Thomas Bauer

List of Publications by Year
in descending order

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	Thermal energy storage for direct steam generation. Solar Energy, 2011, 85, 627-633.	6.1	227
2	Material aspects of Solar Salt for sensible heat storage. Applied Energy, 2013, 111, 1114-1119.	10.1	186
3	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
4	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
5	High-Temperature Solid-Media Thermal Energy Storage for Solar Thermal Power Plants. Proceedings of the IEEE, 2012, 100, 516-524.	21.3	138
6	Hot corrosion behavior of commercial alloys in thermal energy storage material of molten MgCl2/KCl/NaCl under inert atmosphere. Solar Energy Materials and Solar Cells, 2018, 184, 22-30.	6.2	132
7	Development of high temperature phase-change-material storages. Applied Energy, 2013, 109, 497-504.	10.1	130
8	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
9	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
10	Characterization of Sodium Nitrate as Phase Change Material. International Journal of Thermophysics, 2012, 33, 91-104.	2.1	122
11	Progress in Research and Development of Molten Chloride Salt Technology for Next Generation Concentrated Solar Power Plants. Engineering, 2021, 7, 334-347.	6.7	111
12	Thermophotovoltaics. Green Energy and Technology, 2011, , .	0.6	108
13	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
14	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
15	THERMAL ENERGY STORAGE MATERIALS AND SYSTEMS. Annual Review of Heat Transfer, 2012, 15, 131-177.	1.0	73
16	Molten Salt Storage for Power Generation. Chemie-Ingenieur-Technik, 2021, 93, 534-546.	0.8	67
17	High-temperature stability of nitrate/nitrite molten salt mixtures under different atmospheres. Applied Energy, 2018, 226, 107-115.	10.1	63
18	Solar Salt â€“ Pushing an old material for energy storage to a new limit. Applied Energy, 2020, 262, 114535.	10.1	57

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19	Overview of PCMs for Concentrated Solar Power in the Temperature Range 200 to 350Â°C. Advances in Science and Technology, 0, , .	0.2	50
20	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
21	High-Temperature Molten Salts for Solar Power Application. , 2013, , 415-438.		47
22	Engineering molten MgCl2â€“KClâ€“NaCl salt for high-temperature thermal energy storage: Review on salt properties and corrosion control strategies. Solar Energy Materials and Solar Cells, 2021, 232, 111344.	6.2	47
23	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
24	Electrochemical measurement of corrosive impurities in molten chlorides for thermal energy storage. Journal of Energy Storage, 2018, 15, 408-414.	8.1	42
25	Cyclic Voltammetry for Monitoring Corrosive Impurities in Molten Chlorides for Thermal Energy Storage. Energy Procedia, 2017, 135, 82-91.	1.8	40
26	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
27	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
28	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
29	An experimental study of a non-eutectic mixture of KNO3 and NaNO3 with a melting range for thermal energy storage. Applied Thermal Engineering, 2013, 56, 159-166.	6.0	25
30	Material investigations on the thermal stability of solar salt and potential filler materials for molten salt storage. AIP Conference Proceedings, 2017, , .	0.4	25
31	Molten iodide salt electrolyte for low-temperature low-cost sodium-based liquid metal battery. Journal of Power Sources, 2020, 475, 228674.	7.8	23
32	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
33	Molten chloride salts for high-temperature thermal energy storage: Continuous electrolytic salt purification with two Mg-electrodes and alternating voltage for corrosion control. Solar Energy Materials and Solar Cells, 2021, 223, 110979.	6.2	20
34	Characterization of corrosion resistance of C/Câ€“SiC composite in molten chloride mixture MgCl2/NaCl/KCl at 700â€‰Â°C. Npj Materials Degradation, 2019, 3, .	5.8	17
35	Influence of different atmospheres on molten salt chemistry and its effect on steel corrosion. AIP Conference Proceedings, 2018, , .	0.4	16
36	Defined purge gas composition stabilizes molten nitrate salt - Experimental prove and thermodynamic calculations. Solar Energy, 2020, 211, 453-462.	6.1	16

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37	A three-equation thermocline thermal energy storage model for bidisperse packed beds. Solar Energy, 2019, 191, 410-419.	6.1	15
38	Microkinetics of the reaction<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si49.gif" overflow="scroll"><mml:msubsup><mml:mrow><mml:mi>N</mml:mi><mml:mi>O</mml:mi></mml:mrow><mml:mn>3</mml:mn><mm Thermochimica Acta, 2019, 678, 178301.	2.7	15
39	Demonstrating Cost Effective Thermal Energy Storage in Molten Salts: DLRâ€™s TESIS Test Facility. Energy Procedia, 2017, 135, 14-22.	1.8	12
40	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
41	With a view to elevated operating temperatures in thermal energy storage - Reaction chemistry of Solar Salt up to 630Â°C. Solar Energy Materials and Solar Cells, 2020, 212, 110577.	6.2	12
42	Parametric study of the thermocline filler concept based on exergy. Journal of Energy Storage, 2018, 17, 56-62.	8.1	11
43	Round robin test on the measurement of the specific heat of solar salt. AIP Conference Proceedings, 2017, , .	0.4	10
44	Molten salt chemistry in nitrate salt storage systems: Linking experiments and modeling. Energy Procedia, 2018, 155, 503-513.	1.8	10
45	An inexpensive storage material for molten salt based thermocline concepts: Stability of AlferRock in solar salt. Solar Energy Materials and Solar Cells, 2020, 212, 110578.	6.2	10
46	Thermophysical properties of Almahata Sitta meteorites (asteroid 2008 <scp>TC</scp>₃) for highâ€fidelity entry modeling. Meteoritics and Planetary Science, 2017, 52, 197-205.	1.6	9
47	A New Approach to Low-Cost, Solar Salt-Resistant Structural Materials for Concentrating Solar Power (CSP) and Thermal Energy Storage (TES). Metals, 2021, 11, 1970.	2.3	8
48	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
49	Investigation of Regeneration Mechanisms of Aged Solar Salt. Materials, 2021, 14, 5664.	2.9	7
50	Experimental and numerical investigation of a 4 MWh high temperature molten salt thermocline storage system with filler. AIP Conference Proceedings, 2020, , .	0.4	7
51	Development of a Thermal Energy Storage System for Parabolic Trough Power Plants With Direct Steam Generation. , 2009, , .		6
52	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
53	Investigations on thermochemical energy storage based on manganese-iron oxide in a lab-scale reactor. AIP Conference Proceedings, 2017, , .	0.4	5
54	Enhancing the thermal stability of solar salt up to 600Â°C in extended lab-scale experiments. AIP Conference Proceedings, 2020, , .	0.4	5

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55	Phase diagram, thermodynamic properties and long-term isothermal stability of quaternary molten nitrate salts for thermal energy storage. Solar Energy, 2022, 231, 1061-1071.	6.1	5
56	Simulation-Assisted Determination of the Minimum Melting Temperature Composition of MgCl2â€“KClâ€“NaCl Salt Mixture for Next-Generation Molten Salt Thermal Energy Storage. Frontiers in Energy Research, 2022, 10, .	2.3	5
57	Modelling and operation strategies of DLRâ€™s large scale thermocline test facility (TESIS). AIP Conference Proceedings, 2017, , .	0.4	4
58	Fundamentals of high-temperature thermal energy storage, transfer, and conversion. , 2021, , 1-34.		4
59	Combined Storage System Developments for Direct Steam Generation in Solar Thermal Power Plants. , 2011, , .		4
60	Thermal Energy Storage. , 2019, , 563-609.		4
61	Idealâ€Typical Utility Infrastructure at Chemical Sites â€“ Definition, Operation and Defossilization. Chemie-Ingenieur-Technik, 2022, 94, 840-851.	0.8	4
62	Photovoltaic Cells. Green Energy and Technology, 2011, , 53-81.	0.6	3
63	Energie aus dem Salz. Bwk - Energie-fachmagazin, 2019, 71, 42-44.	0.0	3
64	Chemical Analysis and Electrochemical Monitoring of Extremely Low-Concentration Corrosive Impurity MgOHCl in Molten MgCl2â€“KClâ€“NaCl. Frontiers in Energy Research, 0, 10, .	2.3	3
65	Techno-economic assessment for large scale thermocline filler TES systems in a molten salt parabolic trough plant. AIP Conference Proceedings, 2018, , .	0.4	2
66	Compatibility of 3D-Printed Oxide Ceramics with Molten Chloride Salts for High-Temperature Thermal Energy Storage in Next-Generation CSP Plants. Energies, 2021, 14, 2599.	3.1	2
67	Synthetic Biofuels by Moltenâ€Salt Catalytic Conversion: Corrosion of Structural Materials in Ternary Molten Chlorides. Advanced Engineering Materials, 0, , 2101453.	3.5	2
68	Thermal Energy Storage thermal energy storage. , 2013, , 688-714.		1
69	Competing Technologies. Green Energy and Technology, 2011, , 129-145.	0.6	1
70	Applications of TPV Generators. Green Energy and Technology, 2011, , 147-196.	0.6	1
71	Basic engineering of a high performance molten salt tower receiver system. AIP Conference Proceedings, 2022, , .	0.4	1
72	Cavity Design and Optical Control. Green Energy and Technology, 2011, , 101-127.	0.6	0

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73	Radiators (Emitters). Green Energy and Technology, 2011, , 17-34.	0.6	0
74	Thermal Energy Storage thermal energy storage. , 2012, , 10551-10577.		0
75	Thermal Energy Storage. , 2022, , 285-313.		0