Yaroslav Grosu

List of Publications by Year
in descending order

54 papers	1,153 citations	331670 21 h-index	414414 32 g-index
54 all docs	54 docs citations	54 times ranked	720 citing authors

#	ARTICLE	IF	CITATIONS
1	Intrusion and extrusion of water in hydrophobic nanopores. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10266-E10273.	7.1	66
2	Shape effect of Al2O3 nanoparticles on the thermophysical properties and viscosity of molten salt nanofluids for TES application at CSP plants. Applied Thermal Engineering, 2020, 169, 114942.	6.0	63
3	Natural Magnetite for thermal energy storage: Excellent thermophysical properties, reversible latent heat transition and controlled thermal conductivity. Solar Energy Materials and Solar Cells, 2017, 161, 170-176.	6.2	58
4	Hierarchical macro-nanoporous metals for leakage-free high-thermal conductivity shape-stabilized phase change materials. Applied Energy, 2020, 269, 115088.	10.1	52
5	Unexpected effect of nanoparticles doping on the corrosivity of molten nitrate salt for thermal energy storage. Solar Energy Materials and Solar Cells, 2018, 178, 91-97.	6.2	51
6	The effect of humidity, impurities and initial state on the corrosion of carbon and stainless steels in molten HitecXL salt for CSP application. Solar Energy Materials and Solar Cells, 2018, 174, 34-41.	6.2	48
7	A Highly Stable Nonhysteretic {Cu₂(tebpz) MOF+water} Molecular Spring. ChemPhysChem, 2016, 17, 3359-3364.	2.1	42
8	Corrosion aspects of molten nitrate salt-based nanofluids for thermal energy storage applications. Solar Energy, 2019, 189, 219-227.	6.1	42
9	Natural and by-product materials for thermocline-based thermal energy storage system at CSP plant: Structural and thermophysical properties. Applied Thermal Engineering, 2018, 136, 185-193.	6.0	41
10	A simple method for the inhibition of the corrosion of carbon steel by molten nitrate salt for thermal storage in concentrating solar power applications. Npj Materials Degradation, 2018, 2, .	5.8	39
11	Stability of zeolitic imidazolate frameworks: effect of forced water intrusion and framework flexibility dynamics. RSC Advances, 2015, 5, 89498-89502.	3.6	38
12	Nanofluids based on molten carbonate salts for high-temperature thermal energy storage: Thermophysical properties, stability, compatibility and life cycle analysis. Solar Energy Materials and Solar Cells, 2021, 220, 110838.	6.2	38
13	Mechanical, Thermal, and Electrical Energy Storage in a Single Working Body: Electrification and Thermal Effects upon Pressure-Induced Water Intrusionâ€“Extrusion in Nanoporous Solids. ACS Applied Materials & Interfaces, 2017, 9, 7044-7049.	8.0	35
14	Compatibility of container materials for Concentrated Solar Power with a solar salt and alumina based nanofluid: A study under dynamic conditions. Renewable Energy, 2020, 146, 384-396.	8.9	33
15	Inhibiting hot corrosion of molten Li2CO3-Na2CO3-K2CO3 salt through graphitization of construction materials for concentrated solar power. Solar Energy Materials and Solar Cells, 2020, 215, 110650.	6.2	31
16	Nanoparticles as a high-temperature anticorrosion additive to molten nitrate salts for concentrated solar power. Solar Energy Materials and Solar Cells, 2019, 203, 110171.	6.2	30
17	Spray-graphitization as a protection method against corrosion by molten nitrate salts and molten salts based nanofluids for thermal energy storage applications. Solar Energy Materials and Solar Cells, 2019, 200, 110024.	6.2	29
18	Graphitization as efficient inhibitor of the carbon steel corrosion by molten binary nitrate salt for thermal energy storage at concentrated solar power. Solar Energy Materials and Solar Cells, 2019, 203, 110172.	6.2	27

#	Article	IF	Citations
19	Effect of Flexibility and Nanotriboelectrification on the Dynamic Reversibility of Water Intrusion into Nanopores: Pressure-Transmitting Fluid with Frequency-Dependent Dissipation Capability. ACS Applied Materials & Interfaces, 2019, 11, 40842-40849.	8.0	25
20	Pore Morphology Determines Spontaneous Liquid Extrusion from Nanopores. ACS Nano, 2019, 13, 1728-1738.	14.6	25
21	Giant Negative Compressibility by Liquid Intrusion into Superhydrophobic Flexible Nanoporous Frameworks. Nano Letters, 2021, 21, 2848-2853.	9.1	24
22	Multilevel comparison between magnetite and quartzite as thermocline energy storage materials. Applied Thermal Engineering, 2019, 149, 1142-1153.	6.0	23
23	Wettability Control for Correct Thermophysical Properties Determination of Molten Salts and Their Nanofluids. Energies, 2019, 12, 3765.	3.1	20
24	Natural and by-product materials for thermocline-based thermal energy storage system at CSP plant: Compatibility with mineral oil and molten nitrate salt. Applied Thermal Engineering, 2018, 136, 657-665.	6.0	19
25	Exceptionally Large and Controlled Effect of Negative Thermal Expansion in Porous Heterogeneous Lyophobic Systems. Journal of Physical Chemistry C, 2015, 119, 10266-10272.	3.1	18
26	Liquid intrusion in and extrusion from non-wettable nanopores for technological applications. European Physical Journal B, 2021, 94, 1.	1.5	18
27	New insights into the corrosion mechanism between molten nitrate salts and ceramic materials for packed bed thermocline systems: A case study for steel slag and Solar salt. Solar Energy, 2018, 173, 152-159.	6.1	16
28	Effect of silica nanoparticle size on the stability and thermophysical properties of molten salts based nanofluids for thermal energy storage applications at concentrated solar power plants. Journal of Energy Storage, 2022, 51, 104276.	8.1	16
29	Viscosity at the Nanoscale: Confined Liquid Dynamics and Thermal Effects in Self-Recovering Nanobumpers. Journal of Physical Chemistry C, 2018, 122, 14248-14256.	3.1	15
30	Preparation and characterization of nanofluids based on molten salts with enhanced thermophysical properties for thermal energy storage at concentrate solar power. AIP Conference Proceedings, 2019, , .	0.4	15
31	Improving Ethane/Ethylene Separation Performance under Humid Conditions by Spatially Modified Zeolitic Imidazolate Frameworks. ACS Applied Materials & Interfaces, 2022, 14, 11547-11558.	8.0	13
32	Ð¢hermodynamic properties of isobutane/mineral compressor oil and isobutane/mineral compressor oil/fullerenes C60 solutions. International Journal of Refrigeration, 2019, 106, 153-162.	3.4	12
33	Subnanometer Topological Tuning of the Liquid Intrusion/Extrusion Characteristics of Hydrophobic Micropores. Nano Letters, 2022, 22, 2164-2169.	9.1	11
34	Effect of dynamic conditions on high-temperature corrosion of ternary carbonate salt for thermal energy storage applications. Solar Energy Materials and Solar Cells, 2022, 240, 111666.	6.2	11
35	Trimodal hierarchical nanoporous copper with tunable porosity prepared by dealloying Mg-Cu alloys of close-to-eutectic compositions. Applied Surface Science, 2019, 475, 748-753.	6.1	10
36	Synthesis of high temperature TES materials from silicates wastes for application in solar tower power plants. Solar Energy Materials and Solar Cells, 2020, 218, 110763.	6.2	10

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37	Compact Thermal Actuation by Water and Flexible Hydrophobic Nanopore. ACS Nano, 2021, 15, 9048-9056.	14.6	10
38	Turning Molecular Springs into Nano-Shock Absorbers: The Effect of Macroscopic Morphology and Crystal Size on the Dynamic Hysteresis of Water Intrusionâ€“Extrusion into-from Hydrophobic Nanopores. ACS Applied Materials & Interfaces, 2022, 14, 26699-26713.	8.0	10
39	Inflation Negative Compressibility during Intrusionâ€“Extrusion of a Non-Wetting Liquid into a Flexible Nanoporous Framework. Journal of Physical Chemistry Letters, 2021, 12, 4951-4957.	4.6	9
40	Intrusion and extrusion of liquids in highly confining media: bridging fundamental research to applications. Advances in Physics: X, 2022, 7, .	4.1	9
41	Reversible Wetting in Nanopores for Thermal Expansivity Control: From Extreme Dilatation to Unprecedented Negative Thermal Expansion. Journal of Physical Chemistry C, 2017, 121, 11499-11507.	3.1	7
42	On the anticorrosion mechanism of molten salts based nanofluids. Solar Energy Materials and Solar Cells, 2022, 234, 111424.	6.2	7
43	Resolving the compromise between porosity and stability for trimodal hierarchical macro-nanoporous metals. The case of porous copper prepared by dealloying Al-Cu-Mg alloy of close-to-eutectic composition. Applied Surface Science, 2020, 527, 146897.	6.1	6
44	The Effect of Surface Entropy on the Heat of Non-Wetting Liquid Intrusion into Nanopores. Langmuir, 2021, 37, 4827-4835.	3.5	6
45	Effect of the Topology on Wetting and Drying of Hydrophobic Porous Materials. ACS Applied Materials & Interfaces, 2022, 14, 30067-30079.	8.0	6
46	Giant Effect of Negative Compressibility in a Waterâ€“Porous Metalâ€“CO₂ System for Sensing Applications. ACS Applied Materials & Interfaces, 2020, 12, 39756-39763.	8.0	5
47	Physicochemical Characterization of Phase Change Materials for Industrial Waste Heat Recovery Applications. Energies, 2022, 15, 3640.	3.1	5
48	Experimental investigation of erosion due to nanofluids. Wear, 2022, 502-503, 204378.	3.1	4
49	Towards Tuning the Modality of Hierarchical Macro-Nanoporous Metals by Controlling the Dealloying Kinetics of Close-to-Eutectic Alloys. Physical Chemistry Chemical Physics, 2021, 23, 25388-25400.	2.8	2
50	Spray-graphitization against molten salts corrosion for concentrated solar power plants. AIP Conference Proceedings, 2020, , .	0.4	2
51	Thermomechanical and thermophysical properties of repulsive clathrates. Journal of Applied Mechanics and Technical Physics, 2013, 54, 798-808.	0.5	1
52	Maxwellâ€™s relations and thermal coefficients for repulsive clathrates. Technical Physics, 2013, 58, 1087-1093.	0.7	0
53	Structural and thermophysical characterization of potential natural rocks for medium temperature thermal energy storage in CSP plants. AIP Conference Proceedings, 2019, , .	0.4	0
54	Thermodynamic and operational properties of heterogeneous lyophobic systems. International Journal of Thermodynamics, 2012, 16, .	1.0	0