Frank Bruno

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3259801/publications.pdf

Version: 2024-02-01

136 papers	6,629 citations	57719 44 h-index	66879 78 g-index
137 all docs	137 docs citations	137 times ranked	4151 citing authors

#	Article	IF	Citations
1	Review on concentrating solar power plants and new developments in high temperature thermal energy storage technologies. Renewable and Sustainable Energy Reviews, 2016, 53, 1411-1432.	8.2	698
2	Review on storage materials and thermal performance enhancement techniques for high temperature phase change thermal storage systems. Renewable and Sustainable Energy Reviews, 2012, 16, 2118-2132.	8.2	673
3	Experimental investigation of the effect of inclination angle on convection-driven melting of phase change material in a rectangular enclosure. International Journal of Heat and Mass Transfer, 2014, 72, 186-200.	2.5	279
4	Review on shell materials used in the encapsulation of phase change materials for high temperature thermal energy storage. Renewable and Sustainable Energy Reviews, 2015, 48, 79-87.	8.2	222
5	Thermal performance of PCM thermal storage unit for a roof integrated solar heating system. Solar Energy, 2005, 78, 341-349.	2.9	184
6	An effectiveness-NTU technique for characterising tube-in-tank phase change thermal energy storage systems. Applied Energy, 2012, 91, 309-319.	5.1	162
7	Minimising the life cycle energy of buildings: Review and analysis. Building and Environment, 2014, 73, 106-114.	3.0	159
8	Development of a novel refrigeration system for refrigerated trucks incorporating phase change material. Applied Energy, 2012, 92, 336-342.	5.1	156
9	Comparison of pinned and finned tubes in a phase change thermal energy storage system using CFD. Applied Energy, 2013, 104, 79-86.	5.1	149
10	On-site experimental testing of a novel dew point evaporative cooler. Energy and Buildings, 2011, 43, 3475-3483.	3.1	137
11	Numerical study of melting performance enhancement for PCM in an annular enclosure with internal-external fins and metal foams. International Journal of Heat and Mass Transfer, 2020, 150, 119348.	2.5	129
12	Experimental investigation of tubes in a phase change thermal energy storage system. Applied Energy, 2012, 90, 288-297.	5.1	124
13	Maximisation of heat transfer in a coil in tank PCM cold storage system. Applied Energy, 2011, 88, 4120-4127.	5.1	119
14	Considerations for the use of metal alloys as phase change materials for high temperature applications. Solar Energy Materials and Solar Cells, 2017, 171, 275-281.	3.0	99
15	Eutectic Na2CO3â€“NaCl salt: A new phase change material for high temperature thermal storage. Solar Energy Materials and Solar Cells, 2016, 152, 155-160.	3.0	97
16	Experimental validation of a CFD model for tubes in a phase change thermal energy storage system. International Journal of Heat and Mass Transfer, 2012, 55, 574-585.	2.5	96
17	Determination of thermo-physical properties and stability testing of high-temperature phase-change materials for CSP applications. Solar Energy Materials and Solar Cells, 2015, 139, 81-87.	3.0	90
18	Review on transportable phase change material in thermal energy storage systems. Renewable and Sustainable Energy Reviews, 2017, 75, 264-277.	8.2	86

#	Article	IF	Citations
19	Designing a PCM storage system using the effectiveness-number of transfer units method in low energy cooling of buildings. Energy and Buildings, 2012, 50, 234-242.	3.1	84
20	Numerical analysis of a PCM thermal storage system with varying wall temperature. Energy Conversion and Management, 2005, 46, 2592-2604.	4.4	83
21	Effective thermal conductivity for melting in PCM encapsulated in a sphere. Applied Energy, 2014, 122, 280-287.	5.1	81
22	Performance of jet impingement in unglazed air collectors. Solar Energy, 2008, 82, 389-398.	2.9	78
23	Novel Na2SO4-NaCl-ceramic composites as high temperature phase change materials for solar thermal power plants (Part I). Solar Energy Materials and Solar Cells, 2018, 178, 74-83.	3.0	77
24	Impact of climate change on the design of energy efficient residential building envelopes. Energy and Buildings, 2015, 87, 142-154.	3.1	75
25	An effectiveness-NTU technique for characterising a finned tubes PCM system using a CFD model. Applied Energy, 2014, 131, 377-385.	5.1	70
26	Experimental validation of a CFD and an Îµ-NTU model for a large tube-in-tank PCM system. International Journal of Heat and Mass Transfer, 2012, 55, 5931-5940.	2.5	69
27	Experimental investigation of dynamic melting in a tube-in-tank PCM system. Applied Energy, 2013, 104, 137-148.	5.1	69
28	Embodied energy and cost of high temperature thermal energy storage systems for use with concentrated solar power plants. Applied Energy, 2016, 180, 586-597.	5.1	65
29	Thermal stability of Na 2 CO 3 -Li 2 CO 3 as a high temperature phase change material for thermal energy storage. Thermochimica Acta, 2017, 650, 88-94.	1.2	61
30	A critical review of eutectic salt property prediction for latent heat energy storage systems. Renewable and Sustainable Energy Reviews, 2017, 70, 936-944.	8.2	61
31	Investigation of the effect of dynamic melting in a tube-in-tank PCM system using a CFD model. Applied Energy, 2015, 137, 738-747.	5.1	59
32	Experimental investigation of the effect of dynamic melting in a cylindrical shell-and-tube heat exchanger using water as PCM. Applied Energy, 2017, 185, 136-145.	5.1	59
33	Effectivenessâ€“NTU correlation for low temperature PCM encapsulated in spheres. Applied Energy, 2012, 93, 549-555.	5.1	57
34	Sensible and latent heat energy storage systems for concentrated solar power plants, exergy efficiency comparison. Solar Energy, 2019, 180, 104-115.	2.9	57
35	Performance enhancement of high temperature latent heat thermal storage systems using heat pipes with and without fins for concentrating solar thermal power plants. Renewable Energy, 2016, 89, 36-50.	4.3	56
36	Validation of a mathematical model for encapsulated phase change material flat slabs for cooling applications. Applied Thermal Engineering, 2011, 31, 2340-2347.	3.0	55

#	Article	IF	Citations
37	Optimising PCM thermal storage systems for maximum energy storage effectiveness. Solar Energy, 2012, 86, 2263-2272.	2.9	54
38	Characterising PCM thermal storage systems using the effectiveness-NTU approach. International Journal of Heat and Mass Transfer, 2012, 55, 3359-3365.	2.5	52
39	A eutectic salt high temperature phase change material: Thermal stability and corrosion of SS316 with respect to thermal cycling. Solar Energy Materials and Solar Cells, 2017, 170, 1-7.	3.0	52
40	Impact of the heat transfer fluid in a flat plate phase change thermal storage unit for concentrated solar tower plants. Solar Energy, 2014, 101, 220-231.	2.9	51
41	Design of sensible and latent heat thermal energy storage systems for concentrated solar power plants: Thermal performance analysis. Renewable Energy, 2020, 151, 1286-1297.	4.3	50
42	CFD simulation of a TES tank comprising a PCM encapsulated in sphere with heat transfer enhancement. Applied Thermal Engineering, 2018, 143, 1085-1092.	3.0	49
43	Development and experimental validation of a CFD model for PCM in a vertical triplex tube heat exchanger. Applied Thermal Engineering, 2017, 116, 344-354.	3.0	46
44	Phase change behaviour study of PCM tanks partially filled with graphite foam. Applied Thermal Engineering, 2021, 196, 117313.	3.0	46
45	An effectiveness-NTU model of a packed bed PCM thermal storage system. Applied Energy, 2014, 134, 356-362.	5.1	45
46	A review of high temperature (<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML") Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 3 thermal energy storage. Renewable and Sustainable Energy Reviews, 2022, 160, 112293.	8.2	43
47	Minimising energy usage for domestic cooling with off-peak PCM storage. Energy and Buildings, 2014, 76, 347-353.	3.1	42
48	Simulations of melting performance enhancement for a PCM embedded in metal periodic structures. International Journal of Heat and Mass Transfer, 2021, 168, 120853.	2.5	40
49	Performance comparison of latent heat storage systems comprising plate fins with different shell and tube configurations. Applied Energy, 2018, 212, 1095-1106.	5.1	39
50	A review of numerical modelling of high-temperature phase change material composites for solar thermal energy storage. Journal of Energy Storage, 2020, 29, 101378.	3.9	39
51	A phase change processor method for solving a one-dimensional phase change problem with convection boundary. Renewable Energy, 2010, 35, 1688-1695.	4.3	38
52	Control concepts of a radiant wall working as thermal energy storage for peak load shifting of a heat pump coupled to a PV array. Renewable Energy, 2018, 118, 489-501.	4.3	37
53	Computer simulation with TRNSYS for a mobile refrigeration system incorporating a phase change thermal storage unit. Applied Energy, 2014, 132, 226-235.	5.1	36
54	Design optimization method for tube and fin latent heat thermal energy storage systems. Energy, 2017, 134, 585-594.	4.5	36

#	Article	IF	Citations
55	Thermal performance analysis of a flat slab phase change thermal storage unit with liquid-based heat transfer fluid for cooling applications. Solar Energy, 2011, 85, 3017-3027.	2.9	35
56	Investigation of the thermal resistance of timber attic spaces with reflective foil and bulk insulation, heat flow up. Applied Energy, 2011, 88, 127-137.	5.1	34
57	Using solid-liquid phase change materials (PCMs) in thermal energy storage systems. , 2015, , 201-246.		32
58	Roof integrated solar heating system with glazed collector. Solar Energy, 2004, 76, 61-69.	2.9	31
59	Influence of cascaded graphite foams on thermal performance of high temperature phase change material storage systems. Applied Thermal Engineering, 2020, 180, 115618.	3.0	31
60	Modelling the cooling energy of night ventilation and economiser strategies on faÃ§ade selection of commercial buildings. Energy and Buildings, 2013, 66, 562-570.	3.1	30
61	Impact of periodic flow reversal of heat transfer fluid on the melting and solidification processes in a latent heat shell and tube storage system. Applied Energy, 2017, 191, 276-286.	5.1	30
62	Comparative study of melting and solidification processes in different configurations of shell and tube high temperature latent heat storage system. Solar Energy, 2017, 150, 363-374.	2.9	30
63	Characterisation of promising phase change materials for high temperature thermal energy storage. Journal of Energy Storage, 2019, 24, 100801.	3.9	30
64	Effectiveness of direct contact PCM thermal storage with a gas as the heat transfer fluid. Applied Energy, 2015, 137, 748-757.	5.1	29
65	Investigation of Cascaded Shell and Tube Latent Heat Storage Systems for Solar Tower Power Plants. Energy Procedia, 2015, 69, 913-924.	1.8	29
66	Effective tube-in-tank PCM thermal storage for CSP applications, Part 1: Impact of tube configuration on discharging effectiveness. Solar Energy, 2016, 139, 733-743.	2.9	29
67	Using renewables coupled with thermal energy storage to reduce natural gas consumption in higher temperature commercial/industrial applications. Renewable Energy, 2019, 131, 1035-1046.	4.3	28
68	Review of analytical studies of melting rate enhancement with fin and/or foam inserts. Applied Thermal Engineering, 2022, 207, 118154.	3.0	26
69	Novel solidâ€“solid phase-change cascade systems for high-temperature thermal energy storage. Solar Energy, 2019, 177, 274-283.	2.9	25
70	A Study on EGR Utilization in Natural Gas SI Engines Using a Two-Zone Combustion Model. , 0, , .		24
71	Controlling stored energy in a concentrating solar thermal power plant to maximise revenue. IET Renewable Power Generation, 2015, 9, 379-388.	1.7	24
72	Review and characterisation of high-temperature phase change material candidates between 500ÂC and 700Â°C. Renewable and Sustainable Energy Reviews, 2021, 150, 111528.	8.2	24

#	Article	IF	Citations
73	Techno-economic analysis on the design of sensible and latent heat thermal energy storage systems for concentrated solar power plants. Renewable Energy, 2021, 178, 443-455.	4.3	24
74	Effectiveness-NTU correlation for a TES tank comprising a PCM encapsulated in a sphere with heat transfer enhancement. Applied Thermal Engineering, 2018, 143, 1003-1010.	3.0	22
75	Experimental investigation of specific heat capacity improvement of a binary nitrate salt by addition of nanoparticles/microparticles. Journal of Energy Storage, 2019, 22, 137-143.	3.9	19
76	A comprehensive study on a novel transcritical CO2 heat pump for simultaneous space heating and cooling â€“ Concepts and initial performance. Energy Conversion and Management, 2021, 243, 114397.	4.4	18
77	Corrosion of AISI316 as containment material for latent heat thermal energy storage systems based on carbonates. Solar Energy Materials and Solar Cells, 2018, 186, 1-8.	3.0	17
78	CO2 Refrigeration and Heat Pump Systemsâ€”A Comprehensive Review. Energies, 2019, 12, 2959.	1.6	17
79	Effective tube-in-tank PCM thermal storage for CSP applications, Part 2: Parametric assessment and impact of latent fraction. Solar Energy, 2016, 139, 744-756.	2.9	16
80	Investigation of the effect of thermal resistance on the performance of phase change materials. International Journal of Thermal Sciences, 2021, 164, 106852.	2.6	16
81	Maximising revenue via optimal control of a concentrating solar thermal power plant with limited storage capacity. IET Renewable Power Generation, 2016, 10, 729-734.	1.7	14
82	Should academic research be relevant and useful to practitioners? The contrasting difference between three applied disciplines. Studies in Higher Education, 2020, 45, 129-144.	2.9	14
83	Evaluating the utility of passive thermal storage as an energy storage system on the Australian energy market. Renewable and Sustainable Energy Reviews, 2021, 137, 110615.	8.2	14
84	Numerical modeling of inward and outward melting of high temperature PCM in a vertical cylinder. AIP Conference Proceedings, 2016, , .	0.3	13
85	Comparing the energy performance of Australian houses using NatHERS modelling against measured household energy consumption for heating and cooling. Energy and Buildings, 2016, 119, 173-182.	3.1	13
86	Effect of inner coatings on the stability of chloride-based phase change materials encapsulated in geopolymers. Solar Energy Materials and Solar Cells, 2018, 174, 271-276.	3.0	13
87	Optimization of deterministic controls for a cooling radiant wall coupled to a PV array. Applied Energy, 2018, 229, 1103-1110.	5.1	12
88	Geopolymer encapsulation of a chloride salt phase change material for high temperature thermal energy storage. AIP Conference Proceedings, 2016, , .	0.3	11
89	Novel geopolymer for use as a sensible storage option in high temperature thermal energy storage systems. AIP Conference Proceedings, 2020, , .	0.3	11
90	Thermochemical and Experimental Kinetic Analysis of Potassium Extraction from Ultrapotassic Syenite Using Molten Chloride Salts. Industrial & Engineering Chemistry Research, 2019, 58, 7397-7407.	1.8	10

#	Article	IF	Citations
91	Transient Thermo-mechanical analysis of a shell and tube latent heat thermal energy storage for CSP plants. Applied Thermal Engineering, 2021, 196, 117327.	3.0	10
92	Capital cost expenditure of high temperature latent and sensible thermal energy storage systems. AIP Conference Proceedings, 2017, , .	0.3	9
93	Experimental Kinetic Analysis of Potassium Extraction from Ultrapotassic Syenite Using NaClâ€“CaCl₂ Salt Mixture. ACS Omega, 2020, 5, 16421-16429.	1.6	9
94	An optimisation study on a real-world transcritical CO2 heat pump system with a flash gas bypass. Energy Conversion and Management, 2022, 251, 114995.	4.4	9
95	Numerical investigation of PCM in vertical triplex tube thermal energy storage system for CSP applications. AIP Conference Proceedings, 2017, , .	0.3	8
96	Assessment of exergy delivery of thermal energy storage systems for CSP plants: Cascade PCMs, graphite-PCMs and two-tank sensible heat storage systems. Sustainable Energy Technologies and Assessments, 2020, 42, 100823.	1.7	8
97	Maximising renewable gas export opportunities at wastewater treatment plants through the integration of alternate energy generation and storage options. Science of the Total Environment, 2020, 742, 140580.	3.9	8
98	Technoeconomic Impacts of Storage System Design on the Viability of Concentrated Solar Power Plants. Journal of Energy Storage, 2021, 34, 101987.	3.9	8
99	Mathematical modelling of heat transmission in the temperature history apparatus by using inverse method to evaluate the latent heat of high temperature PCMs. International Journal of Heat and Mass Transfer, 2021, 167, 120825.	2.5	8
100	Investigation of Conducting Pins in Sphere Filled with Phase Change Material for Enhancing Heat Transfer in Thermal Energy Storage. Advanced Materials Research, 0, 472-475, 1693-1697.	0.3	7
101	Optimisation of Storage for Concentrated Solar Power Plants. Challenges, 2014, 5, 473-503.	0.9	7
102	Review and evaluation of using household metered energy data for rating of building thermal efficiency of existing buildings. Energy and Buildings, 2015, 108, 433-440.	3.1	7
103	Performance Evaluation of a CO2 Refrigeration System Enhanced with a Dew Point Cooler. Energies, 2019, 12, 1079.	1.6	6
104	Experimental study of thermodynamic properties and phase equilibria in Na2CO3â€“K2CO3 system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 71, 101992.	0.7	6
105	Corrosion interface formation in thermally cycled stainless steel 316 with high-temperature phase change material. Solar Energy Materials and Solar Cells, 2021, 225, 111062.	3.0	6
106	Experimental phase diagram study of the binary KCl-Na2CO3 system. Thermochimica Acta, 2021, 695, 178811.	1.2	5
107	Optimum Facade Design for Minimization of Heating and Cooling Demand in Commercial Office Buildings in Australian Cities. Journal of Architectural Engineering, 2017, 23, .	0.8	4
108	Chemical degradation in Thermally Cycled Stainless Steel 316 with High-Temperature Phase Change Material. Solar Energy Materials and Solar Cells, 2021, 230, 111216.	3.0	4

#	Article	IF	Citations
109	Optimising a packed bed phase change material of spheres using effectiveness-number of transfer unit method. Journal of Energy Storage, 2022, 49, 104019.	3.9	4
110	Periodic structures for melting enhancement: observation of critical cell size and localized melting. International Journal of Heat and Mass Transfer, 2022, 195, 123107.	2.5	4
111	Analysis of the operation of a high-pressure micro-compressor. Energy Conversion and Management, 1996, 37, 1517-1524.	4.4	3
112	Solid-liquid phase change materials for thermal energy storage. , 2021, , 221-268.		3
113	Thermal stability of a waste-based alkali-activated material for thermal energy storage. Chemical Thermodynamics and Thermal Analysis, 2021, 3-4, 100014.	0.7	3
114	Experimental Investigation of PCM Spheres in Thermal Energy Storage System. Applied Mechanics and Materials, 0, 367, 228-233.	0.2	2
115	A numerical model for thermal energy storage systems utilising encapsulated phase change materials. AIP Conference Proceedings, 2016, , .	0.3	2
116	Economic Studies on High-Temperature Phase Change Storage Systems. , 2018, , 297-318.		2
117	A new methodology for designing and assessing latent heat thermal energy storage systems. AIP Conference Proceedings, 2020, , .	0.3	2
118	Analysis and Testing of a High-Pressure Micro-Compressor. , 0, , .		1
119	A New Phase Change Material for High Temperature Thermal Energy Storage. , 2016, , .		1
120	Stability and corrosion testing of a high temperature phase change material for CSP applications. AIP Conference Proceedings, 2016, , .	0.3	1
121	Encapsulation of High-Temperature Phase Change Materials. , 2018, , 231-274.		1
122	Direct Contact Phase Change Material Thermal Energy Storage. , 2018, , 7-37.		1
123	Dynamic Concept at University of South Australia. , 2018, , 39-92.		1
124	Static Concept at University of South Australia. , 2018, , 157-191.		1
125	A novel, low-cost and robust method for determining molten salt density at high temperatures. Journal of Energy Storage, 2021, 41, 102935.	3.9	1
126	Orientation impact on structural integrity of a shell and tube latent heat thermal energy storage system. Journal of Energy Storage, 2022, 52, 104829.	3.9	1

#	Article	IF	Citations
127	Numerical analysis on the thermal performance of chilled ceiling panels using encapsulated phase change material. , 2009, , .		0
128	Parametric Study on a Thermal Energy Storage Containing Single PCM Sphere. Applied Mechanics and Materials, 0, 695, 477-481.	0.2	0
129	Mathematical Modeling on Thermal Energy Storage Systems. Applied Mechanics and Materials, 0, 695, 553-557.	0.2	0
130	CFD Model Validation for Charging and Discharging of a PCM Encapsulated in Sphere. Applied Mechanics and Materials, 0, 699, 300-304.	0.2	0
131	Gas-molten salt direct contact heat exchange for porous phase change materials. , 2015, , .		0
132	Using thermal energy storage to replace natural gas in commercial/industrial applications. AIP Conference Proceedings, 2018, , .	0.3	0
133	Parametric analysis of PCM in vertical triplex tube thermal energy storage technology for concentrating solar power. AIP Conference Proceedings, 2019, , .	0.3	0
134	Thermal Performance Of A Pcm Thermal Storage Unit. , 2008, , 2766-2771.		0
135	Potential Application of Combisystem for an Australian Climatic Region. , 2008, , 876-880.		0
136	Melt path formation in a high temperature molten salt horizontal shell and tube storage system for CSP plants. AIP Conference Proceedings, 2020, , .	0.3	0