

Joerg Petrasch

List of Publications by Year in descending order

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49
papers

1,569
citations

361413

20
h-index

302126

39
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all docs

49
docs citations

49
times ranked

998
citing authors

#	ARTICLE	IF	CITATIONS
1	A Novel 50kW 11,000 suns High-Flux Solar Simulator Based on an Array of Xenon Arc Lamps. <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2007, 129, 405-411.	1.8	186
2	Tomography-based Monte Carlo determination of radiative properties of reticulate porous ceramics. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 105, 180-197.	2.3	178
3	Tomography based determination of permeability, Dupuit's Forchheimer coefficient, and interfacial heat transfer coefficient in reticulate porous ceramics. <i>International Journal of Heat and Fluid Flow</i> , 2008, 29, 315-326.	2.4	150
4	Tomographic Characterization of a Semitransparent-Particle Packed Bed and Determination of its Thermal Radiative Properties. <i>Journal of Heat Transfer</i> , 2009, 131, .	2.1	67
5	Review of Heat Transfer Research for Solar Thermochemical Applications. <i>Journal of Thermal Science and Engineering Applications</i> , 2013, 5, .	1.5	66
6	Application of the spatial averaging theorem to radiative heat transfer in two-phase media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2010, 111, 253-258.	2.3	65
7	Tomography-Based Determination of the Effective Thermal Conductivity of Fluid-Saturated Reticulate Porous Ceramics. <i>Journal of Heat Transfer</i> , 2008, 130, .	2.1	64
8	Autonomous optimal control for demand side management with resistive domestic hot water heaters using linear optimization. <i>Energy and Buildings</i> , 2015, 100, 50-55.	6.7	64
9	Hydrogen production via the solar thermal decarbonization of fossil fuels. <i>Solar Energy</i> , 2006, 80, 1333-1337.	6.1	63
10	Tomography-Based Multiscale Analyses of the 3D Geometrical Morphology of Reticulated Porous Ceramics. <i>Journal of the American Ceramic Society</i> , 2008, 91, 2659-2665.	3.8	59
11	Discrete vs. continuum-scale simulation of radiative transfer in semitransparent two-phase media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1450-1459.	2.3	58
12	Dynamics and control of solar thermochemical reactors. <i>Chemical Engineering Journal</i> , 2009, 145, 362-370.	12.7	51
13	Tomography based pore-level optimization of radiative transfer in porous media. <i>International Journal of Heat and Mass Transfer</i> , 2011, 54, 4775-4783.	4.8	48
14	Dynamics of a solar thermochemical reactor for steam-reforming of methane. <i>Chemical Engineering Science</i> , 2007, 62, 4214-4228.	3.8	44
15	Continuum radiative heat transfer modeling in media consisting of optically distinct components in the limit of geometrical optics. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2010, 111, 2474-2480.	2.3	42
16	Field testing of demand side management via autonomous optimal control of a domestic hot water heater. <i>Energy and Buildings</i> , 2016, 127, 730-735.	6.7	37
17	A transient heat transfer model for high temperature solar thermochemical reactors. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 2307-2325.	7.1	25
18	Tetrahedral mesh generation based on space indicator functions. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 93, 1040-1056.	2.8	24

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19	Thermal Reduction of Iron Oxide under Reduced Pressure and Implications on Thermal Conversion Efficiency for Solar Thermochemical Fuel Production. <i>Industrial & Engineering Chemistry Research</i> , 2015, 54, 6793-6803.	3.7	22
20	Tomography-Based Characterization and Optimization Of Fluid Flow Through Porous Media. <i>Transport in Porous Media</i> , 2012, 95, 535-550.	2.6	21
21	State estimation of resistive domestic hot water heaters in arbitrary operation modes for demand side management. <i>Thermal Science and Engineering Progress</i> , 2019, 9, 94-109.	2.7	21
22	PSIâ€™s 1kW imaging furnaceâ€™A tool for high-temperature chemical reactivity studies. <i>Solar Energy</i> , 2006, 80, 1344-1348.	6.1	20
23	Production of hydrogen via an Iron/Iron oxide looping cycle: Thermodynamic modeling and experimental validation. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 7442-7450.	7.1	20
24	Field testing of repurposed electric vehicle batteries for price-driven grid balancing. <i>Journal of Energy Storage</i> , 2019, 21, 40-47.	8.1	16
25	Thermochemical reduction modeling in a high-temperature moving-bed reactor for energy storage: 1D model. <i>Applied Energy</i> , 2022, 306, 118009.	10.1	16
26	Integrated solar thermochemical cycles for energy storage and fuel production. <i>Wiley Interdisciplinary Reviews: Energy and Environment</i> , 2012, 1, 347-361.	4.1	15
27	A continuum model for heat and mass transfer in moving-bed reactors for thermochemical energy storage. <i>Applied Energy</i> , 2022, 313, 118842.	10.1	15
28	Tomography based numerical simulation of the demagnetizing field in soft magnetic composites. <i>Journal of Applied Physics</i> , 2015, 117, .	2.5	12
29	Decentralized price-driven grid balancing via repurposed electric vehicle batteries. <i>Energy</i> , 2017, 118, 446-455.	8.8	11
30	Bench-scale demonstration of thermochemical energy storage using the Magnesium-Manganese-Oxide redox system. <i>Journal of Energy Storage</i> , 2022, 45, 103682.	8.1	10
31	Inverse identification of intensity distributions from multiple flux maps in concentrating solar applications. <i>Journal of Physics: Conference Series</i> , 2012, 369, 012014.	0.4	9
32	Tomography based analysis of conduction anisotropy in fibrous insulation. <i>International Journal of Heat and Mass Transfer</i> , 2017, 108, 1740-1749.	4.8	9
33	Enhancing thermochemical energy storage density of magnesiumâ€™manganese oxides. <i>Energy Storage</i> , 2019, 1, e83.	4.3	9
34	X-ray micro tomography of three-dimensional embroidered current collectors for lithium-ion batteries. <i>Journal of Power Sources</i> , 2016, 306, 826-831.	7.8	8
35	Macroscopic defects upon decomposition of CO ₂ clathrate hydrate crystals. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 9694-9708.	2.8	8
36	Ultra-High Temperature Thermal Conductivity Measurements of a Reactive Magnesium Manganese Oxide Porous Bed Using a Transient Hot Wire Method. <i>Journal of Heat Transfer</i> , 2021, 143, .	2.1	8

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37	Hydrogen Production via the Iron/Iron Oxide Looping Cycle. , 2011, , .		6
38	Micro-Tomographic Investigation of Ice and Clathrate Formation and Decomposition under Thermodynamic Monitoring. Materials, 2016, 9, 668.	2.9	4
39	A coupled transport model for water splitting within a porous metal oxide thermochemical reactor using the random walk particle tracking method. International Journal of Hydrogen Energy, 2015, 40, 4451-4460.	7.1	3
40	Oxidation Kinetics of Magnesium-Manganese Oxides for High-Temperature Thermochemical Energy Storage. Energy Technology, 2020, 8, 2000063.	3.8	3
41	DISCRETE VS CONTINUUM LEVEL SIMULATION OF RADIATIVE TRANSFER IN SEMITRANSSPARENT TWO-PHASE MEDIA. , 2010, , .		3
42	Chemical equilibrium of the magnesium manganese oxide redox system for thermochemical energy storage. Chemical Engineering Science, 2022, 259, 117750.	3.8	3
43	Modeling the Effect of Infrared Opacifiers on Coupled Conduction-Radiation Heat Transfer in Expanded Polystyrene. Journal of Heat Transfer, 2018, 140, .	2.1	2
44	CONTINUUM RADIATIVE HEAT TRANSFER MODELING IN MEDIA CONSISTING OF OPTICALLY DISTINCT COMPONENTS IN THE LIMIT OF GEOMETRICAL OPTICS. , 2010, , .		2
45	Decentralized on-site optimization of a battery storage system using one-way communication. , 2015, , .		1
46	Combined experimental-numerical identification of radiative transfer coefficients in white LED phosphor layers. Optical Materials, 2018, 76, 278-286.	3.6	1
47	Lattice Boltzmann Simulation of High-Diffusivity Problems With Application to Energy Transport in a High-Temperature Solar Thermochemical Reactor. , 2013, , .		0
48	Continuum radiative heat transfer modeling in multi-component anisotropic media in the limit of geometrical optics. Journal of Physics: Conference Series, 2016, 676, 012015.	0.4	0
49	Co-deposition of gas hydrates by pressurized thermal evaporation. Physical Chemistry Chemical Physics, 2020, 22, 4266-4275.	2.8	0