## Fathollah Pourfayaz

List of Publications by Year in descending order

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128 papers

6,547 citations

50170 46 h-index 71532 76 g-index

128 all docs

128 docs citations

times ranked

128

5304 citing authors

#	Article	IF	CITATIONS
1	Thermoelectric cooler and thermoelectric generator devices: A review of present and potential applications, modeling and materials. Energy, 2019, 186, 115849.	4.5	344
2	Numerical investigation on using of nanofluid in a water-cooled photovoltaic thermal system. Energy Conversion and Management, 2016, 122, 263-278.	4.4	301
3	Optimal sizing of autonomous hybrid photovoltaic/wind/battery power system with LPSP technology by using evolutionary algorithms. Solar Energy, 2015, 115, 471-483.	2.9	223
4	Experimental studies on the applications of PCMs and nano-PCMs in buildings: A critical review. Energy and Buildings, 2017, 154, 96-112.	3.1	222
5	Design of a cost-effective wind/photovoltaic/hydrogen energy system for supplying a desalination unit by a heuristic approach. Solar Energy, 2016, 139, 666-675.	2.9	179
6	Optimal sizing and location based on economic parameters for an off-grid application of a hybrid system with photovoltaic, battery and diesel technology. Energy, 2020, 201, 117480.	4.5	144
7	Sizing of stand-alone photovoltaic/wind/diesel system with battery and fuel cell storage devices by harmony search algorithm. Journal of Energy Storage, 2015, 2, 30-42.	3.9	137
8	Optimal design of stand-alone reverse osmosis desalination driven by a photovoltaic and diesel generator hybrid system. Solar Energy, 2018, 163, 91-103.	2.9	137
9	Thermodynamic analysis of a combined gas turbine, ORC cycle and absorption refrigeration for a CCHP system. Applied Thermal Engineering, 2017, 111, 397-406.	3.0	135
10	Fast and clean functionalization of carbon nanotubes by dielectric barrier discharge plasma in air compared to acid treatment. Carbon, 2010, 48, 1369-1379.	5.4	133
11	Thermal models for analysis of performance of Stirling engine: A review. Renewable and Sustainable Energy Reviews, 2017, 68, 168-184.	8.2	131
12	Exergoeconomic analysis and multi objective optimization of performance of a Carbon dioxide power cycle driven by geothermal energy with liquefied natural gas as its heat sink. Energy Conversion and Management, 2016, 119, 422-434.	4.4	129
13	CeO2 doped SnO2 sensor selective to ethanol in presence of CO, LPG and CH4. Sensors and Actuators B: Chemical, 2005, 108, 172-176.	4.0	125
14	Renewable energy harvesting with the application of nanotechnology: A review. International Journal of Energy Research, 2019, 43, 1387-1410.	2.2	125
15	Thermodynamic analysis and multi objective optimization of performance of solar dish Stirling engine by the centrality of entransy and entropy generation. International Journal of Electrical Power and Energy Systems, 2016, 78, 88-95.	3.3	115
16	A novel framework for optimal design of hybrid renewable energy-based autonomous energy systems: A case study for Namin, Iran. Energy, 2016, 98, 168-180.	4.5	112
17	Introducing an integrated chemical looping hydrogen production, inherent carbon capture and solid oxide fuel cell biomass fueled power plant process configuration. Energy Conversion and Management, 2016, 124, 141-154.	4.4	110
18	Thermodynamic and exergy analysis and optimization of a transcritical CO2 power cycle driven by geothermal energy with liquefied natural gas as its heat sink. Applied Thermal Engineering, 2016, 109, 640-652.	3.0	106

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19	Harmony search optimization for optimum sizing of hybrid solar schemes based on battery storage unit. Energy Reports, 2020, 6, 102-111.	2.5	106
20	Evaluating the environmental parameters affecting the performance of photovoltaic thermal system using nanofluid. Applied Thermal Engineering, 2017, 115, 178-187.	3.0	105
21	Optimization of a grid-connected hybrid solar-wind-hydrogen CHP system for residential applications by efficient metaheuristic approaches. Applied Thermal Engineering, 2017, 123, 1263-1277.	3.0	99
22	A novel framework for optimal photovoltaic size and location in remote areas using a hybrid method: A case study of eastern Iran. Energy Conversion and Management, 2017, 153, 129-143.	4.4	96
23	Stand-alone hybrid energy systems for remote area power generation. Energy Reports, 2019, 5, 231-241.	2.5	96
24	Thermodynamic and economic analysis of performance evaluation of all the thermal power plants: A review. Energy Science and Engineering, 2019, 7, 30-65.	1.9	87
25	Thermodynamic analysis and optimization of a waste heat recovery system for proton exchange membrane fuel cell using transcritical carbon dioxide cycle and cold energy of liquefied natural gas. Journal of Natural Gas Science and Engineering, 2016, 34, 428-438.	2.1	85
26	Experimental investigation on the thermal behavior of nanofluid direct absorption in a trough collector. Journal of Cleaner Production, 2017, 158, 276-284.	4.6	85
27	Optimal Operation of a Grid-Connected Hybrid Renewable Energy System for Residential Applications. Sustainability, 2017, 9, 1314.	1.6	80
28	Thermodynamic analysis and optimization for an irreversible heat pump working on reversed Brayton cycle. Energy Conversion and Management, 2016, 110, 260-267.	4.4	79
29	Thermodynamic evaluation and multi-objective optimization of molten carbonate fuel cell-supercritical CO 2 Brayton cycle hybrid system. Energy Conversion and Management, 2017, 153, 538-556.	4.4	76
30	Novel ZnO-Ag/MWCNT nanocomposite for the photocatalytic degradation of phenol. Materials Science in Semiconductor Processing, 2018, 83, 175-185.	1.9	73
31	Energy and exergy analyses of solid oxide fuel cell-gas turbine hybrid systems fed by different renewable biofuels: A comparative study. Journal of Cleaner Production, 2021, 280, 124383.	4.6	67
32	An artificial intelligence approach to optimization of an off-grid hybrid wind/hydrogen system. International Journal of Hydrogen Energy, 2021, 46, 12725-12738.	3.8	66
33	Comparative study of different nanofluids applied in a trough collector with glass-glass absorber tube. Journal of Molecular Liquids, 2017, 234, 315-323.	2.3	64
34	Thermo-economic analysis and multi-objective optimization of a transcritical CO2 power cycle driven by solar energy and LNG cold recovery. Thermal Science and Engineering Progress, 2017, 4, 185-196.	1.3	64
35	Low global warming potential (GWP) working fluids (WFs) for Organic Rankine Cycle (ORC) applications. Energy Reports, 2022, 8, 2976-2988.	2.5	64
36	Thermodynamic analysis and evolutionary algorithm based on multi-objective optimization performance of actual power generating thermal cycles. Applied Thermal Engineering, 2016, 99, 996-1005.	3.0	62

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37	Ceria-doped SnO2 sensor highly selective to ethanol in humid air. Sensors and Actuators B: Chemical, 2008, 130, 625-629.	4.0	60
38	Optimization of powered Stirling heat engine with finite speed thermodynamics. Energy Conversion and Management, 2016, 108, 96-105.	4.4	59
39	Introducing and analysis of a hybrid molten carbonate fuel cell-supercritical carbon dioxide Brayton cycle system. Sustainable Energy Technologies and Assessments, 2016, 18, 100-106.	1.7	57
40	An assessment of Iran's natural gas potential for transition toward low-carbon economy. Renewable and Sustainable Energy Reviews, 2017, 79, 71-81.	8.2	56
41	Numerical investigation of the nanofluid effects on the heat extraction process of solar ponds in the transient step. Solar Energy, 2017, 157, 869-879.	2.9	54
42	Energy, exergy, exergoeconomic and sensitivity analyses of modified Claus process in a gas refinery sulfur recovery unit. Journal of Cleaner Production, 2019, 220, 1071-1087.	4.6	54
43	Multi-objective performance optimization of irreversible molten carbonate fuel cell–Braysson heat engine and thermodynamic analysis with ecological objective approach. Energy, 2018, 144, 707-722.	4.5	52
44	Energy and Exergy Analyses of a Solid Oxide Fuel Cell-Gas Turbine-Organic Rankine Cycle Power Plant with Liquefied Natural Gas as Heat Sink. Entropy, 2018, 20, 484.	1.1	51
45	Application of N-doped carbon nanotube-supported Pt-Ru as electrocatalyst layer in passive direct methanol fuel cell. International Journal of Hydrogen Energy, 2020, 45, 25307-25316.	3.8	51
46	Numerical modeling and economic analysis of a ground source heat pump for supplying energy for a greenhouse in Alborz province, Iran. Journal of Cleaner Production, 2016, 131, 145-154.	4.6	50
47	A review on solarâ€assisted gas turbines. Energy Science and Engineering, 2018, 6, 658-674.	1.9	49
48	Performance assessment and optimization of an irreversible nano-scale Stirling engine cycle operating with Maxwell-Boltzmann gas. European Physical Journal Plus, 2015, 130, 1.	1.2	46
49	Designing a powered combined Otto and Stirling cycle power plant through multi-objective optimization approach. Renewable and Sustainable Energy Reviews, 2016, 62, 585-595.	8.2	46
50	Exergetic sustainability evaluation and multi-objective optimization of performance of an irreversible nanoscale Stirling refrigeration cycle operating with Maxwell–Boltzmann gas. Renewable and Sustainable Energy Reviews, 2017, 78, 80-92.	8.2	45
51	Connectionist intelligent model estimates of convective heat transfer coefficient of nanofluids in circular cross-sectional channels. Journal of Thermal Analysis and Calorimetry, 2018, 132, 1213-1239.	2.0	45
52	Geothermal energy use in hydrogen production: A review. International Journal of Energy Research, 2019, 43, 7823.	2.2	45
53	Advanced exergy analysis of heat exchanger network in a complex natural gas refinery. Journal of Cleaner Production, 2019, 206, 670-687.	4.6	44
54	Modeling and multi-optimization of thermal section of Claus process based on kinetic model. Journal of Natural Gas Science and Engineering, 2017, 38, 235-244.	2.1	43

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55	The effect of hydrodynamic and ultrasonic cavitation on biodiesel production: An exergy analysis approach. Energy, 2018, 160, 478-489.	4.5	41
56	Improving energy efficiency in a complex natural gas refinery using combined pinch and advanced exergy analyses. Applied Thermal Engineering, 2018, 137, 341-355.	3.0	38
57	Process development and thermodynamic analysis of a novel power generation plant driven by geothermal energy with liquefied natural gas as its heat sink. Applied Thermal Engineering, 2018, 133, 645-658.	3.0	37
58	Recent Advances of Biodiesel Production Using Ionic Liquids Supported on Nanoporous Materials as Catalysts: A Review. Frontiers in Energy Research, 2020, 8, .	1.2	37
59	Proposal and investigation of a novel hybrid hydrogen production and liquefaction process using solid oxide electrolyzer, solar energy, and thermoelectric generator. Journal of Cleaner Production, 2022, 331, 130001.	4.6	36
60	Process development and exergy analysis of a novel hybrid fuel cell-absorption refrigeration system utilizing nanofluid as the absorbent liquid. International Journal of Refrigeration, 2019, 97, 31-41.	1.8	35
61	Modeling and improvement of solid oxide fuel cell-single effect absorption chiller hybrid system by using nanofluids as heat transporters. Applied Thermal Engineering, 2020, 166, 114707.	3.0	34
62	Transient heat extraction modeling method for a rectangular type salt gradient solar pond. Energy Conversion and Management, 2017, 132, 316-326.	4.4	31
63	Towards experimental and modeling study of heat transfer performance of water-SiO <sub>2</sub> nanofluid in quadrangular cross-section channels. Engineering Applications of Computational Fluid Mechanics, 2019, 13, 453-469.	1.5	31
64	Investigating the effect of using <scp>PCM</scp> in building materials for energy saving: Case study of Sharif Energy Research Institute. Energy Science and Engineering, 2020, 8, 959-972.	1.9	31
65	Techno-economic assessment of biodiesel production from canola oil through ultrasonic cavitation. Energy Reports, 2021, 7, 266-277.	2.5	30
66	Fluid dynamics analysis for different photovoltaic panel locations in solar chimney. Energy Conversion and Management, 2019, 191, 71-79.	4.4	29
67	Investigating the effect of using nanofluids on the performance of a double-effect absorption refrigeration cycle combined with a solar collector. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2020, 234, 981-993.	0.8	29
68	Biodiesel production from Norouzak (Salvia leriifolia) oil using choline hydroxide catalyst in a microchannel reactor. Renewable Energy, 2019, 136, 993-1001.	4.3	28
69	An experimental comparison of SiO2/water nanofluid heat transfer in square and circular cross-sectional channels. Journal of Thermal Analysis and Calorimetry, 2018, 131, 1577-1586.	2.0	26
70	Nitrogen and sulfur doped ZnAl layered double hydroxide/reduced graphene oxide as an efficient nanoelectrocatalyst for oxygen reduction reactions. International Journal of Hydrogen Energy, 2020, 45, 27129-27144.	3.8	26
71	Annual transient analysis of energetic, exergetic, and economic performances of solar cascade organic Rankine cycles integrated with PCM-based thermal energy storage systems. Case Studies in Thermal Engineering, 2021, 28, 101388.	2.8	26
72	Energy analysis and shadow modeling of a rectangular type salt gradient solar pond. Solar Energy, 2017, 146, 161-171.	2.9	25

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73	A practical approach to heat exchanger network design in a complex natural gas refinery. Journal of Natural Gas Science and Engineering, 2017, 40, 141-158.	2.1	25
74	Systematic analysis and multi-objective optimization of integrated power generation cycle for a thermal power plant using Genetic algorithm. Energy Conversion and Management, 2021, 241, 114309.	4.4	25
75	Highly selective sensor to CH4 in presence of CO and ethanol using LaCoO3 perovskite filter with Pt/SnO2. Sensors and Actuators B: Chemical, 2006, 117, 420-425.	4.0	24
76	Plasma Functionalization of MWCNTs in He Followed by NH <sub>3</sub> Treatment and its Application in PMMA Based Nanocomposites. Plasma Processes and Polymers, 2010, 7, 1001-1009.	1.6	24
77	A comparison of effects of plasma and acid functionalizations on structure and electrical property of multi-wall carbon nanotubes. Applied Surface Science, 2014, 295, 66-70.	3.1	24
78	Numerical investigation into mutual effects of soil thermal and isothermal properties on heat and moisture transfer in unsaturated soil applied as thermal storage system. Numerical Heat Transfer; Part A: Applications, 2018, 73, 466-481.	1,2	24
79	A novel hybrid liquefied natural gas process with absorption refrigeration integrated with molten carbonate fuel cell. International Journal of Low-Carbon Technologies, 2021, 16, 956-976.	1.2	24
80	Multi-objective optimization and exergetic-sustainability of an irreversible nano scale Braysson cycle operating with Maxwell–Boltzmann gas. AEJ - Alexandria Engineering Journal, 2016, 55, 1785-1798.	3.4	23
81	Prediction of solubility of solid compounds in supercritical CO2 using a connectionist smart technique. Journal of Supercritical Fluids, 2017, 120, 181-190.	1.6	21
82	Investigation and optimization of performance of nano-scale Stirling refrigerator using working fluid as Maxwell–Boltzmann gases. Physica A: Statistical Mechanics and Its Applications, 2017, 483, 337-350.	1,2	21
83	Performance comparison between the geometry models of multi-channel absorbers in solar volumetric receivers. Renewable Energy, 2017, 105, 1-12.	4.3	21
84	Techno-economic assessment of a hybrid system for energy supply in the affected areas by natural disasters: A case study. Energy Conversion and Management, 2020, 221, 113170.	4.4	21
85	A simple method for estimating the irreversibly in heat exchanger networks. Energy, 2018, 144, 633-646.	4.5	20
86	Entransy analysis and optimization of performance of nano-scale irreversible Otto cycle operating with Maxwell-Boltzmann ideal gas. Chemical Physics Letters, 2016, 658, 293-302.	1,2	19
87	Deployment of a standâ€alone hybrid renewable energy system in coastal areas as a reliable energy source. Environmental Progress and Sustainable Energy, 2020, 39, e13354.	1.3	19
88	Assessment of a biomass-based polygeneration plant for combined power, heat, bioethanol and biogas. Applied Thermal Engineering, 2021, 198, 117425.	3.0	19
89	Status of direct and indirect solar desalination methods: comprehensive review. European Physical Journal Plus, 2021, 136, 1.	1.2	17
90	A Simplificative Approachâ€based Modeling of SOFC Power Systems Fed by Natural Gas. Fuel Cells, 2017, 17, 843-853.	1,5	16

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91	A numerical study into effects of intermittent pump operation on thermal storage in unsaturated porous media. Applied Thermal Engineering, 2018, 138, 110-121.	3.0	15
92	Thermodynamic and thermoeconomic analyses and energetic and exergetic optimization of a turbojet engine. Journal of Thermal Analysis and Calorimetry, 2021, 145, 909-923.	2.0	15
93	Exergy analysis of multiple heat exchanger networks: An approach based on the irreversibility distribution ratio. Energy Reports, 2021, 7, 174-193.	2.5	15
94	Multiâ€objective performance optimization of irreversible molten carbonate fuel cell–Stirling heat engine–reverse osmosis and thermodynamic assessment with ecological objective approach. Energy Science and Engineering, 2018, 6, 783-796.	1.9	14
95	Thermodynamic Assessment and Multi-Objective Optimization of Performance of Irreversible Dual-Miller Cycle. Energies, 2019, 12, 4000.	1.6	14
96	Optimal sizing of an integrated CHP and desalination system as a polygeneration plant for supplying rural demands. Energy, 2022, 258, 124820.	4.5	14
97	Ultra-low Electrical and Rheological Percolation Thresholds in PMMA/Plasma-Functionalized CNTs Nanocomposites. Polymer-Plastics Technology and Engineering, 2014, 53, 1450-1455.	1.9	12
98	A simplified model for estimating heat transfer coefficient in a chamber with electrohydrodynamic effect (corona wind). Journal of Electrostatics, 2018, 93, 125-136.	1.0	12
99	Evaluation of MWCNT/ethylene glycol nanofluid flow in a parabolic trough collector with glass-glass absorber tube. International Journal of Numerical Methods for Heat and Fluid Flow, 2019, 30, 176-205.	1.6	12
100	Exergetic sustainability evaluation and optimization of an irreversible Brayton cycle performance. Frontiers in Energy, 2019, 13, 399-410.	1.2	12
101	Rapid and enhanced functionalization of MWCNTs in a dielectric barrier discharge plasma in presence of diluted CO2. Applied Physics A: Materials Science and Processing, 2012, 106, 829-836.	1.1	11
102	On the dispersion of CNTs in polyamide 6 matrix via solution methods: assessment through electrical, rheological, thermal and morphological analyses. Polymer Bulletin, 2013, 70, 2387-2398.	1.7	11
103	Multi-objective optimization of tubular solid oxide fuel cells fed by natural gas: an energetic and exergetic simultaneous optimization. Journal of Thermal Analysis and Calorimetry, 2021, 145, 1575-1583.	2.0	11
104	Technoâ€economic assessment and sensitivity analysis of biodiesel production intensified through hydrodynamic cavitation. Energy Science and Engineering, 2021, 9, 1997-2018.	1.9	11
105	Improvement of solar flatâ€plate collector performance by optimum tilt angle and minimizing top heat loss coefficient using particle swarm optimization. Energy Science and Engineering, 2020, 8, 2771-2783.	1.9	10
106	High-temperature hydrogen production by solar thermochemical reactors, metal interfaces, and nanofluid cooling. Journal of Thermal Analysis and Calorimetry, 2021, 145, 2547-2569.	2.0	9
107	Cold thermal energy storage by encapsulated phase change materials system using hybrid nanofluids as the heat transfer fluid. International Journal of Energy Research, 2021, 45, 15265-15283.	2.2	9
108	Transient optimization of annual performance of a photovoltaic thermal system based on accurate estimation of coolant water temperature: A comparison with conventional methods. Case Studies in Thermal Engineering, 2021, 28, 101395.	2.8	9

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109	A comparison of using organic Rankine and Kalina cycles as bottom cycles in a solarâ€powered steam Rankine cycle. Energy Science and Engineering, 2022, 10, 2714-2731.	1.9	9
110	The 3E Optimal Location Assessment of Flat-Plate Solar Collectors for Domestic Applications in Iran. Energies, 2022, 15, 3589.	1.6	9
111	Numerical simulation of solar-driven Kalina cycle performance for centralized residential buildings in Iran. Intelligent Buildings International, 2018, 10, 197-219.	1.3	7
112	A Global Dynamic Harmony Search for Optimization of a Hybrid Photovoltaic-Battery Scheme: Impact of Type of Solar Panels. Sustainability, 2022, 14, 109.	1.6	7
113	Combination of Plasma Functionalization and Phase Inversion Process Techniques for Efficient Dispersion of MWCNTs in Polyamide 6: Assessment through Morphological, Electrical, Rheological and Thermal Properties. Polymer-Plastics Technology and Engineering, 2015, 54, 632-638.	1.9	6
114	Thermodynamic analysis and optimization of an irreversible nano scale dual cycle operating with Maxwell-Boltzmann gas. Mechanics and Industry, 2017, 18, 212.	0.5	6
115	Entransy analysis and optimization of irreversible Carnot-like heat engine. Mechanics and Industry, 2017, 18, 204.	0.5	6
116	Investigating the Effect of Soil Type and Moisture on the Performance of a Ground Source Heat Pump System Used for a Greenhouse in Iran. Journal of Thermal Science and Engineering Applications, 2019, 11, .	0.8	6
117	Thermodynamic analysis of a wood chips-based cycle integrated with solid oxide fuel cell. Renewable Energy, 2022, 195, 1174-1193.	4.3	6
118	Optimization of grid independent diesel-based hybrid system for power generation using improved particle swarm optimization algorithm. , 2015, , .		5
119	Optimal design and analysis of a district energy system including heat and power production for domestic applications and fuel for vehicles. Journal of Thermal Analysis and Calorimetry, 2021, 144, 2009-2025.	2.0	5
120	Dynamic thermal simulation based on building information modeling: A review. International Journal of Energy Research, 2021, 45, 14221-14244.	2.2	5
121	An improved particle swarm optimization for optimal configuration of standalone photovoltaic scheme components. Energy Science and Engineering, 0, , .	1.9	5
122	A Detailed Investigation of the Walls Shading Effect on the Performance of Solar Ponds. Environmental Progress and Sustainable Energy, 2019, 38, e13014.	1.3	4
123	Simulation, equipment performance evaluation and sensitivity analysis as a comprehensive parametric study of sulfur recovery unit. Asia-Pacific Journal of Chemical Engineering, 2020, 15, e2427.	0.8	4
124	Nitrogenâ€doped graphene prepared by lowâ€temperature thermal treatment as an electrocatalyst support for methanol oxidation. Fuel Cells, 2021, 21, 172-181.	1.5	4
125	A comprehensive review of nanoâ€phase change materials with a focus on the effects of influential factors. Environmental Progress and Sustainable Energy, 2022, 41, e13808.	1.3	4
126	Effects of Reliability Index on Optimal Configuration of Hybrid Solar/Battery Energy System by Optimization Approach: A Case Study. International Journal of Photoenergy, 2021, 2021, 1-11.	1.4	3

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127	A natural gas-based eco-friendly polygeneration system including gas turbine, sorption-enhanced steam methane reforming, absorption chiller and flue gas CO2 capture unit. Sustainable Energy Technologies and Assessments, 2022, 52, 101984.	1.7	3
128	Highly selectivte sensor to CH/sub 4/ in presence of CO and ethanol using LaCoO/sub 3/ perovskite filter with $Pt/SnO/sub\ 2/,\ 0,$		1