Alexander Bonk

List of Publications by Year
in descending order

43 papers	1,515 citations	430874 18 h-index	315739 38 g-index
43 all docs	43 docs citations	43 times ranked	970 citing authors

#	Article	IF	Citations
1	Thermochemical CO₂ splitting <i>via</i> redox cycling of ceria reticulated foam structures with dual-scale porosities. Physical Chemistry Chemical Physics, 2014, 16, 10503-10511.	2.8	171
2	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
3	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
4	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
5	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
6	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
7	Molten Salt Storage for Power Generation. Chemie-Ingenieur-Technik, 2021, 93, 534-546.	0.8	67
8	High-temperature stability of nitrate/nitrite molten salt mixtures under different atmospheres. Applied Energy, 2018, 226, 107-115.	10.1	63
9	Solar Salt â€“ Pushing an old material for energy storage to a new limit. Applied Energy, 2020, 262, 114535.	10.1	57
10	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
11	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
12	Electrochemical measurement of corrosive impurities in molten chlorides for thermal energy storage. Journal of Energy Storage, 2018, 15, 408-414.	8.1	42
13	Cyclic Voltammetry for Monitoring Corrosive Impurities in Molten Chlorides for Thermal Energy Storage. Energy Procedia, 2017, 135, 82-91.	1.8	40
14	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
15	The effect of dopants on the redox performance, microstructure and phase formation of ceria. Journal of Power Sources, 2015, 300, 261-271.	7.8	25
16	Material investigations on the thermal stability of solar salt and potential filler materials for molten salt storage. AIP Conference Proceedings, 2017, , .	0.4	25
17	Molten iodide salt electrolyte for low-temperature low-cost sodium-based liquid metal battery. Journal of Power Sources, 2020, 475, 228674.	7.8	23
18	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

#	Article	IF	Citations
19	Low-Temperature Reducibility of M_{<i>x</i>}Ce_{1â€“<i>x</i>}O₂ (M =) Tj ETQq1 1 0.784314 rgBT /	3.1	20
20	Dynamic corrosion testing of metals in solar salt for concentrated solar power. Solar Energy Materials and Solar Cells, 2021, 232, 111331.	6.2	18
21	Influence of different atmospheres on molten salt chemistry and its effect on steel corrosion. AIP Conference Proceedings, 2018, , .	0.4	16
22	Defined purge gas composition stabilizes molten nitrate salt - Experimental prove and thermodynamic calculations. Solar Energy, 2020, 211, 453-462.	6.1	16
23	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><m Thermochimica Acta, 2019, 678, 178301.	2.7	15
24	Ce K edge XAS of ceria-based redox materials under realistic conditions for the two-step solar thermochemical dissociation of water and/or CO₂. Physical Chemistry Chemical Physics, 2015, 17, 26988-26996.	2.8	14
25	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
26	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
27	Improving the corrosion resistance of ferritic-martensitic steels at 600ÂÂ°C in molten solar salt via diffusion coatings. Solar Energy Materials and Solar Cells, 2021, 227, 111105.	6.2	12
28	Structural Changes in Ce0.5Zr0.5O2âˆ’Î´ under Temperature-Swing and Isothermal Solar Thermochemical Looping Conditions Determined by in Situ Ce K and Zr K Edge X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 13931-13941.	3.1	11
29	Round robin test on the measurement of the specific heat of solar salt. AIP Conference Proceedings, 2017, , .	0.4	10
30	Molten salt chemistry in nitrate salt storage systems: Linking experiments and modeling. Energy Procedia, 2018, 155, 503-513.	1.8	10
31	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
32	Structural changes in equimolar ceriaâ€“hafnia materials under solar thermochemical looping conditions: cation ordering, formation and stability of the pyrochlore structure. RSC Advances, 2017, 7, 53797-53809.	3.6	9
33	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
34	Porous nanoclay polysulfone composites: A backbone with high pore accessibility for functional modifications. Microporous and Mesoporous Materials, 2016, 234, 107-112.	4.4	7
35	Investigation of Regeneration Mechanisms of Aged Solar Salt. Materials, 2021, 14, 5664.	2.9	7
36	Enhancing the thermal stability of solar salt up to 600Â°C in extended lab-scale experiments. AIP Conference Proceedings, 2020, , .	0.4	5

#	Article	IF	Citations
37	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
38	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
39	In situ flow cell for combined X-ray absorption spectroscopy, X-ray diffraction, and mass spectrometry at high photon energies under solar thermochemical looping conditions. Review of Scientific Instruments, 2017, 88, 083116.	1.3	4
40	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
41	Thermal stability, hydrolysis and thermodynamic properties of molten KCl-CuCl. Materialia, 2022, 21, 101296.	2.7	2
42	Synthetic Biofuels by Moltenâ€Salt Catalytic Conversion: Corrosion of Structural Materials in Ternary Molten Chlorides. Advanced Engineering Materials, 0, , 2101453.	3.5	2
43	Basic engineering of a high performance molten salt tower receiver system. AIP Conference Proceedings, 2022, , .	0.4	1