Pavel Charvat

List of Publications by Year
in descending order

33 papers	865 citations	933447 10 h-index	552781 26 g-index
33 all docs	33 docs citations	33 times ranked	1017 citing authors

#	Article	IF	Citations
1	Review on using microencapsulated phase change materials (PCM) in building applications. Energy and Buildings, 2015, 106, 134-155.	6.7	309
2	Numerical and experimental investigation of a PCM-based thermal storage unit for solar air systems. Energy and Buildings, 2014, 68, 488-497.	6.7	108
3	Energy demand of liquefaction and regasification of natural gas and the potential of LNG for operative thermal energy storage. Renewable and Sustainable Energy Reviews, 2019, 99, 1-15.	16.4	100
4	Computer modelling and experimental investigation of phase change hysteresis of PCMs: The state-of-the-art review. Applied Energy, 2020, 263, 114572.	10.1	69
5	PCM thermal energy storage in solar heating of ventilation airâ€"Experimental and numerical investigations. Sustainable Cities and Society, 2018, 37, 104-115.	10.4	51
6	Solar air collector with the solar absorber plate containing a PCM â€“ Environmental chamber experiments and computer simulations. Renewable Energy, 2019, 143, 731-740.	8.9	44
7	An overview of mercury emissions in the energy industry - A step to mercury footprint assessment. Journal of Cleaner Production, 2020, 267, 122087.	9.3	43
8	Materials for Advanced Heat Storage in Buildings. Procedia Engineering, 2013, 57, 837-843.	1.2	26
9	Identification of the effective heat capacityâ€"temperature relationship and the phase change hysteresis in PCMs by means of an inverse heat transfer problem solved with metaheuristic methods. Applied Thermal Engineering, 2021, 197, 117392.	6.0	14
10	Front tracking in modelling of latent heat thermal energy storage: Assessment of accuracy and efficiency, benchmarking and GPU-based acceleration. Energy, 2018, 155, 297-311.	8.8	12
11	Thermally activated wall panels with microencapsulated PCM: comparison of 1D and 3DÂmodels. Journal of Building Performance Simulation, 2019, 12, 404-419.	2.0	9
12	Dry cooling as a way toward minimisation of water consumption in the steel industry: A case study for continuous steel casting. Journal of Cleaner Production, 2020, 275, 123109.	9.3	9
13	Melting front propagation in a paraffin-based phase change material: Lab-scale experiment and simulations. Thermal Science, 2018, 22, 2723-2732.	1.1	8
14	A solar air collector with integrated latent heat thermal storage. EPJ Web of Conferences, 2012, 25, 01028.	0.3	7
15	Assessment of Basic Approaches to Numerical Modeling of Phase Change Problemsâ€"Accuracy, Efficiency, and Parallel Decomposition. Journal of Heat Transfer, 2017, 139, .	2.1	7
16	Comparison of the Energy Conversion Efficiency of a Solar Chimney and a Solar PV-Powered Fan for Ventilation Applications. Energies, 2018, 11, 912.	3.1	7
17	Experimental investigation of stabilization of flowing water temperature with a water-PCM heat exchanger. EPJ Web of Conferences, 2014, 67, 02046.	0.3	6
18	Visual monitoring of the melting front propagation in a paraffin-based PCM. EPJ Web of Conferences, 2017, 143, 02042.	0.3	6

#	Article	IF	Citations
19	A PCM-water heat exchanger with polymeric hollow fibres for latent heat thermal energy storage: a parametric study of discharging stage. Journal of Theoretical and Applied Mechanics, 0, , 1285.	0.5	6
20	Utilization of an Air-PCM Heat Exchanger in Passive Cooling of Buildings: A Simulation Study on the Energy Saving Potential in Different European Climates. Energies, 2019, 12, 1133.	3.1	5
21	Experimental investigations of the performance of a solar air collector with latent heat thermal storage integrated with the solar absorber. EPJ Web of Conferences, 2013, 45, 01127.	0.3	4
22	Seasonal COP of an Air-to-Water Heat Pump when Using Predictive Control Preferring Power Production from Renewable Sources in the Czech Republic. Energies, 2019, 12, 3236.	3.1	4
23	Micro-encapsulated phase-change materials for latent-heat storage: thermal characteristics. Materiali in Tehnologije, 2015, 49, 813-816.	0.5	3
24	An accuracy analysis of the front tracking method and interface capturing methods for the solution of heat transfer problems with phase changes. Journal of Physics: Conference Series, 2016, 745, 032136.	0.4	2
25	Feasibility of replacement of nuclear power with other energy sources in the Czech republic. Thermal Science, 2020, 24, 3543-3553.	1.1	2
26	Parallel Heat Transfer Model of a Panel with Phase Change Material for Thermal Storage Applications Computed on Graphics Processing Units. Advanced Materials Research, 2014, 1077, 118-123.	0.3	1
27	A Validated TRNSYS Model of Thermally Activated Layer With Phase Change Material. , 2015, , .		1
28	Robustness Analysis of Various Approaches to Modeling of the Phase Change Front Propagation. , 2017, , .		1
29	An optimization study into thermally activated wall system with latent heat thermal energy storage. IOP Conference Series: Earth and Environmental Science, 2019, 238, 012016.	0.3	1
30	Mathematical Model of Multi-Layer Wall with Phase Change Material and its Use in Optimal Design. Advanced Materials Research, 0, 649, 295-298.	0.3	0
31	Latent Heat Storage Plaster: Lab-Scale Experiment and Simulation. Advanced Materials Research, 0, 1077, 124-128.	0.3	0
32	Various Approaches to Numerical Discretization of Thermal Model With Phase Change. , 2015, , .		0
33	Two-stage stochastic programming approach to a PDE-constrained steel production problem with the moving interface. Kybernetika, 0, , 1047-1070.	0.0	0