Selvan Bellan

List of Publications by Year
in descending order

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52 papers	792 citations	516710 16 h-index	501196 28 g-index
52 all docs	52 docs citations	52 times ranked	626 citing authors

#	Article	IF	Citations
1	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
2	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
3	Particle reactors for solar thermochemical processes. Solar Energy, 2017, 156, 113-132.	6.1	74
4	A CFD-DEM study of hydrodynamics with heat transfer in a gas-solid fluidized bed reactor for solar thermal applications. International Journal of Heat and Mass Transfer, 2018, 116, 377-392.	4.8	53
5	Thermochemical behavior of perovskite oxides based on LaxSr1-x(Mn, Fe, Co)O3-Î´ and BaySr1-yCoO3-Î´ redox system for thermochemical energy storage at high temperatures. Energy, 2019, 171, 971-980.	8.8	37
6	Thermal performance of a 30â€¯kW fluidized bed reactor for solar gasification: A CFD-DEM study. Chemical Engineering Journal, 2019, 360, 1287-1300.	12.7	33
7	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
8	Conjugate radiation-convection-conduction simulation of volumetric solar receivers with cut-back inlets. Solar Energy, 2018, 170, 606-617.	6.1	27
9	CFD-DEM investigation of particles circulation pattern of two-tower fluidized bed reactor for beam-down solar concentrating system. Powder Technology, 2017, 319, 228-237.	4.2	26
10	Thermochemical two-step water splitting cycle using perovskite oxides based on LaSrMnO3 redox system for solar H2 production. Thermochimica Acta, 2019, 680, 178374.	2.7	26
11	Development of a 5kWth internally circulating fluidized bed reactor containing quartz sand for continuously-fed coal-coke gasification and a beam-down solar concentrating system. Energy, 2019, 166, 1-16.	8.8	25
12	Numerical and experimental study on granular flow and heat transfer characteristics of directly-irradiated fluidized bed reactor for solarÂgasification. International Journal of Hydrogen Energy, 2018, 43, 16443-16457.	7.1	23
13	Heat transfer analysis of 5kWth circulating fluidized bed reactor for solar gasification using concentrated Xe light radiation. Energy, 2018, 160, 245-256.	8.8	23
14	Heat transfer and particulate flow analysis of a 30â€¯kW directly irradiated solar fluidized bed reactor for thermochemical cycling. Chemical Engineering Science, 2019, 203, 511-525.	3.8	23
15	Direct simulation of a volumetric solar receiver with different cell sizes at high outlet temperatures (1,000â€“1,500â€¯Â°C). Renewable Energy, 2020, 146, 1143-1152.	8.9	19
16	Numerical Investigation of PCM-based Thermal Energy Storage System. Energy Procedia, 2015, 69, 758-768.	1.8	18
17	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
18	Buoyancy-opposed volumetric solar receiver with beam-down optics irradiation. Energy, 2017, 141, 2337-2350.	8.8	14

#	Article	IF	Citations
19	Thermal charge/discharge performance of ironâ€“germanium alloys as phase change materials for solar latent heat storage at high temperatures. Journal of Energy Storage, 2020, 30, 101420.	8.1	10
20	Numerical Modeling of Solar Thermochemical Reactor for Kinetic Analysis. Energy Procedia, 2014, 49, 735-742.	1.8	9
21	Particle fluidized bed receiver/reactor with a beam-down solar concentrating optics: Performance test of two-step water splitting with ceria particles using 30-kWth sun-simulator. AIP Conference Proceedings, 2018, , .	0.4	9
22	Efficiency and heat loss analysis of honeycomb receiver varying air mass flow rate and beam width. International Journal of Heat and Mass Transfer, 2019, 137, 1027-1040.	4.8	9
23	A review on highâ€temperature thermochemical heat storage: Particle reactors and materials based on solidâ€“gas reactions. Wiley Interdisciplinary Reviews: Energy and Environment, 2022, 11, .	4.1	9
24	Loop thermosiphon thermal collector for waste heat recovery power generation. Experimental Heat Transfer, 2019, 32, 201-218.	3.2	8
25	Phase Change Material of Copperâ€“Germanium Alloy as Solar Latent Heat Storage at High Temperatures. Frontiers in Energy Research, 2021, 9, .	2.3	7
26	Particles fluidized bed receiver/reactor with a beam-down solar concentrating optics: First performance test on two-step water splitting with ceria using a Miyazaki solar concentrating system. AIP Conference Proceedings, 2019, , .	0.4	6
27	Fe-doped manganese oxide redox material for thermochemical energy storage at high-temperatures. AIP Conference Proceedings, 2019, , .	0.4	5
28	Numerical analysis of latent heat storage system with encapsulated phase change material in spherical capsules. Renewable Energy and Environmental Sustainability, 2017, 2, 3.	1.4	4
29	Thermochemical two-step CO2 splitting using La0.7Sr0.3Mn0.9Cr0.1O3 of perovskite oxide for solar fuel production. AIP Conference Proceedings, 2020, , .	0.4	4
30	Thermochemical H2O splitting using LaSrMnCrO3 of perovskite oxides for solar hydrogen production. AIP Conference Proceedings, 2020, , .	0.4	4
31	Numerical modelling of a 100-Wh lab-scale thermochemical heat storage system for concentrating solar power plants. AIP Conference Proceedings, 2016, , .	0.4	3
32	Conjugate radiation-convection-conduction simulation of cubic lattice solar receiver with high porosity for high-temperature heat absorption. Journal of Thermal Science and Technology, 2022, 17, 22-00057-22-00057.	1.1	3
33	Numerical Modeling of Thermal Energy Storage System. , 2014, , .		2
34	Hydrogen production by solar fluidized bed reactor using ceria: Euler-Lagrange modelling of gas-solid flow to optimize the internally circulating fluidized bed. Journal of Thermal Science and Technology, 2022, 17, 22-00076-22-00076.	1.1	2
35	Numerical analysis of fluid flow and heat transfer during melting inside a cylindrical container for thermal energy storage system. AIP Conference Proceedings, 2017, , .	0.4	1
36	Thermal storage/discharge performances of Cu-Si alloy for solar thermochemical process. AIP Conference Proceedings, 2017, , .	0.4	1

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37	CFD-DEM investigation on flow and temperature distribution of ceria particles in a beam-down fluidized bed reactor. AIP Conference Proceedings, 2018, , .	0.4	1
38	Preliminary tests of batch type fluidized bed reactor for development of continuously-feeding fluidized bed reactor - An elevated temperature and gasification processes. AIP Conference Proceedings, 2018, , .	0.4	1
39	Direct Simulation of Volumetric Solar Receiver with Highly Concentrated Radiation. IOP Conference Series: Materials Science and Engineering, 2019, 556, 012060.	0.6	1
40	Steady-Flow-Type Particle Receiver for High-Temperature Solar Thermal Storage. IOP Conference Series: Materials Science and Engineering, 2019, 556, 012059.	0.6	1
41	Experimental study of Mn-CeO2 coated ceramic foam device for two-step water splitting cycle hydrogen production with 3kW sun-simulator. AIP Conference Proceedings, 2020, , .	0.4	1
42	Numerical analysis on solidification process of PCM in triplex-tube thermal energy storage system. AIP Conference Proceedings, 2020, , .	0.4	1
43	Fluidization behavior of redox metal oxide and spinel particles to develop high-energy-density thermal energy storage system for concentrated solar power applications. Journal of Thermal Science and Technology, 2022, 17, 22-00061-22-00061.	1.1	1
44	Numerical Study of a Beam-Down Solar Thermochemical Reactor for Chemical Kinetics Analysis. , 2014, , .		0
45	Heat transfer and fluid flow analysis of a fluidized bed reactor for beam-down optics. AIP Conference Proceedings, 2019, , .	0.4	0
46	Comparison of an Experimental and Numerical Investigation of a Packed-Bed Latent Heat Thermal Storage System with Encapsulated Phase Change Material. , 2015, , .		0
47	Development of a Solarized Rotary Kiln for High-Temperature Chemical Processes. , 2016, , .		0
48	GAS-SOLID FLOW AND HEAT TRANSFER CHARACTERISTICS OF A FLUIDIZED BED REACTOR FOR SOLAR THERMAL APPLICATIONS. , 2018, , .		0
49	Melting of PCM in Capsule by Forced Convection for Packed Bed Latent Heat Storage System.. The Proceedings of the Thermal Engineering Conference, 2018, 2018, 0061.	0.0	0
50	CONJUGATED RADIATION-CONVECTION-CONDUCTION HEAT TRANSFER ANALYSIS OF VOLUMETRIC RECEIVER WITH HIGHLY CONCENTRATED RADIATION. , 2018, , .		0
51	Melting Process of PCM in Cylindrical Ceramic Capsule for Solar Thermal Storage. The Proceedings of the Thermal Engineering Conference, 2018, 2018, 0060.	0.0	0
52	Chemical compatibility of Cu-Ge alloy with container materials for latent heat storage system. AIP Conference Proceedings, 2020, , .	0.4	0