

Jeong Ik Lee

List of Publications by Year in descending order

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116
papers

3,598
citations

159585

30
h-index

144013

57
g-index

116
all docs

116
docs citations

116
times ranked

1640
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of supercritical CO ₂ power cycle technology and current status of research and development. Nuclear Engineering and Technology, 2015, 47, 647-661.	2.3	789
2	Study on the supercritical CO ₂ power cycles for landfill gas firing gas turbine bottoming cycle. Energy, 2016, 111, 893-909.	8.8	134
3	Thermal hydraulic performance analysis of the printed circuit heat exchanger using a helium test facility and CFD simulations. Nuclear Engineering and Design, 2009, 239, 2399-2408.	1.7	130
4	Study on CO ₂ " water printed circuit heat exchanger performance operating under various CO ₂ phases for S-CO ₂ power cycle application. Applied Thermal Engineering, 2017, 113, 1536-1546.	6.0	123
5	Potential advantages of coupling supercritical CO ₂ Brayton cycle to water cooled small and medium size reactor. Nuclear Engineering and Design, 2012, 245, 223-232.	1.7	103
6	CFD aided approach to design printed circuit heat exchangers for supercritical CO ₂ Brayton cycle application. Annals of Nuclear Energy, 2016, 92, 175-185.	1.8	99
7	A comprehensive design methodology of organic Rankine cycles for the waste heat recovery of automotive heavy-duty diesel engines. Applied Thermal Engineering, 2015, 87, 574-585.	6.0	94
8	Design consideration of supercritical CO ₂ power cycle integral experiment loop. Energy, 2015, 86, 115-127.	8.8	92
9	Potential improvements of supercritical recompression CO ₂ Brayton cycle by mixing other gases for power conversion system of a SFR. Nuclear Engineering and Design, 2011, 241, 2128-2137.	1.7	91
10	Study of various Brayton cycle designs for small modular sodium-cooled fast reactor. Nuclear Engineering and Design, 2014, 276, 128-141.	1.7	88
11	Preliminary studies of compact Brayton cycle performance for Small Modular High Temperature Gas-cooled Reactor system. Annals of Nuclear Energy, 2015, 75, 11-19.	1.8	83
12	Numerical analysis of thermal striping induced high cycle thermal fatigue in a mixing tee. Nuclear Engineering and Design, 2009, 239, 833-839.	1.7	82
13	Various supercritical carbon dioxide cycle layouts study for molten carbonate fuel cell application. Journal of Power Sources, 2014, 270, 608-618.	7.8	80
14	Supercritical Carbon Dioxide turbomachinery design for water-cooled Small Modular Reactor application. Nuclear Engineering and Design, 2014, 270, 76-89.	1.7	75
15	Compact heat exchangers for supercritical CO ₂ power cycle application. Energy Conversion and Management, 2020, 209, 112666.	9.2	74
16	Development of a flowsheet for iodine-sulfur thermo-chemical cycle based on optimized Bunsen reaction. International Journal of Hydrogen Energy, 2009, 34, 2133-2143.	7.1	67
17	Structural assessment of intermediate printed circuit heat exchanger for sodium-cooled fast reactor with supercritical CO ₂ cycle. Annals of Nuclear Energy, 2014, 73, 84-95.	1.8	67
18	CFD investigation of a centrifugal compressor derived from pump technology for supercritical carbon dioxide as a working fluid. Journal of Supercritical Fluids, 2014, 86, 160-171.	3.2	61

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19	Recent Advances in Ocean Nuclear Power Plants. <i>Energies</i> , 2015, 8, 11470-11492.	3.1	60
20	Thermodynamic study of supercritical CO ₂ Brayton cycle using an isothermal compressor. <i>Applied Energy</i> , 2017, 206, 1118-1130.	10.1	53
21	A new design concept for offshore nuclear power plants with enhanced safety features. <i>Nuclear Engineering and Design</i> , 2013, 254, 129-141.	1.7	47
22	Prediction of inner pinch for supercritical CO ₂ heat exchanger using Artificial Neural Network and evaluation of its impact on cycle design. <i>Energy Conversion and Management</i> , 2018, 163, 66-73.	9.2	43
23	Mechanical analysis of surface-coated zircaloy cladding. <i>Nuclear Engineering and Technology</i> , 2017, 49, 1031-1043.	2.3	41
24	Issues in performance measurement of CO ₂ compressor near the critical point. <i>Applied Thermal Engineering</i> , 2016, 94, 111-121.	6.0	39
25	Development of supercritical CO ₂ turbomachinery off-design model using 1D mean-line method and Deep Neural Network. <i>Applied Energy</i> , 2020, 263, 114645.	10.1	37
26	Deteriorated turbulent heat transfer (DTHT) of gas up-flow in a circular tube: Experimental data. <i>International Journal of Heat and Mass Transfer</i> , 2008, 51, 3259-3266.	4.8	36
27	Thermal hydraulic challenges of Gas Cooled Fast Reactors with passive safety features. <i>Nuclear Engineering and Design</i> , 2009, 239, 840-854.	1.7	36
28	Experimental and numerical investigation of supercritical CO ₂ test loop transient behavior near the critical point operation. <i>Applied Thermal Engineering</i> , 2016, 99, 572-582.	6.0	35
29	Safety evaluation of supercritical CO ₂ cooled micro modular reactor. <i>Annals of Nuclear Energy</i> , 2017, 110, 1202-1216.	1.8	35
30	Feasibility study of a small-sized nuclear heat-only plant dedicated to desalination in the UAE. <i>Desalination</i> , 2014, 337, 83-97.	8.2	32
31	A concept design of supercritical CO ₂ cooled SMR operating at isolated microgrid region. <i>International Journal of Energy Research</i> , 2017, 41, 512-525.	4.5	30
32	Development of accelerated PCHE off-design performance model for optimizing power system operation strategies in S-CO ₂ Brayton cycle. <i>Applied Thermal Engineering</i> , 2019, 159, 113845.	6.0	29
33	Improving power and desalination capabilities of a large nuclear power plant with supercritical CO ₂ power technology. <i>Desalination</i> , 2017, 409, 136-145.	8.2	28
34	Design Methodology of Supercritical CO ₂ Brayton Cycle Turbomachineries. , 2012, , .		27
35	Condensation heat transfer and multi-phase pressure drop of CO ₂ near the critical point in a printed circuit heat exchanger. <i>International Journal of Heat and Mass Transfer</i> , 2019, 129, 1206-1221.	4.8	26
36	Size effect of nanometer vacuum gap thermionic power conversion device with CsI coated graphite electrodes. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	25

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37	Innovative concept for an ultra-small nuclear thermal rocket utilizing a new moderated reactor. Nuclear Engineering and Technology, 2015, 47, 678-699.	2.3	24
38	Application of adjoint sensitivity analysis method to supercritical CO2 power cycle optimization. Energy, 2018, 147, 1153-1164.	8.8	24
39	Investigation of the Bottoming Cycle for High Efficiency Combined Cycle Gas Turbine System With Supercritical Carbon Dioxide Power Cycle. , 2015, , .		23
40	Design optimization of multi-layer Silicon Carbide cladding for light water reactors. Nuclear Engineering and Design, 2017, 311, 213-223.	1.7	23
41	Demonstration of the I^2S thermochemical cycle feasibility by experimentally validating the over-azeotropic condition in the hydroiodic acid phase of the Bunsen process. International Journal of Hydrogen Energy, 2009, 34, 7939-7948.	7.1	22
42	Deteriorated turbulent heat transfer (DTHT) of gas up-flow in a circular tube: Heat transfer correlations. International Journal of Heat and Mass Transfer, 2008, 51, 5318-5326.	4.8	21
43	Development of an advanced printed circuit heat exchanger analysis code for realistic flow path configurations near header regions. International Journal of Heat and Mass Transfer, 2015, 89, 242-250.	4.8	19
44	Direction for High-Performance Supercritical CO2 Centrifugal Compressor Design for Dry Cooled Supercritical CO2 Brayton Cycle. Applied Sciences (Switzerland), 2019, 9, 4057.	2.5	19
45	Thermal hydraulic behavior in the deteriorated turbulent heat transfer regime for a gas-cooled reactor. Nuclear Engineering and Design, 2010, 240, 783-795.	1.7	18
46	Neutronics and Transient Analyses of a Supercritical CO ₂ -cooled Micro Modular Reactor (MMR). Energy Procedia, 2017, 131, 21-28.	1.8	18
47	Optimum loss models for performance prediction of supercritical CO2 centrifugal compressor. Applied Thermal Engineering, 2021, 184, 116255.	6.0	18
48	Reduction of CO2 emission for solar power backup by direct integration of oxy-combustion supercritical CO2 power cycle with concentrated solar power. Energy Conversion and Management, 2019, 201, 112161.	9.2	17
49	Study of critical flow for supercritical CO2 seal. International Journal of Heat and Mass Transfer, 2019, 138, 85-95.	4.8	17
50	Evaluation of supercritical CO2 compressor off-design performance prediction methods. Energy, 2020, 213, 119071.	8.8	17
51	Conceptual design of reactor system for hybrid micro modular reactor (H-MMR) using potassium heat pipe. Nuclear Engineering and Design, 2020, 370, 110886.	1.7	16
52	Studies of the deteriorated turbulent heat transfer regime for the gas-cooled fast reactor decay heat removal system. Nuclear Engineering and Design, 2007, 237, 1033-1045.	1.7	15
53	Studies of various single phase natural circulation systems for small and medium sized reactor design. Nuclear Engineering and Design, 2013, 262, 390-403.	1.7	14
54	Real time nuclear power plant operating state cognitive algorithm development using dynamic Bayesian network. Reliability Engineering and System Safety, 2020, 198, 106879.	8.9	13

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55	Feasibility study of solar-nuclear hybrid system for distributed power source. Energy Conversion and Management, 2021, 230, 113808.	9.2	13
56	Development of a two-dimensional coupled-implicit numerical tool for the optimal design of CDI electrodes. Desalination, 2011, 274, 226-236.	8.2	12
57	Investigation of CO ₂ leak accident in SFR coupled with S-CO ₂ Brayton cycle. Annals of Nuclear Energy, 2017, 103, 212-226.	1.8	12
58	An investigation of sodium-CO ₂ interaction byproduct cleaning agent for SFR coupled with S-CO ₂ Brayton cycle. Nuclear Engineering and Design, 2016, 297, 158-165.	1.7	11
59	The Effect of Real Gas Approximations on S-CO ₂ Compressor Design. Journal of Turbomachinery, 2018, 140, .	1.7	10
60	Experimental investigation on performance degradation of a supercritical CO ₂ radial compressor by foreign object damage. Applied Thermal Engineering, 2021, 183, 116229.	6.0	10
61	Conceptual studies of construction and safety enhancement of ocean SMART mounted on GBS. Nuclear Engineering and Design, 2014, 278, 558-572.	1.7	9
62	Controllability of S-CO ₂ power system coupled small modular reactor with improved compressor design. Applied Thermal Engineering, 2021, 192, 116957.	6.0	9
63	The Design Study of Supercritical Carbon Dioxide Integral Experiment Loop. , 2013, , .		8
64	Computational investigation into heat transfer coefficients of randomly packed pebbles in flowing FLiBe. International Journal of Heat and Mass Transfer, 2019, 145, 118769.	4.8	8
65	Indefinite sustainability of passive residual heat removal system of small modular reactor using dry air cooling tower. Nuclear Engineering and Technology, 2020, 52, 964-974.	2.3	8
66	Numerical study of heat transfer in ascending mixed convection with internal heat generation. Annals of Nuclear Energy, 2019, 133, 138-144.	1.8	7
67	Implication of LOCA characteristics of large PWR and SMR for future development of intelligent nuclear power plant control system. Annals of Nuclear Energy, 2019, 127, 237-247.	1.8	7
68	Radionuclide transport in a long-term operation supercritical CO ₂ cooled direct cycle small nuclear reactor. International Journal of Energy Research, 2020, 44, 3905-3921.	4.5	7
69	Preliminary design of safety system using phase change material for passively cooling of nuclear reactor containment building. Applied Thermal Engineering, 2022, 200, 117672.	6.0	7
70	SMART with Trans-Critical CO ₂ power conversion system for maritime propulsion in Northern Sea Route, part 1: System design. Annals of Nuclear Energy, 2020, 149, 107792.	1.8	6
71	Studies of Supercritical Carbon Dioxide Brayton Cycle Performance Coupled to Various Heat Sources. , 2013, , .		5
72	Off Design Performance Map Similarity Study of Radial Type Turbomachinery in Supercritical CO ₂ Brayton Cycle. , 2015, , .		5

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73	Numerical investigation on water deteriorated turbulent heat transfer regime in vertical upward heated flow in circular tube. <i>International Journal of Heat and Mass Transfer</i> , 2015, 83, 173-186.	4.8	5
74	S-CO ₂ Turbine Design for Decay Heat Removal System of Sodium Cooled Fast Reactor. , 2016, , .		5
75	Preliminary feasibility study of PCM condenser for PCCS of APR1400. <i>Annals of Nuclear Energy</i> , 2021, 152, 107959.	1.8	5
76	Assessment of thermal fatigue induced by dryout front oscillation in printed circuit steam generator. <i>Nuclear Engineering and Technology</i> , 2022, 54, 1085-1097.	2.3	5
77	Impact of Turbomachinery Degradation on Performance and Dynamic Behavior of Supercritical CO ₂ Cycle. <i>Journal of Engineering for Gas Turbines and Power</i> , 2020, 142, .	1.1	5
78	Techno-economic evaluation of solar-nuclear hybrid system for isolated grid. <i>Applied Energy</i> , 2022, 306, 118046.	10.1	5
79	Preliminary Experimental Study of Precooler in Supercritical CO ₂ Brayton Cycle. , 2015, , .		4
80	Feasibility study of a dedicated nuclear desalination system: Low-pressure Inherent heat sink Nuclear Desalination plant (LIND). <i>Nuclear Engineering and Technology</i> , 2015, 47, 293-305.	2.3	4
81	Sensitivity Study of S-CO ₂ Compressor Design for Different Real Gas Approximations. , 2016, , .		4
82	Preliminary study of applying adjoint-based mesh optimization method to nuclear power plant safety analysis. <i>Annals of Nuclear Energy</i> , 2017, 109, 405-418.	1.8	4
83	Investigation of the threshold temperatures of sodium-carbon dioxide reaction for SFR system design. <i>Nuclear Engineering and Design</i> , 2017, 320, 235-249.	1.7	4
84	Preliminary Study of Supercritical CO ₂ Mixed With Gases for Power Cycle in Warm Environments. , 2018, , .		4
85	Effect of operating pressure on the performance of a hybrid system of small modular boiling water reactor with external superheaters. <i>Nuclear Engineering and Design</i> , 2019, 353, 110244.	1.7	4
86	A Supercritical CO ₂ Waste Heat Recovery System Design for a Diesel Generator for Nuclear Power Plant Application. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 5382.	2.5	4
87	Thermal-hydraulic design methodology and trade-off studies for a dual-salt breed-and-burn molten salt reactor. <i>Nuclear Engineering and Design</i> , 2020, 360, 110481.	1.7	4
88	SMART with trans-critical CO ₂ power conversion system for maritime propulsion in Northern Sea Route, part 2: Transient analysis. <i>Annals of Nuclear Energy</i> , 2021, 150, 107875.	1.8	4
89	Performance Evaluation of Supercritical Carbon Dioxide Recompression Cycle for High Temperature Electric Thermal Energy Storage. <i>Energy Conversion and Management</i> , 2022, 255, 115325.	9.2	4
90	An intermediate heat exchangingâ€“depressurizing loop for nuclear hydrogen production. <i>Nuclear Engineering and Design</i> , 2010, 240, 2957-2962.	1.7	3

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91	A point model for the design of a sulfur trioxide decomposer for the SI cycle and comparison with a CFD model. International Journal of Hydrogen Energy, 2010, 35, 5210-5219.	7.1	3
92	Evaluation of recirculation sump performance for OPR1000 plant: Part I debris transport during the blow-down phase of LOCA. Annals of Nuclear Energy, 2011, 38, 681-693.	1.8	3
93	Hybrid System of Supercritical Carbon Dioxide Brayton Cycle and Carbon Dioxide Rankine Cycle Combined Fuel Cell. , 2014, , .		3
94	Comparison of Gas System Analysis Code GAMMA+ to S-CO2 Compressor Test Data. , 2015, , .		3
95	A Study of S-CO2 Power Cycle for Waste Heat Recovery Using Isothermal Compressor. , 2016, , .		3
96	Impacts of transient heat transfer modeling on prediction of advanced cladding fracture during LWR LBLOCA. Nuclear Engineering and Design, 2016, 298, 25-32.	1.7	3
97	A Comparison Study for Off-Design Performance Prediction of a Supercritical CO2 Compressor With Similitude Analysis. , 2019, , .		3
98	Investigation of Magnetic Journal Bearing Instability Issues in Supercritical CO2 Turbomachinery. , 2019, , .		3
99	Comparative cost analysis of direct disposal versus pyro-processing with DUPIC in Korea. Annals of Nuclear Energy, 2010, 37, 1699-1704.	1.8	2
100	SCO2PE Operating Experience and Validation and Verification of KAIST_TMD. , 2013, , .		2
101	A Study of Supercritical Carbon Dioxide Power Cycle for Concentrating Solar Power Applications Using an Isothermal Compressor. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	1.1	2
102	Node configuration uncertainty in nuclear safety analyses. Nuclear Engineering and Design, 2019, 355, 110286.	1.7	2
103	Design of aircraft-carried sampling system for aerial radioactivity monitoring. Annals of Nuclear Energy, 2009, 36, 133-144.	1.8	1
104	Transient Simulation of Critical Flow With Thermal-Hydraulic System Analysis Code for Supercritical CO2 Applications. , 2017, , .		1
105	Evaluation of the Optimal Point Variation of the S-CO2 Cycle While Considering Internal Pinch in Recuperator. , 2018, , .		1
106	Application of adjoint based node optimization method to nuclear thermal-hydraulic system analysis code. Annals of Nuclear Energy, 2020, 136, 107007.	1.8	1
107	Recent Advancement of Thermal Fluid Engineering in the Supercritical CO2 Power Cycle. Applied Sciences (Switzerland), 2020, 10, 5350.	2.5	1
108	Design study of heat transport and power conversion systems for micro molten salt reactor. International Journal of Energy Research, 2022, 46, 15441-15462.	4.5	1

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109	Evaluation of system codes for analyzing naturally circulating gas loop. Nuclear Engineering and Design, 2009, 239, 2931-2941.	1.7	0
110	Design and evaluation of proton accelerator beam window cooling configuration. Annals of Nuclear Energy, 2009, 36, 1400-1411.	1.8	0
111	A Study of s-CO2 Power Cycle for CSP Applications Using an Isothermal Compressor. , 2017, , .		0
112	Experimental and Numerical Study of Critical Flow Model Development for Supercritical CO2 Power Cycle Application. , 2018, , .		0
113	RANS Simulation of a Radial Compressor With Supercritical CO2 Fluid for External Loss Model Development. , 2018, , .		0
114	Performance criterion of an indirect dry air-cooled condenser for small modular reactor based on pressure transition temperature. International Journal of Energy Research, 2019, 43, 8190.	4.5	0
115	Investigation of various reactor vessel auxiliary cooling system geometries for a hybrid micro modular reactor. Nuclear Engineering and Design, 2021, 379, 111239.	1.7	0
116	ICONE23-2005 A CFD ASSESSMENT FOR MIXED CONVECTION OF NANOFUIDS FOR NUCLEAR APPLICATION. The Proceedings of the International Conference on Nuclear Engineering (ICONE), 2015, 2015.23, _ICONE23-2-_ICONE23-2.	0.0	0