

# Vincent M Wheeler

## List of Publications by Year in descending order

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Version: 2024-02-01

41  
papers

1,314  
citations

394421

19  
h-index

345221

36  
g-index

42  
all docs

42  
docs citations

42  
times ranked

998  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermodynamic Analysis of Isothermal Redox Cycling of Ceria for Solar Fuel Production. <i>Energy &amp; Fuels</i> , 2013, 27, 5533-5544.	5.1	187
2	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
3	Progress in heat transfer research for high-temperature solar thermal applications. <i>Applied Thermal Engineering</i> , 2021, 184, 116137.	6.0	67
4	Optics of solar central receiver systems: a review. <i>Optics Express</i> , 2016, 24, A985.	3.4	62
5	Experimental and numerical characterization of a new 45 kW <sub>el</sub> multisource high-flux solar simulator. <i>Optics Express</i> , 2016, 24, A1360.	3.4	60
6	Optical Design of Multisource High-Flux Solar Simulators. <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2015, 137, .	1.8	58
7	Towards Solar Thermochemical Carbon Dioxide Capture via Calcium Oxide Looping: A Review. <i>Aerosol and Air Quality Research</i> , 2014, 14, 500-514.	2.1	57
8	Design of a Solar Reactor to Split CO <sub>2</sub> Via Isothermal Redox Cycling of Ceria. <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2015, 137, .	1.8	52
9	High-flux optical systems for solar thermochemistry. <i>Solar Energy</i> , 2017, 156, 133-148.	6.1	52
10	Modelling of solar thermochemical reaction systems. <i>Solar Energy</i> , 2017, 156, 149-168.	6.1	52
11	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
12	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
13	Thermal reduction of iron-manganese oxide particles in a high-temperature packed-bed solar thermochemical reactor. <i>Chemical Engineering Journal</i> , 2021, 412, 128255.	12.7	37
14	Thermodynamic Analyses of Fuel Production via Solar-Driven Non-stoichiometric Metal Oxide Redox Cycling. Part 2. Impact of Solid-Gas Flow Configurations and Active Material Composition on System-Level Efficiency. <i>Energy &amp; Fuels</i> , 2018, 32, 10848-10863.	5.1	35
15	Thermodynamic Analyses of Fuel Production via Solar-Driven Non-stoichiometric Metal Oxide Redox Cycling. Part 1. Revisiting Flow and Equilibrium Assumptions. <i>Energy &amp; Fuels</i> , 2018, 32, 10838-10847.	5.1	28
16	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
17	Detailed Balance Analysis of Photovoltaic Windows. <i>ACS Energy Letters</i> , 2019, 4, 2130-2136.	17.4	22
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

#	ARTICLE	IF	CITATIONS
19	Thermal Model of a Solar Thermochemical Reactor for Metal Oxide Reduction. Journal of Solar Energy Engineering, Transactions of the ASME, 2020, 142, .	1.8	22
20	Transient heat and mass transfer analysis in a porous ceria structure of a novel solar redox reactor. International Journal of Thermal Sciences, 2015, 92, 138-149.	4.9	21
21	Reduction of iron-manganese oxide particles in a lab-scale packed-bed reactor for thermochemical energy storage. Chemical Engineering Science, 2020, 221, 115700.	3.8	19
22	Thermodynamic Guiding Principles for Designing Nonstoichiometric Redox Materials for Solar Thermochemical Fuel Production: Ceria, Perovskites, and Beyond. Energy Technology, 2022, 10, 2000925.	3.8	17
23	Thermodynamic Analyses of Fuel Production Via Solar-Driven Ceria-Based Nonstoichiometric Redox Cycling: A Case Study of the Isothermal Membrane Reactor System. Journal of Solar Energy Engineering, Transactions of the ASME, 2019, 141, .	1.8	16
24	Optical characterisation of alumina-mullite materials for solar particle receiver applications. Solar Energy Materials and Solar Cells, 2021, 230, 111170.	6.2	16
25	Progress in thermal transport modeling of carbonate-based reacting systems. International Journal of Numerical Methods for Heat and Fluid Flow, 2017, 27, 1098-1107.	2.8	15
26	Effective thermal conductivity of a bed packed with granular iron-manganese oxide for thermochemical energy storage. Chemical Engineering Science, 2019, 207, 490-494.	3.8	14
27	Effect of non-stoichiometry on optical, radiative, and thermal characteristics of ceria undergoing reduction. Optics Express, 2018, 26, A360.	3.4	12
28	Reflective optics for redirecting convergent radiative beams in concentrating solar applications. Solar Energy, 2019, 191, 707-718.	6.1	12
29	The effect of photodegradation on effective properties of polymeric thin films: A micromechanical homogenization approach. International Journal of Engineering Science, 2015, 94, 1-22.	5.0	11
30	Concentrating collector systems for solar thermal and thermochemical applications. Advances in Chemical Engineering, 2021, 58, 1-53.	0.9	11
31	THERMAL TRANSPORT MODEL OF A PACKED-BED REACTOR FOR SOLAR THERMOCHEMICAL CO2 CAPTURE. Special Topics and Reviews in Porous Media, 2015, 6, 197-209.	1.1	10
32	Unsteady Radiative Heat Transfer Model of a Ceria Particle Suspension Undergoing Solar Thermochemical Reduction. Journal of Thermophysics and Heat Transfer, 2019, 33, 63-77.	1.6	9
33	Convective-conductive heat transfer in dual-scale porous media: Theoretical model development and numerical validation. International Journal of Heat and Mass Transfer, 2020, 157, 119950.	4.8	8
34	Numerical determination of permeability and Forchheimer coefficient in dual-scale porous media. International Communications in Heat and Mass Transfer, 2021, 122, 105089.	5.6	7
35	Numerical modelling of ceria undergoing reduction in a particle-gas counter-flow: Effects of chemical kinetics under isothermal conditions. Chemical Engineering Science, 2020, 218, 115553.	3.8	6
36	Ubiquitous Interactive Visualization of 3-D Mantle Convection through Web Applications Using Java. Lecture Notes in Computer Science, 2008, , 1011-1021.	1.3	2

#	ARTICLE	IF	CITATIONS
37	THERMAL MODELLING OF A SOLAR THERMOCHEMICAL REACTOR FOR METAL OXIDE REDUCTION. , 2018, , .		1
38	Thermodynamic Guiding Principles for Designing Nonstoichiometric Redox Materials for Solar Thermochemical Fuel Production: Ceria, Perovskites, and Beyond. Energy Technology, 2022, 10, 2270013.	3.8	1
39	1. Gasâ€“Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. , 2018, , 1-56.		0
40	COMBINED HEAT TRANSFER IN A DIRECTLY IRRADIATED OPTICALLY-LARGE HETEROGENEOUS SPHERICAL PARTICLE. , 2016, , .		0
41	Radiative properties of non-stoichiometrically reduced Ceria. , 2017, , .		0