

Piyush Sabharwall

List of Publications by Year in descending order

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Version: 2024-02-01

73
papers

1,553
citations

393982

19
h-index

344852

36
g-index

93
all docs

93
docs citations

93
times ranked

1268
citing authors

#	ARTICLE	IF	CITATIONS
1	Capture of harmful radioactive contaminants from off-gas stream using porous solid sorbents for clean environment – A review. <i>Chemical Engineering Journal</i> , 2016, 306, 369-381.	6.6	235
2	Comparative review of hydrogen production technologies for nuclear hybrid energy systems. <i>Progress in Nuclear Energy</i> , 2020, 123, 103317.	1.3	186
3	Pressure drop and heat transfer characteristics of a high-temperature printed circuit heat exchanger. <i>Applied Thermal Engineering</i> , 2016, 108, 1409-1417.	3.0	105
4	Development and validation of Nusselt number and friction factor correlations for laminar flow in semi-circular zigzag channel of printed circuit heat exchanger. <i>Applied Thermal Engineering</i> , 2017, 123, 1327-1344.	3.0	72
5	Experimental and numerical study of a printed circuit heat exchanger. <i>Annals of Nuclear Energy</i> , 2016, 97, 221-231.	0.9	68
6	Comparative analysis of compact heat exchangers for application as the intermediate heat exchanger for advanced nuclear reactors. <i>Annals of Nuclear Energy</i> , 2015, 81, 143-149.	0.9	63
7	Exergy analysis of thermal energy storage options with nuclear power plants. <i>Annals of Nuclear Energy</i> , 2016, 96, 104-111.	0.9	49
8	Advanced heat exchanger development for molten salts. <i>Nuclear Engineering and Design</i> , 2014, 280, 42-56.	0.8	42
9	Activity of nanostructured C@ETS-10 sorbent for capture of volatile radioactive iodine from gas stream. <i>Chemical Engineering Journal</i> , 2016, 287, 593-601.	6.6	42
10	Oxidation and hydrogen uptake in zirconium, Zircaloy-2 and Zircaloy-4: Computational thermodynamics and ab initio calculations. <i>Journal of Nuclear Materials</i> , 2014, 444, 65-75.	1.3	38
11	Optimal artificial neural network architecture selection for performance prediction of compact heat exchanger with the EBaLM-OTR technique. <i>Nuclear Engineering and Design</i> , 2011, 241, 2549-2557.	0.8	36
12	Porous microsphere of magnesium oxide as an effective sorbent for removal of volatile iodine from off-gas stream. <i>Adsorption</i> , 2016, 22, 335-345.	1.4	31
13	Challenges in the development of high temperature reactors. <i>Energy Conversion and Management</i> , 2013, 74, 574-581.	4.4	30
14	Dynamic behavior of a high-temperature printed circuit heat exchanger: Numerical modeling and experimental investigation. <i>Applied Thermal Engineering</i> , 2018, 135, 246-256.	3.0	28
15	Engineering design elements of a two-phase thermosyphon for the purpose of transferring NGNP thermal energy to a hydrogen plant. <i>Nuclear Engineering and Design</i> , 2009, 239, 2293-2301.	0.8	27
16	Adsorption of radioactive iodine and krypton from off-gas stream using continuous flow adsorption column. <i>Chemical Engineering Journal</i> , 2017, 320, 222-231.	6.6	27
17	Numerical study on crossflow printed circuit heat exchanger for advanced small modular reactors. <i>International Journal of Heat and Mass Transfer</i> , 2014, 70, 250-263.	2.5	25
18	Effect of Mass Flow Rate on the Convective Heat Transfer Coefficient: Analysis for Constant Velocity and Constant Area Case. <i>Nuclear Technology</i> , 2009, 166, 197-200.	0.7	24

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19	Phase change heat transfer device for process heat applications. Nuclear Engineering and Design, 2010, 240, 2409-2414.	0.8	21
20	Diffusion-Welded Microchannel Heat Exchanger for Industrial Processes. Journal of Thermal Science and Engineering Applications, 2013, 5, .	0.8	21
21	Radiation Heat Transfer in the Molten Salt FLiNaK. Nuclear Technology, 2016, 196, 53-60.	0.7	21
22	Thermodynamics of Ca(OH) ₂ /CaO reversible reaction: Refinement of reaction equilibrium and implications for operation of chemical heat pump. Chemical Engineering Science, 2021, 230, 116227.	1.9	18
23	DRACS thermal performance evaluation for FHR. Annals of Nuclear Energy, 2015, 77, 115-128.	0.9	15
24	A phase-field approach to model multi-axial and microstructure dependent fracture in nuclear grade graphite. Journal of Nuclear Materials, 2016, 475, 200-208.	1.3	15
25	Transient analysis of an FHR coupled to a helium Brayton power cycle. Progress in Nuclear Energy, 2015, 83, 283-293.	1.3	14
26	Nuclear Renewable Energy Integration: An Economic Case Study. Electricity Journal, 2015, 28, 85-95.	1.3	14
27	Synthesis and characterization of ETS-10: supported hollow carbon nano-polyhedrons nanosorbent for adsorption of krypton at near ambient temperatures. Adsorption, 2016, 22, 129-137.	1.4	14
28	Natural Circulation and Linear Stability Analysis for Liquid-Metal Reactors with the Effect of Fluid Axial Conduction. Nuclear Technology, 2012, 178, 298-317.	0.7	13
29	A two-phase three-field modeling framework for heat pipe application in nuclear reactors. Annals of Nuclear Energy, 2022, 165, 108770.	0.9	12
30	Theoretical Design of Thermosyphon for Process Heat Transfer From NGNP to Hydrogen Plant. , 2008, , .		9
31	Molten Salt Mixture Properties (KF-ZrF ₄ and KCl-MgCl ₂) for Use in RELAP5-3D for High-Temperature Reactor Application. Nuclear Technology, 2012, 178, 335-340.	0.7	9
32	Small Modular Molten Salt Reactor (SM-MSR). , 2011, , .		8
33	Design of Liquid Metal Phase Change Heat Exchanger for Next-Generation Nuclear Plant Process Heat Application. Journal of Nuclear Science and Technology, 2009, 46, 534-544.	0.7	7
34	Dimensionless Numbers in Phase-Change Thermosyphon and Heat-Pipe Heat Exchangers. Nuclear Technology, 2009, 167, 325-332.	0.7	7
35	Photodecomposition of methyl iodide as pretreatment for adsorption of radioiodine species in used nuclear fuel recycling operations. Chemical Engineering Journal, 2020, 400, 125730.	6.6	7
36	Scaling analysis for the direct reactor auxiliary cooling system for FHRs. Nuclear Engineering and Design, 2015, 285, 197-206.	0.8	6

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37	Experimental Study of DRACS Thermal Performance in a Low-Temperature Test Facility. Nuclear Technology, 2016, 196, 319-337.	0.7	6
38	Economic comparison of current electricity generating technologies and advanced nuclear options. Electricity Journal, 2017, 30, 73-79.	1.3	6
39	Mass transport analysis for tritium removal in FHRs. Annals of Nuclear Energy, 2018, 121, 250-259.	0.9	6
40	Modeling and simulation of control system response to temperature disturbances in a coupled heat exchangers-AHTR system. Nuclear Engineering and Design, 2016, 300, 161-172.	0.8	5
41	NGNP Process Heat Utilization: Liquid Metal Phase Change Heat Exchanger. , 2008, , .		4
42	Evaluation methodology for advance heat exchanger concepts using analytical hierarchy process. Nuclear Engineering and Design, 2012, 248, 108-116.	0.8	4
43	Parametric study on maximum transportable distance and cost for thermal energy transportation using various coolants. Progress in Nuclear Energy, 2014, 74, 110-119.	1.3	4
44	Thermodynamic exergy analysis for small modular reactor in nuclear hybrid energy system. EPJ Nuclear Sciences & Technologies, 2016, 2, 23.	0.3	4
45	Post-irradiation examination of optical components for advanced fission reactor instrumentation. Review of Scientific Instruments, 2021, 92, 105107.	0.6	4
46	Large eddy simulation of flow through an axisymmetric sudden expansion. Physics of Fluids, 2022, 34, .	1.6	4
47	Computational Intelligence as a Tool for Small Modular Reactors. , 2011, , .		3
48	Design of Liquid Metal Phase Change Heat Exchanger for Next-Generation Nuclear Plant Process Heat Application. Journal of Nuclear Science and Technology, 2009, 46, 534-544.	0.7	3
49	Preconceptual Design of Multifunctional Gas-Cooled Cartridge Loop for the Versatile Test Reactor: Instrumentation and Measurement Part II. Nuclear Science and Engineering, 0, , 1-19.	0.5	3
50	Preliminary Design for Conventional and Compact Secondary Heat Exchanger in a Molten Salt Reactor. , 2012, , .		2
51	Design of Fluidic Diode for a High-Temperature DRACS Test Facility. , 2013, , .		2
52	Experimental and Scale Analysis of a Solid/Liquid Phase Change Thermal Energy Storage System. Heat Transfer Engineering, 2019, 40, 1600-1618.	1.2	2
53	A chemical absorption heat pump for utilization of nuclear power in high temperature industrial processes. International Journal of Energy Research, 2021, 45, 14612-14629.	2.2	2
54	Gamma-radiation-induced negative nonlinear absorption in quartz glass. Optical Materials Express, 2022, 12, 1188.	1.6	2

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55	Numerical study of multi-component flow and mixing in a scaled fission product venting system. Nuclear Engineering and Design, 2022, 391, 111714.	0.8	2
56	Tritium Production and Permeation in High-Temperature Reactor Systems. , 2013, , .		1
57	ASME Material Challenges for Advance Reactor Concepts. , 2013, , .		1
58	RELAP5-3D modelling of heat transfer components (intermediate heat exchanger and helical-coil steam) Tj ETQq0 0 0 rgBT /Overlock 10 2014, 8, 72.	0.2	1
59	Experimental facility for development of high-temperature reactor technology: instrumentation needs and challenges. EPJ Nuclear Sciences & Technologies, 2015, 1, 14.	0.3	1
60	Control of Advanced Reactor-Coupled Heat Exchanger System: Incorporation of Reactor Dynamics in System Response to Load Disturbances. Nuclear Engineering and Technology, 2016, 48, 1349-1359.	1.1	1
61	Heat transfer and computational fluid dynamics for molten salt reactor technologies. , 2019, , 801-834.		1
62	Scale Analysis and Experimental Results of a Solid/Liquid Phase-Change Thermal Energy Storage System. , 2014, , .		1
63	Nonnuclear Experimental Capabilities to Support Design, Development, and Demonstration of Microreactors. Nuclear Technology, 2023, 209, S41-S59.	0.7	1
64	A Critical Review of Heat Pipe Experiments in Nuclear Energy Applications. Nuclear Science and Engineering, 2023, 197, 719-752.	0.5	1
65	Scale/Analytical Analyses of Freezing and Convective Melting With Internal Heat Generation. , 2013, , .		0
66	Development of a Multi-Loop Flow and Heat Transfer Facility for Advanced Nuclear Reactor Thermal Hydraulic and Hybrid Energy System Studies. , 2014, , .		0
67	RELAP5-3D transient modelling for NGNP integrated plant. International Journal of Nuclear Energy Science and Technology, 2014, 8, 213.	0.2	0
68	Exergy Analysis for Small Modular Reactor Hybrid Energy System. , 2015, , .		0
69	Fales Hot Springs: A case study in renewable augmented net zero energy. Electricity Journal, 2016, 29, 59-70.	1.3	0
70	CFD Applications for Predicting Flow Behavior in Advanced Gas Cooled Reactors. , 0, , .		0
71	Technologies for Upgrading Light Water Reactor Outlet Temperature. , 2013, , .		0
72	Investigations into Plasma-Mediated Decomposition of Organoiodide Species as a Pretreatment for Mitigation of Radioiodine Emissions. Industrial & Engineering Chemistry Research, 2022, 61, 269-278.	1.8	0

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73	Preconceptual Design of Multifunctional Gas-Cooled Cartridge Loop for the Versatile Test Reactorâ€”Part I. Nuclear Science and Engineering, 0, , 1-32.	0.5	0