiver. Energy Procedia, 2015, 69, 269-278.	1.8	39
16	The challenges and opportunities for integration of solar syngas production with liquid fuel synthesis. AIP Conference Proceedings, 2016, , .	0.4	39
17	Annual performance of a thermochemical solar syngas production plant based on non-stoichiometric CeO2. International Journal of Hydrogen Energy, 2019, 44, 1409-1424.	7.1	31
18	Multi-tower Line Focus Fresnel Array Project. Journal of Solar Energy Engineering, Transactions of the ASME, 2006, 128, 118-120.	1.8	28

#	Article	IF	Citations
19	Particle design and oxidation kinetics of iron-manganese oxide redox materials for thermochemical energy storage. Solar Energy, 2019, 183, 17-29.	6.1	28
20	Numerical investigation of the natural convective heat loss of a solar central cavity receiver with air curtain. Applied Thermal Engineering, 2019, 152, 147-159.	6.0	28
21	A transient model for the heat exchange in a solar thermal once through cavity receiver. Solar Energy, 2013, 93, 280-293.	6.1	25
22	A solar fuel plant via supercritical water gasification integrated with Fischerâ€“Tropsch synthesis: System-level dynamic simulation and optimisation. Energy Conversion and Management, 2019, 192, 71-87.	9.2	25
23	Novel solidâ€“solid phase-change cascade systems for high-temperature thermal energy storage. Solar Energy, 2019, 177, 274-283.	6.1	25
24	Temperature-based optical design, optimization and economics of solar polar-field central receiver systems with an optional compound parabolic concentrator. Solar Energy, 2020, 206, 1018-1032.	6.1	25
25	Solar fuels from supercritical water gasification of algae: Impacts of low-cost hydrogen on reformer configurations. Applied Energy, 2021, 288, 116620.	10.1	25
26	Review of application of AI techniques to Solar Tower Systems. Solar Energy, 2021, 224, 500-515.	6.1	25
27	Integration of Monte-Carlo ray tracing with a stochastic optimisation method: application to the design of solar receiver geometry. Optics Express, 2015, 23, A437.	3.4	24
28	A CFD-supported dynamic system-level model of a sodium-cooled billboard-type receiver for central tower CSP applications. Solar Energy, 2019, 177, 576-594.	6.1	24
29	Development of a higher-efficiency tubular cavity receiver for direct steam generation on a dish concentrator. AIP Conference Proceedings, 2016, , .	0.4	23
30	SolarTherm: A flexible Modelica-based simulator for CSP systems. AIP Conference Proceedings, 2017, , .	0.4	23
31	Reduction kinetics for large spherical 2:1 ironâ€“manganese oxide redox materials for thermochemical energy storage. Chemical Engineering Science, 2019, 201, 74-81.	3.8	22
32	Mixed convection and radiation from an isothermal bladed structure. International Journal of Heat and Mass Transfer, 2020, 147, 118906.	4.8	22
33	A review of standards for hybrid CPV-thermal systems. Renewable and Sustainable Energy Reviews, 2012, 16, 443-448.	16.4	21
34	Mixed convection around a tilted cuboid with an isothermal sidewall at moderate Reynolds numbers. International Journal of Heat and Mass Transfer, 2018, 119, 418-432.	4.8	19
35	Analysis of tubular receivers for concentrating solar tower systems with a range of working fluids, in exergy-optimised flow-path configurations. Solar Energy, 2020, 211, 999-1016.	6.1	19
36	Reduction of ironâ€“manganese oxide particles in a lab-scale packed-bed reactor for thermochemical energy storage. Chemical Engineering Science, 2020, 221, 115700.	3.8	19

#	Article	IF	Citations
37	Experimental testing of a high-flux cavity receiver. AIP Conference Proceedings, 2017, , .	0.4	18
38	Experimental correlation of natural convection losses from a scale-model solar cavity receiver with non-isothermal surface temperature distribution. Solar Energy, 2020, 198, 355-375.	6.1	18
39	Design and modeling of a high temperature solar thermal energy storage unit based on molten soda lime silica glass. Solar Energy, 2016, 126, 32-43.	6.1	17
40	Zero-carbon steel production: The opportunities and role for Australia. Energy Policy, 2022, 163, 112811.	8.8	17
41	An Experimental Study of Ammonia Receiver Geometries for Dish Concentrators. Journal of Solar Energy Engineering, Transactions of the ASME, 2012, 134, .	1.8	14
42	Geometrical Shape Optimization of a Cavity Receiver Using Coupled Radiative and Hydrodynamic Modeling. Energy Procedia, 2015, 69, 279-288.	1.8	14
43	Shading and land use in regularly-spaced sun-tracking collectors. Solar Energy, 2014, 108, 199-209.	6.1	13
44	Performance enhancement of cavity receivers with spillage skirts and secondary reflectors in concentrated solar dish and tower systems. Solar Energy, 2020, 208, 708-727.	6.1	13
45	Optical analysis of a solar thermochemical system with a rotating tower reflector and a receiverâ€“reactor array. Optics Express, 2020, 28, 19429.	3.4	13
46	Active Air Flow Control to Reduce Cavity Receiver Heat Loss. , 2015, , .		12
47	Reduction of convective losses in solar cavity receivers. AIP Conference Proceedings, 2016, , .	0.4	11
48	Optical Performance of Bladed Receivers for CSP Systems. , 2016, , .		10
49	Optical and thermal performance of bladed receivers. AIP Conference Proceedings, 2017, , .	0.4	10
50	MDBA: An accurate and efficient method for aiming heliostats. Solar Energy, 2021, 225, 694-707.	6.1	10
51	Exploring efficiency limits for molten-salt and sodium external cylindrical receivers for third-generation concentrating solar power. Solar Energy, 2022, 240, 354-375.	6.1	10
52	Thermodynamic modelling and solar reactor design for syngas production through SCWG of algae. AIP Conference Proceedings, 2017, , .	0.4	9
53	Optical analysis of a multi-aperture solar central receiver system for high-temperature concentrating solar applications. Optics Express, 2020, 28, 37654.	3.4	9
54	Exergy analysis of the focal-plane flux distribution of solar-thermal concentrators. Applied Energy, 2018, 222, 1023-1032.	10.1	8

#	Article	IF	Citations
55	Thermochemical heat storage at high temperature. Advances in Chemical Engineering, 2021, 58, 247-295.	0.9	8
56	Exergoeconomic optimisation of steam networks connecting solar-thermal dish arrays. Solar Energy, 2015, 119, 383-398.	6.1	7
57	System-level simulation of a novel solar power tower plant based on a sodium receiver, PCM storage and sCO2 power block. AIP Conference Proceedings, 2018, , .	0.4	7
58	Towards testing of a second-generation bladed receiver. AIP Conference Proceedings, 2019, , .	0.4	7
59	Methanol fuel production from solar-assisted supercritical water gasification of algae: a techno-economic annual optimisation. Sustainable Energy and Fuels, 2021, 5, 4913-4931.	4.9	7
60	Air curtains for reduction of natural convection heat loss from a heated plate: A numerical investigation. International Journal of Heat and Mass Transfer, 2022, 189, 122709.	4.8	7
61	Techno-economic optimisation of a sodiumâ€“chloride salt heat exchanger for concentrating solar power applications. Solar Energy, 2022, 239, 252-267.	6.1	7
62	Development of ASTRI high-temperature solar receivers. AIP Conference Proceedings, 2017, , .	0.4	6
63	Micro-scale heat transfer modelling of the contact line region of a boiling-sodium bubble. International Journal of Heat and Mass Transfer, 2020, 160, 120106.	4.8	6
64	A method for in situ measurement of directional and spatial radiosity distributions from complex-shaped solar thermal receivers. Solar Energy, 2020, 201, 732-745.	6.1	6
65	Fundamental principles of concentrating solar power systems. , 2021, , 19-71.		6
66	Liquid fuel productionviasupercritical water gasification of algae: a role for solar heat integration?. Sustainable Energy and Fuels, 2021, 5, 6269-6297.	4.9	6
67	Limits of the cylindrical absorber design for a sodium receiver. AIP Conference Proceedings, 2018, , .	0.4	5
68	Upper limits to the mean annual optical efficiency of solar mono-tower systems. Solar Energy, 2022, 236, 88-99.	6.1	5
69	Modelling of a 50 MWth on-sun reactor for SCWG of algae: Understanding the design constraints. AIP Conference Proceedings, 2019, , .	0.4	4
70	Optical and radiation considerations in bladed receiver designs for central tower systems. AIP Conference Proceedings, 2019, , .	0.4	4
71	A sodium boiler and phase-change energy storage system. AIP Conference Proceedings, 2019, , .	0.4	4
72	Optimal Sizing of Cylindrical Receivers for Surround Heliostat Fields Using fluxtracer. Journal of Solar Energy Engineering, Transactions of the ASME, 2021, 143, .	1.8	4

#	Article	IF	Citations
73	Flow structure and convective heat transfer in a bladed structure under wind conditions. International Journal of Heat and Fluid Flow, 2020, 85, 108676.	2.4	4
74	SolarTherm: A New Modelica Library and Simulation Platform for Concentrating Solar Thermal Power Systems. SNE Simulation Notes Europe, 2018, 28, 101-103.	0.3	4
75	Analysis of Air Curtains for Natural Convection Heat-Loss Mitigation. , 2020, , .		4
76	Development of the ASTRI heliostat. AIP Conference Proceedings, 2016, , .	0.4	3
77	Geometrical exploration of a flux-optimised sodium receiver through multi-objective optimisation. AIP Conference Proceedings, 2017, , .	0.4	3
78	Convective heat loss from a bladed solar receiver. AIP Conference Proceedings, 2019, , .	0.4	3
79	FluxTracer: A Ray Tracer Postprocessor to Assist in the Design and Optimization of Solar Concentrators and Receivers. Journal of Solar Energy Engineering, Transactions of the ASME, 2019, 141, .	1.8	3
80	The impact of low-cost H2 on the solar fuel process design: A case study in solar gasified Fischerâ€“Tropsch fuels. AIP Conference Proceedings, 2020, , .	0.4	3
81	System-level comparison of sodium and salt systems in support of the Gen3 liquids pathway. AIP Conference Proceedings, 2022, , .	0.4	3
82	Uncertainty Analysis of Heliostat Alignment at the Sandia Solar Field. Energy Procedia, 2014, 49, 2100-2108.	1.8	2
83	Dynamic Model of Supercritical CO2 Brayton Cycles Driven by Concentrated Solar Power. , 2017, , .		2
84	Cost analysis of a mini-facet heliostat. AIP Conference Proceedings, 2017, , .	0.4	2
85	Turbulent contribution to heat loss in cavity receivers. AIP Conference Proceedings, 2017, , .	0.4	2
86	Comparison of optical modelling tools for sunshape and surface slope error. AIP Conference Proceedings, 2018, , .	0.4	2
87	Point-focus multi-receiver Fresnel loop â€“ Exploring ways to increase the optical efficiency of solar tower systems. AIP Conference Proceedings, 2018, , .	0.4	2
88	Experimental testing of the bladed receiver. AIP Conference Proceedings, 2020, , .	0.4	2
89	System level analysis of a sodium boiler receiver and PCM storage CSP plant using SolarTherm. AIP Conference Proceedings, 2020, , .	0.4	2
90	Optimisation of Paraboloidal Dish Fields for Direct-Steam Generation. , 2015, , .		1

#	Article	IF	Citations
91	Improved Tubular Receivers for Point-focus Concentrators. , 2014, , .		1
92	Analysis of a Silica Glass Based High Temperature Thermal Energy Storage Unit for Concentrated Solar Power Applications. , 2016, , .		1
93	Solar Thermal Energy. , 2021, , 72-104.		1
94	System-level simulation of molten salt small-scale CSP. AIP Conference Proceedings, 2020, , .	0.4	1
95	Integration of Monte-Carlo ray tracing with a stochastic optimisation method: application to the design of solar receiver geometry. , 2014, , .		0
96	FluxTracer: A 3D-Partitioning and Radiant Flux Computer Tool to Analyse the Optical Behaviour of Light Collection and Concentration Subsystems Using High Performance Computers. , 2018, , .		0
97	System-level simulation of a solar-driven liquid fuel production plant via gasification-Fischer-Tropsch route. AIP Conference Proceedings, 2019, , .	0.4	0
98	Analysis of the focal region of the heliostat field of the ASTRI reference plant with fluxtracer. AIP Conference Proceedings, 2019, , .	0.4	0
99	A Gradient-Descent Method for Optimisation of Solar Collector Arrays. , 2014, , .		0
100	Review of Optical Studies on Central Tower Concentrators. , 2015, , .		0
101	Optical Design of a Heliostat Field for a High-Temperature Receiverâ€“Reactor. , 2018, , .		0
102	Transient Simulation of a Solar Cavity Receiver for Application in a Low-Latitude Field. , 2019, , .		0
103	Optical analyses of multi-aperture solar central receiver systems for high-temperature concentrating solar applications. , 2020, , .		0
104	Augmenting cavity receiver performance: Spillage skirts and secondary reflectors. AIP Conference Proceedings, 2020, , .	0.4	0
105	Concentrating collector systems for high-temperature solar thermal applications. , 2021, , .		0
106	Exergy analysis of the impact of a heat exchanger on performance of an integrated sodium-salt CSP plant. AIP Conference Proceedings, 2022, , .	0.4	0