

Thomas Bauer

List of Publications by Year in descending order

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75
papers

2,965
citations

218677

26
h-index

175258

52
g-index

80
all docs

80
docs citations

80
times ranked

1789
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase diagram, thermodynamic properties and long-term isothermal stability of quaternary molten nitrate salts for thermal energy storage. <i>Solar Energy</i> , 2022, 231, 1061-1071.	6.1	5
2	Thermal Energy Storage. , 2022, , 285-313.		0
3	Idealâ€“Typical Utility Infrastructure at Chemical Sites â€“ Definition, Operation and Defossilization. <i>Chemie-Ingenieur-Technik</i> , 2022, 94, 840-851.	0.8	4
4	Simulation-Assisted Determination of the Minimum Melting Temperature Composition of MgCl ₂ â€“KClâ€“NaCl Salt Mixture for Next-Generation Molten Salt Thermal Energy Storage. <i>Frontiers in Energy Research</i> , 2022, 10, .	2.3	5
5	Basic engineering of a high performance molten salt tower receiver system. <i>AIP Conference Proceedings</i> , 2022, , .	0.4	1
6	Molten Salt Storage for Power Generation. <i>Chemie-Ingenieur-Technik</i> , 2021, 93, 534-546.	0.8	67
7	Progress in Research and Development of Molten Chloride Salt Technology for Next Generation Concentrated Solar Power Plants. <i>Engineering</i> , 2021, 7, 334-347.	6.7	111
8	Compatibility of 3D-Printed Oxide Ceramics with Molten Chloride Salts for High-Temperature Thermal Energy Storage in Next-Generation CSP Plants. <i>Energies</i> , 2021, 14, 2599.	3.1	2
9	Molten chloride salts for high-temperature thermal energy storage: Continuous electrolytic salt purification with two Mg-electrodes and alternating voltage for corrosion control. <i>Solar Energy Materials and Solar Cells</i> , 2021, 223, 110979.	6.2	20
10	Investigation of Regeneration Mechanisms of Aged Solar Salt. <i>Materials</i> , 2021, 14, 5664.	2.9	7
11	Engineering molten MgCl ₂ â€“KClâ€“NaCl salt for high-temperature thermal energy storage: Review on salt properties and corrosion control strategies. <i>Solar Energy Materials and Solar Cells</i> , 2021, 232, 111344.	6.2	47
12	Fundamentals of high-temperature thermal energy storage, transfer, and conversion. , 2021, , 1-34.		4
13	A New Approach to Low-Cost, Solar Salt-Resistant Structural Materials for Concentrating Solar Power (CSP) and Thermal Energy Storage (TES). <i>Metals</i> , 2021, 11, 1970.	2.3	8
14	Defined purge gas composition stabilizes molten nitrate salt - Experimental prove and thermodynamic calculations. <i>Solar Energy</i> , 2020, 211, 453-462.	6.1	16
15	Molten iodide salt electrolyte for low-temperature low-cost sodium-based liquid metal battery. <i>Journal of Power Sources</i> , 2020, 475, 228674.	7.8	23
16	An inexpensive storage material for molten salt based thermocline concepts: Stability of AlferRock in solar salt. <i>Solar Energy Materials and Solar Cells</i> , 2020, 212, 110578.	6.2	10
17	With a view to elevated operating temperatures in thermal energy storage - Reaction chemistry of Solar Salt up to 630Â°C. <i>Solar Energy Materials and Solar Cells</i> , 2020, 212, 110577.	6.2	12
18	Solar Salt â€“ Pushing an old material for energy storage to a new limit. <i>Applied Energy</i> , 2020, 262, 114535.	10.1	57

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19	Experimental and numerical investigation of a 4 MWh high temperature molten salt thermocline storage system with filler. AIP Conference Proceedings, 2020, , .	0.4	7
20	Techno-Economic Optimization of Molten Salt Concentrating Solar Power Parabolic Trough Plants With Packed-Bed Thermocline Tanks. Journal of Solar Energy Engineering, Transactions of the ASME, 2020, 142, .	1.8	6
21	Enhancing the thermal stability of solar salt up to 600°C in extended lab-scale experiments. AIP Conference Proceedings, 2020, , .	0.4	5
22	Molten chloride salts for next generation CSP plants: Selection of promising chloride salts & study on corrosion of alloys in molten chloride salts. AIP Conference Proceedings, 2019, , .	0.4	45
23	A three-equation thermocline thermal energy storage model for bidisperse packed beds. Solar Energy, 2019, 191, 410-419.	6.1	15
24	Impact of Solar Salt aging on corrosion of martensitic and austenitic steel for concentrating solar power plants. Solar Energy Materials and Solar Cells, 2019, 203, 110162.	6.2	33
25	Microkinetics of the reaction $N_2 + 3H_2 \rightarrow 2NH_3$. Thermochimica Acta, 2019, 678, 178301.	2.7	15
26	Molten chloride salts for next generation CSP plants: Electrolytical salt purification for reducing corrosive impurity level. Solar Energy Materials and Solar Cells, 2019, 199, 8-15.	6.2	81
27	Molten chloride salts for next generation concentrated solar power plants: Mitigation strategies against corrosion of structural materials. Solar Energy Materials and Solar Cells, 2019, 193, 298-313.	6.2	123
28	Characterization of corrosion resistance of C/SiC composite in molten chloride mixture MgCl ₂ /NaCl/KCl at 700°C. Npj Materials Degradation, 2019, 3, .	5.8	17
29	Energie aus dem Salz. Bwk - Energie-fachmagazin, 2019, 71, 42-44.	0.0	3
30	Thermal Energy Storage. , 2019, , 563-609.		4
31	Electrochemical measurement of corrosive impurities in molten chlorides for thermal energy storage. Journal of Energy Storage, 2018, 15, 408-414.	8.1	42
32	Advanced heat transfer fluids for direct molten salt line-focusing CSP plants. Progress in Energy and Combustion Science, 2018, 67, 69-87.	31.2	161
33	Hot corrosion behavior of commercial alloys in thermal energy storage material of molten MgCl ₂ /KCl/NaCl under inert atmosphere. Solar Energy Materials and Solar Cells, 2018, 184, 22-30.	6.2	132
34	Parametric study of the thermocline filler concept based on exergy. Journal of Energy Storage, 2018, 17, 56-62.	8.1	11
35	Influence of different atmospheres on molten salt chemistry and its effect on steel corrosion. AIP Conference Proceedings, 2018, , .	0.4	16
36	Techno-economic assessment for large scale thermocline filler TES systems in a molten salt parabolic trough plant. AIP Conference Proceedings, 2018, , .	0.4	2

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37	Molten salt chemistry in nitrate salt storage systems: Linking experiments and modeling. Energy Procedia, 2018, 155, 503-513.	1.8	10
38	Assessment for the adaptation of industrial combined heat and power for chemical parks towards renewable energy integration using high-temperature TES. Energy Procedia, 2018, 155, 492-502.	1.8	7
39	Semi-empirical Density Estimations for Binary, Ternary and Multicomponent Alkali Nitrateâ€“Nitrite Molten Salt Mixtures. International Journal of Thermophysics, 2018, 39, 1.	2.1	12
40	Corrosion behavior of metallic alloys in molten chloride salts for thermal energy storage in concentrated solar power plants: A review. Frontiers of Chemical Science and Engineering, 2018, 12, 564-576.	4.4	126
41	Investigation of the long-term stability of quartzite and basalt for a potential use as filler materials for a molten-salt based thermocline storage concept. Solar Energy, 2018, 171, 827-840.	6.1	21
42	High-temperature stability of nitrate/nitrite molten salt mixtures under different atmospheres. Applied Energy, 2018, 226, 107-115.	10.1	63
43	Material investigations on the thermal stability of solar salt and potential filler materials for molten salt storage. AIP Conference Proceedings, 2017, , .	0.4	25
44	Investigations on thermochemical energy storage based on manganese-iron oxide in a lab-scale reactor. AIP Conference Proceedings, 2017, , .	0.4	5
45	Round robin test on the measurement of the specific heat of solar salt. AIP Conference Proceedings, 2017, , .	0.4	10
46	Modelling and operation strategies of DLRâ€™s large scale thermocline test facility (TESIS). AIP Conference Proceedings, 2017, , .	0.4	4
47	Thermophysical properties of Almahata Sitta meteorites (asteroid 2008 TC_{3}) for high-fidelity entry modeling. Meteoritics and Planetary Science, 2017, 52, 197-205.	1.6	9
48	Demonstrating Cost Effective Thermal Energy Storage in Molten Salts: DLRâ€™s TESIS Test Facility. Energy Procedia, 2017, 135, 14-22.	1.8	12
49	Cyclic Voltammetry for Monitoring Corrosive Impurities in Molten Chlorides for Thermal Energy Storage. Energy Procedia, 2017, 135, 82-91.	1.8	40
50	Thermal Energy Storage in Molten Salts: Overview of Novel Concepts and the DLR Test Facility TESIS. Energy Procedia, 2016, 99, 120-129.	1.8	31
51	Thermal energy storage â€“ overview and specific insight into nitrate salts for sensible and latent heat storage. Beilstein Journal of Nanotechnology, 2015, 6, 1487-1497.	2.8	95
52	An experimental study of a non-eutectic mixture of KNO ₃ and NaNO ₃ with a melting range for thermal energy storage. Applied Thermal Engineering, 2013, 56, 159-166.	6.0	25
53	High-Temperature Molten Salts for Solar Power Application. , 2013, , 415-438.		47
54	Material aspects of Solar Salt for sensible heat storage. Applied Energy, 2013, 111, 1114-1119.	10.1	186

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55	Development of high temperature phase-change-material storages. Applied Energy, 2013, 109, 497-504.	10.1	130
56	Thermal Energy Storage thermal energy storage. , 2013, , 688-714.		1
57	High-Temperature Solid-Media Thermal Energy Storage for Solar Thermal Power Plants. Proceedings of the IEEE, 2012, 100, 516-524.	21.3	138
58	Characterization of Sodium Nitrate as Phase Change Material. International Journal of Thermophysics, 2012, 33, 91-104.	2.1	122
59	THERMAL ENERGY STORAGE MATERIALS AND SYSTEMS. Annual Review of Heat Transfer, 2012, 15, 131-177.	1.0	73
60	Thermal Energy Storage thermal energy storage. , 2012, , 10551-10577.		0
61	Thermophotovoltaics. Green Energy and Technology, 2011, , .	0.6	108
62	Photovoltaic Cells. Green Energy and Technology, 2011, , 53-81.	0.6	3
63	Approximate analytical solutions for the solidification of PCMs in fin geometries using effective thermophysical properties. International Journal of Heat and Mass Transfer, 2011, 54, 4923-4930.	4.8	50
64	Cavity Design and Optical Control. Green Energy and Technology, 2011, , 101-127.	0.6	0
65	Radiators (Emitters). Green Energy and Technology, 2011, , 17-34.	0.6	0
66	Thermal energy storage for direct steam generation. Solar Energy, 2011, 85, 627-633.	6.1	227
67	Competing Technologies. Green Energy and Technology, 2011, , 129-145.	0.6	1
68	Combined Storage System Developments for Direct Steam Generation in Solar Thermal Power Plants. , 2011, , .		4
69	Applications of TPV Generators. Green Energy and Technology, 2011, , 147-196.	0.6	1
70	Development of a Thermal Energy Storage System for Parabolic Trough Power Plants With Direct Steam Generation. Journal of Solar Energy Engineering, Transactions of the ASME, 2010, 132, .	1.8	32
71	Development of a Thermal Energy Storage System for Parabolic Trough Power Plants With Direct Steam Generation. , 2009, , .		6
72	Latent heat storage above 120Â°C for applications in the industrial process heat sector and solar power generation. International Journal of Energy Research, 2008, 32, 264-271.	4.5	163

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73	Overview of PCMs for Concentrated Solar Power in the Temperature Range 200 to 350°C. <i>Advances in Science and Technology</i> , 0, , .	0.2	50
74	Synthetic Biofuels by Molten Salt Catalytic Conversion: Corrosion of Structural Materials in Ternary Molten Chlorides. <i>Advanced Engineering Materials</i> , 0, , 2101453.	3.5	2
75	Chemical Analysis and Electrochemical Monitoring of Extremely Low-Concentration Corrosive Impurity MgOHCl in Molten MgCl ₂ -KCl-NaCl. <i>Frontiers in Energy Research</i> , 0, 10, .	2.3	3