

# John Pye

## List of Publications by Year in descending order

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106  
papers

2,039  
citations

257101

24  
h-index

264894

42  
g-index

106  
all docs

106  
docs citations

106  
times ranked

1442  
citing authors

#	ARTICLE	IF	CITATIONS
1	Upper limits to the mean annual optical efficiency of solar mono-tower systems. Solar Energy, 2022, 236, 88-99.	2.9	5
2	Zero-carbon steel production: The opportunities and role for Australia. Energy Policy, 2022, 163, 112811.	4.2	17
3	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.	2.5	7
4	Exergy analysis of the impact of a heat exchanger on performance of an integrated sodium-salt CSP plant. AIP Conference Proceedings, 2022, , .	0.3	0
5	System-level comparison of sodium and salt systems in support of the Gen3 liquids pathway. AIP Conference Proceedings, 2022, , .	0.3	3
6	Techno-economic optimisation of a sodium-chloride salt heat exchanger for concentrating solar power applications. Solar Energy, 2022, 239, 252-267.	2.9	7
7	Exploring efficiency limits for molten-salt and sodium external cylindrical receivers for third-generation concentrating solar power. Solar Energy, 2022, 240, 354-375.	2.9	10
8	Progress in heat transfer research for high-temperature solar thermal applications. Applied Thermal Engineering, 2021, 184, 116137.	3.0	67
9	Fundamental principles of concentrating solar power systems. , 2021, , 19-71.		6
10	Solar fuels from supercritical water gasification of algae: Impacts of low-cost hydrogen on reformer configurations. Applied Energy, 2021, 288, 116620.	5.1	25
11	Optimal Sizing of Cylindrical Receivers for Surround Heliostat Fields Using fluxtracer. Journal of Solar Energy Engineering, Transactions of the ASME, 2021, 143, .	1.1	4
12	Review of application of AI techniques to Solar Tower Systems. Solar Energy, 2021, 224, 500-515.	2.9	25
13	MDBA: An accurate and efficient method for aiming heliostats. Solar Energy, 2021, 225, 694-707.	2.9	10
14	Methanol fuel production from solar-assisted supercritical water gasification of algae: a techno-economic annual optimisation. Sustainable Energy and Fuels, 2021, 5, 4913-4931.	2.5	7
15	Liquid fuel production via supercritical water gasification of algae: a role for solar heat integration?. Sustainable Energy and Fuels, 2021, 5, 6269-6297.	2.5	6
16	Solar Thermal Energy. , 2021, , 72-104.		1
17	Concentrating collector systems for high-temperature solar thermal applications. , 2021, , .		0
18	Thermochemical heat storage at high temperature. Advances in Chemical Engineering, 2021, 58, 247-295.	0.5	8

#	ARTICLE	IF	CITATIONS
19	Mixed convection and radiation from an isothermal bladed structure. International Journal of Heat and Mass Transfer, 2020, 147, 118906.	2.5	22
20	Verification of optical modelling of sunshape and surface slope error for concentrating solar power systems. Solar Energy, 2020, 195, 461-474.	2.9	44
21	Performance enhancement of cavity receivers with spillage skirts and secondary reflectors in concentrated solar dish and tower systems. Solar Energy, 2020, 208, 708-727.	2.9	13
22	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.	2.9	25
23	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.	2.5	6
24	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.	2.9	19
25	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.	2.9	18
26	A method for in situ measurement of directional and spatial radiosity distributions from complex-shaped solar thermal receivers. Solar Energy, 2020, 201, 732-745.	2.9	6
27	Reduction of iron-manganese oxide particles in a lab-scale packed-bed reactor for thermochemical energy storage. Chemical Engineering Science, 2020, 221, 115700.	1.9	19
28	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.	2.9	42
29	Flow structure and convective heat transfer in a bladed structure under wind conditions. International Journal of Heat and Fluid Flow, 2020, 85, 108676.	1.1	4
30	The impact of low-cost H2 on the solar fuel process design: A case study in solar gasified Fischer-Tropsch fuels. AIP Conference Proceedings, 2020, , .	0.3	3
31	Optical analysis of a solar thermochemical system with a rotating tower reflector and a receiver-reactor array. Optics Express, 2020, 28, 19429.	1.7	13
32	Optical analysis of a multi-aperture solar central receiver system for high-temperature concentrating solar applications. Optics Express, 2020, 28, 37654.	1.7	9
33	Experimental testing of the bladed receiver. AIP Conference Proceedings, 2020, , .	0.3	2
34	Optical analyses of multi-aperture solar central receiver systems for high-temperature concentrating solar applications. , 2020, , .		0
35	Analysis of Air Curtains for Natural Convection Heat-Loss Mitigation. , 2020, , .		4
36	System-level simulation of molten salt small-scale CSP. AIP Conference Proceedings, 2020, , .	0.3	1

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37	Augmenting cavity receiver performance: Spillage skirts and secondary reflectors. AIP Conference Proceedings, 2020, , .	0.3	0
38	System level analysis of a sodium boiler receiver and PCM storage CSP plant using SolarTherm. AIP Conference Proceedings, 2020, , .	0.3	2
39	Towards testing of a second-generation bladed receiver. AIP Conference Proceedings, 2019, , .	0.3	7
40	Convective heat loss from a bladed solar receiver. AIP Conference Proceedings, 2019, , .	0.3	3
41	Modelling of a 50 MWth on-sun reactor for SCWG of algae: Understanding the design constraints. AIP Conference Proceedings, 2019, , .	0.3	4
42	Optical and radiation considerations in bladed receiver designs for central tower systems. AIP Conference Proceedings, 2019, , .	0.3	4
43	A sodium boiler and phase-change energy storage system. AIP Conference Proceedings, 2019, , .	0.3	4
44	System-level simulation of a solar-driven liquid fuel production plant via gasification-Fischer-Tropsch route. AIP Conference Proceedings, 2019, , .	0.3	0
45	Analysis of the focal region of the heliostat field of the ASTRI reference plant with fluxtracer. AIP Conference Proceedings, 2019, , .	0.3	0
46	A solar fuel plant via supercritical water gasification integrated with Fischer-Tropsch synthesis: System-level dynamic simulation and optimisation. Energy Conversion and Management, 2019, 192, 71-87.	4.4	25
47	Particle design and oxidation kinetics of iron-manganese oxide redox materials for thermochemical energy storage. Solar Energy, 2019, 183, 17-29.	2.9	28
48	A solar fuel plant via supercritical water gasification integrated with Fischer-Tropsch synthesis: Steady-state modelling and techno-economic assessment. Energy Conversion and Management, 2019, 184, 636-648.	4.4	47
49	Reduction kinetics for large spherical 2:1 iron-manganese oxide redox materials for thermochemical energy storage. Chemical Engineering Science, 2019, 201, 74-81.	1.9	22
50	Numerical investigation of the natural convective heat loss of a solar central cavity receiver with air curtain. Applied Thermal Engineering, 2019, 152, 147-159.	3.0	28
51	Annual performance of a thermochemical solar syngas production plant based on non-stoichiometric CeO <sub>2</sub> . International Journal of Hydrogen Energy, 2019, 44, 1409-1424.	3.8	31
52	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.	2.9	24
53	Novel solid-solid phase-change cascade systems for high-temperature thermal energy storage. Solar Energy, 2019, 177, 274-283.	2.9	25
54	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, .	1.1	3

#	ARTICLE	IF	CITATIONS
55	Transient Simulation of a Solar Cavity Receiver for Application in a Low-Latitude Field. , 2019, , .		0
56	Impact of ambient temperature on supercritical CO2 recompression Brayton cycle in arid locations: Finding the optimal design conditions. Energy, 2018, 153, 1016-1027.	4.5	63
57	Techno-economic assessment of solidâ€™gas thermochemical energy storage systems for solar thermal power applications. Energy, 2018, 149, 473-484.	4.5	177
58	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.	2.5	19
59	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.	2.9	82
60	Comparison of optical modelling tools for sunshape and surface slope error. AIP Conference Proceedings, 2018, , .	0.3	2
61	Point-focus multi-receiver Fresnel loop â€™ Exploring ways to increase the optical efficiency of solar tower systems. AIP Conference Proceedings, 2018, , .	0.3	2
62	Limits of the cylindrical absorber design for a sodium receiver. AIP Conference Proceedings, 2018, , .	0.3	5
63	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, , .	0.3	7
64	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
65	Energy and exergy analysis of concentrated solar supercritical water gasification of algal biomass. Applied Energy, 2018, 228, 1669-1682.	5.1	91
66	Exergy analysis of the focal-plane flux distribution of solar-thermal concentrators. Applied Energy, 2018, 222, 1023-1032.	5.1	8
67	SolarTherm: A New Modelica Library and Simulation Platform for Concentrating Solar Thermal Power Systems. SNE Simulation Notes Europe, 2018, 28, 101-103.	0.2	4
68	Optical Design of a Heliostat Field for a High-Temperature Receiverâ€™Reactor. , 2018, , .		0
69	Optical and thermal performance of bladed receivers. AIP Conference Proceedings, 2017, , .	0.3	10
70	Dynamic Model of Supercritical CO2 Brayton Cycles Driven by Concentrated Solar Power. , 2017, , .		2
71	Development of ASTRI high-temperature solar receivers. AIP Conference Proceedings, 2017, , .	0.3	6
72	Cost analysis of a mini-facet heliostat. AIP Conference Proceedings, 2017, , .	0.3	2

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73	SolarTherm: A flexible Modelica-based simulator for CSP systems. AIP Conference Proceedings, 2017, , .	0.3	23
74	Experimental testing of a high-flux cavity receiver. AIP Conference Proceedings, 2017, , .	0.3	18
75	Thermodynamic modelling and solar reactor design for syngas production through SCWG of algae. AIP Conference Proceedings, 2017, , .	0.3	9
76	Geometrical exploration of a flux-optimised sodium receiver through multi-objective optimisation. AIP Conference Proceedings, 2017, , .	0.3	3
77	Turbulent contribution to heat loss in cavity receivers. AIP Conference Proceedings, 2017, , .	0.3	2
78	Development of the ASTRI heliostat. AIP Conference Proceedings, 2016, , .	0.3	3
79	Development of a higher-efficiency tubular cavity receiver for direct steam generation on a dish concentrator. AIP Conference Proceedings, 2016, , .	0.3	23
80	Optical Performance of Bladed Receivers for CSP Systems. , 2016, , .		10
81	The challenges and opportunities for integration of solar syngas production with liquid fuel synthesis. AIP Conference Proceedings, 2016, , .	0.3	39
82	Reduction of convective losses in solar cavity receivers. AIP Conference Proceedings, 2016, , .	0.3	11
83	Optics of solar central receiver systems: a review. Optics Express, 2016, 24, A985.	1.7	62
84	Efficient ceria nanostructures for enhanced solar fuel production via high-temperature thermochemical redox cycles. Journal of Materials Chemistry A, 2016, 4, 9614-9624.	5.2	49
85	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.	2.9	17
86	Analysis of a Silica Glass Based High Temperature Thermal Energy Storage Unit for Concentrated Solar Power Applications. , 2016, , .		1
87	Geometrical Shape Optimization of a Cavity Receiver Using Coupled Radiative and Hydrodynamic Modeling. Energy Procedia, 2015, 69, 279-288.	1.8	14
88	A review of sodium receiver technologies for central receiver solar power plants. Solar Energy, 2015, 122, 749-762.	2.9	101
89	Investigation of Heat Loss from a Solar Cavity Receiver. Energy Procedia, 2015, 69, 269-278.	1.8	39
90	Active Air Flow Control to Reduce Cavity Receiver Heat Loss. , 2015, , .		12

#	ARTICLE	IF	CITATIONS
91	Optimisation of Paraboloidal Dish Fields for Direct-Steam Generation. , 2015, , .		1
92	Exergoeconomic optimisation of steam networks connecting solar-thermal dish arrays. Solar Energy, 2015, 119, 383-398.	2.9	7
93	Integration of Monte-Carlo ray tracing with a stochastic optimisation method: application to the design of solar receiver geometry. Optics Express, 2015, 23, A437.	1.7	24
94	Review of Optical Studies on Central Tower Concentrators. , 2015, , .		0
95	Integration of Monte-Carlo ray tracing with a stochastic optimisation method: application to the design of solar receiver geometry. , 2014, , .		0
96	Uncertainty Analysis of Heliostat Alignment at the Sandia Solar Field. Energy Procedia, 2014, 49, 2100-2108.	1.8	2
97	Shading and land use in regularly-spaced sun-tracking collectors. Solar Energy, 2014, 108, 199-209.	2.9	13
98	Heliostat Cost Reduction “Where to Now?”. Energy Procedia, 2014, 49, 60-70.	1.8	46
99	Improved Tubular Receivers for Point-focus Concentrators. , 2014, , .		1
100	A Gradient-Descent Method for Optimisation of Solar Collector Arrays. , 2014, , .		0
101	A transient model for the heat exchange in a solar thermal once through cavity receiver. Solar Energy, 2013, 93, 280-293.	2.9	25
102	An Experimental Study of Ammonia Receiver Geometries for Dish Concentrators. Journal of Solar Energy Engineering, Transactions of the ASME, 2012, 134, .	1.1	14
103	A review of standards for hybrid CPV-thermal systems. Renewable and Sustainable Energy Reviews, 2012, 16, 443-448.	8.2	21
104	A new 500m2 paraboloidal dish solar concentrator. Solar Energy, 2011, 85, 620-626.	2.9	170
105	Numerical Investigation of Natural Convection Loss From Cavity Receivers in Solar Dish Applications. Journal of Solar Energy Engineering, Transactions of the ASME, 2011, 133, .	1.1	56
106	Multi-tower Line Focus Fresnel Array Project. Journal of Solar Energy Engineering, Transactions of the ASME, 2006, 128, 118-120.	1.1	28