

Sotirios Karellas

List of Publications by Year in descending order

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86
papers

4,382
citations

126907

33
h-index

110387

64
g-index

87
all docs

87
docs citations

87
times ranked

3903
citing authors

#	ARTICLE	IF	CITATIONS
1	Energetic and economic investigation of Organic Rankine Cycle applications. Applied Thermal Engineering, 2009, 29, 1809-1817.	6.0	395
2	Efficiency optimization potential in supercritical Organic Rankine Cycles. Energy, 2010, 35, 1033-1039.	8.8	300
3	Energy exergy analysis and economic investigation of a cogeneration and trigeneration ORC-VCC hybrid system utilizing biomass fuel and solar power. Energy Conversion and Management, 2016, 107, 103-113.	9.2	219
4	Exergy analysis of solar thermal collectors and processes. Progress in Energy and Combustion Science, 2016, 56, 106-137.	31.2	199
5	Development of an investment decision tool for biogas production from agricultural waste. Renewable and Sustainable Energy Reviews, 2010, 14, 1273-1282.	16.4	184
6	Energetic and exergetic analysis of waste heat recovery systems in the cement industry. Energy, 2013, 58, 147-156.	8.8	176
7	Exergy analysis on solar thermal systems: A better understanding of their sustainability. Renewable Energy, 2016, 85, 1328-1333.	8.9	151
8	Comparative techno-economic analysis of ORC and gasification for bioenergy applications. Energy Conversion and Management, 2009, 50, 674-681.	9.2	128
9	Energetic optimization of regenerative Organic Rankine Cycle (ORC) configurations. Energy Conversion and Management, 2018, 159, 353-370.	9.2	123
10	Thermodynamic analysis and life cycle assessment of supercritical pulverized coal-fired power plant integrated with No.0 feedwater pre-heater under partial loads. Journal of Cleaner Production, 2019, 233, 1106-1122.	9.3	119
11	Influence of supercritical ORC parameters on plate heat exchanger design. Applied Thermal Engineering, 2012, 33-34, 70-76.	6.0	106
12	Comparative thermodynamic analysis of compressed air and liquid air energy storage systems. Energy, 2018, 142, 46-54.	8.8	105
13	Energy and exergy analysis of adiabatic compressed air energy storage system. Energy, 2017, 138, 12-18.	8.8	99
14	Low grade waste heat recovery with subcritical and supercritical Organic Rankine Cycle based on natural refrigerants and their binary mixtures. Energy, 2015, 88, 80-92.	8.8	93
15	Compressor intake-air cooling in gas turbine plants. Energy, 2004, 29, 2347-2358.	8.8	91
16	Comparison of the performance of compressed-air and hydrogen energy storage systems: Karpathos island case study. Renewable and Sustainable Energy Reviews, 2014, 29, 865-882.	16.4	86
17	Preparation and investigation of distinct and shape stable paraffin/SiO ₂ composite PCM nanospheres. Energy Conversion and Management, 2018, 168, 382-394.	9.2	85
18	An innovative biomass gasification process and its coupling with microturbine and fuel cell systems. Energy, 2008, 33, 284-291.	8.8	82

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19	Waste heat recovery from a landfill gas-fired power plant. <i>Renewable and Sustainable Energy Reviews</i> , 2012, 16, 1779-1789.	16.4	79
20	A review of key environmental and energy performance indicators for the case of renewable energy systems when integrated with storage solutions. <i>Applied Energy</i> , 2018, 231, 380-398.	10.1	70
21	Integrated thermoeconomic optimization of standard and regenerative ORC for different heat source types and capacities. <i>Energy</i> , 2017, 121, 570-598.	8.8	62
22	Economic evaluation of decentralized pyrolysis for the production of bio-oil as an energy carrier for improved logistics towards a large centralized gasification plant. <i>Renewable and Sustainable Energy Reviews</i> , 2014, 35, 57-72.	16.4	58
23	Exergetic optimization of double stage Organic Rankine Cycle (ORC). <i>Energy</i> , 2018, 149, 296-313.	8.8	56
24	Investigation of an autonomous hybrid solar thermal ORC+PV RO desalination system. The Chalki island case. <i>Renewable Energy</i> , 2011, 36, 583-590.	8.9	55
25	Investigation of technical and economic aspects of pre-dried lignite utilisation in a modern lignite power plant towards zero CO ₂ emissions. <i>Energy</i> , 2012, 45, 134-141.	8.8	52
26	Exergetic and economic analysis of a solar driven small scale ORC. <i>Renewable Energy</i> , 2020, 157, 1008-1024.	8.9	50
27	Exergy analysis of a naturally ventilated Building Integrated Photovoltaic/Thermal (BIPV/T) system. <i>Renewable Energy</i> , 2018, 128, 541-552.	8.9	48
28	Reversible Heat Pump+Organic Rankine Cycle Systems for the Storage of Renewable Electricity. <i>Energies</i> , 2018, 11, 1352.	3.1	45
29	Cost effectiveness assessment and beyond: A study on energy efficiency interventions in Greek residential building stock. <i>Energy and Buildings</i> , 2019, 182, 1-18.	6.7	43
30	Water extraction from high moisture lignite by means of efficient integration of waste heat and water recovery technologies with flue gas pre-drying system. <i>Applied Thermal Engineering</i> , 2017, 110, 442-456.	6.0	42
31	Thermodynamic and techno-economic assessment of pure and zeotropic fluid ORCs for waste heat recovery in a biomass IGCC plant. <i>Applied Thermal Engineering</i> , 2021, 183, 116202.	6.0	41
32	Analysis of energy storage systems to exploit wind energy curtailment in Crete. <i>Renewable and Sustainable Energy Reviews</i> , 2019, 103, 122-139.	16.4	40
33	Energy-exergy analysis of ultra-supercritical biomass-fuelled steam power plants for industrial CHP, district heating and cooling. <i>Renewable Energy</i> , 2020, 154, 252-269.	8.9	38
34	Comparison of Waste-to-Energy Processes by Means of Life Cycle Analysis Principles regarding the Global Warming Potential Impact: Applied Case Studies in Greece, France and Germany. <i>Waste and Biomass Valorization</i> , 2015, 6, 605-621.	3.4	37
35	Tar analysis from biomass gasification by means of online fluorescence spectroscopy. <i>Optics and Lasers in Engineering</i> , 2011, 49, 885-891.	3.8	35
36	Exergetic performance of CO ₂ and ultra-low GWP refrigerant mixtures as working fluids in ORC for waste heat recovery. <i>Energy</i> , 2020, 203, 117801.	8.8	33

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37	Investigation of proper modeling of very dense granular flows in the recirculation system of CFBs. <i>Particuology</i> , 2012, 10, 699-709.	3.6	32
38	Energy recovery by means of a radial piston expander in a CO2 refrigeration system. <i>International Journal of Refrigeration</i> , 2016, 72, 147-155.	3.4	31
39	Techno-economic assessment of a small-scale biomass ORC-CHP for district heating. <i>Energy Conversion and Management</i> , 2021, 247, 114705.	9.2	31
40	Equilibrium and kinetic aspects for catalytic methanation focusing on CO2 derived Substitute Natural Gas (SNG). <i>Renewable and Sustainable Energy Reviews</i> , 2018, 94, 536-550.	16.4	29
41	Implementation of a solar-biomass system for multi-family houses: Towards 100% renewable energy utilization. <i>Renewable Energy</i> , 2020, 166, 190-209.	8.9	29
42	Towards NZEB in Greece: A comparative study between cost optimality and energy efficiency for newly constructed residential buildings. <i>Energy and Buildings</i> , 2019, 198, 115-137.	6.7	28
43	Policy plan for the use of biomass and biofuels in Greece. <i>Renewable and Sustainable Energy Reviews</i> , 2009, 13, 971-985.	16.4	27
44	Integrated ORC-Adsorption cycle: A first and second law analysis of potential configurations. <i>Energy</i> , 2019, 179, 46-58.	8.8	26
45	Technoeconomic Analysis and Comparison of a Solar-Based Biomass ORC-VCC System and a PV Heat Pump for Domestic Trigeneration. <i>Journal of Energy Engineering - ASCE</i> , 2017, 143, .	1.9	24
46	Hybrid Adsorption-Compression Systems for Air Conditioning in Efficient Buildings: Design through Validated Dynamic Models. <i>Energies</i> , 2019, 12, 1161.	3.1	23
47	Techno-economic analysis of the energy exploitation of biomass residues in Heraklion Prefecture "Crete. <i>Renewable and Sustainable Energy Reviews</i> , 2009, 13, 362-377.	16.4	22
48	Organic flash cycles in Rankine-based Carnot batteries with large storage temperature spreads. <i>Energy Conversion and Management</i> , 2022, 255, 115323.	9.2	22
49	Conversion of Syngas From Biomass in Solid Oxide Fuel Cells. <i>Journal of Fuel Cell Science and Technology</i> , 2009, 6, .	0.8	21
50	Molten silicon storage of concentrated solar power with integrated thermophotovoltaic energy conversion. <i>AIP Conference Proceedings</i> , 2018, , .	0.4	21
51	Policy plan for the use of biomass and biofuels in GreecePart II: Logistics and economic investigation. <i>Renewable and Sustainable Energy Reviews</i> , 2009, 13, 703-720.	16.4	20
52	Experimental investigation of CO2 solubility and its absorption rate into promoted aqueous potassium carbonate solutions at elevated temperatures. <i>International Journal of Greenhouse Gas Control</i> , 2019, 81, 83-92.	4.6	19
53	Development, experimental testing and techno-economic assessment of a fully automated marine organic rankine cycle prototype for jacket cooling water heat recovery. <i>Energy</i> , 2021, 228, 120596.	8.8	19
54	Energy and economic performance assessment of efficiency measures in zero-energy office buildings in Greece. <i>Building and Environment</i> , 2021, 206, 108378.	6.9	19

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55	Combustion and Emissions in an HSDI Engine Running on Diesel or Vegetable Oil Base Fuel with n-Butanol or Diethyl Ether As a Fuel Extender. Journal of Energy Engineering - ASCE, 2016, 142, .	1.9	18
56	Radial piston expander as a throttling valve in a heat pump: Focus on the 2-phase expansion. International Journal of Refrigeration, 2017, 82, 273-282.	3.4	18
57	Energy assessment based on semi-dynamic modelling of a photovoltaic driven vapour compression chiller using phase change materials for cold energy storage. Renewable Energy, 2021, 163, 198-212.	8.9	18
58	Renewable and Conventional Electricity Generation Systems: Technologies and Diversity of Energy Systems. Lecture Notes in Energy, 2013, , 9-30.	0.3	18
59	Life cycle analysis of ZEOSOL solar cooling and heating system. Renewable Energy, 2020, 154, 82-98.	8.9	17
60	Investigation of pre-drying lignite in an existing Greek power plant. Thermal Science, 2012, 16, 283-296.	1.1	16
61	Experimental performance evaluation of a multi-diaphragm pump of a micro-ORC system. Energy Procedia, 2017, 129, 1018-1025.	1.8	16
62	Thermodynamic analysis of an improved flue gas pre-dried lignite-fired power system integrated with water recovery and drying exhaust gas recirculation. Drying Technology, 2020, 38, 1971-1987.	3.1	16
63	The potential of WHR/batch and cullet preheating for energy efficiency in the EU ETS glass industry and the related energy incentives. Energy Efficiency, 2018, 11, 1161-1175.	2.8	15
64	Modelling of Substitute Natural Gas production via combined gasification and power to fuel. Renewable Energy, 2019, 135, 1354-1370.	8.9	15
65	Waste heat recovery at the glass industry with the intervention of batch and cullet preheating. Thermal Science, 2016, 20, 1245-1258.	1.1	14
66	The driving factors of CO ₂ emissions from electricity generation in Greece: an index decomposition analysis. International Journal of Global Warming, 2017, 13, 382.	0.5	13
67	Review of Process Modeling of Solid-Fuel Thermal Power Plants for Flexible and Off-Design Operation. Energies, 2020, 13, 6587.	3.1	13
68	Performance Results of a Solar Adsorption Cooling and Heating Unit. Energies, 2020, 13, 1630.	3.1	13
69	Exergetic efficiency potential of double-stage ORCs with zeotropic mixtures of natural hydrocarbons and CO ₂ . Energy, 2021, 218, 119577.	8.8	13
70	Integration of Organic Rankine Cycle with Lignite Flue Gas Pre-drying for Waste Heat and Water Recovery from Dryer Exhaust Gas: Thermodynamic and Economic Analysis. Energy Procedia, 2017, 105, 1614-1621.	1.8	10
71	Modelling of methanol production via combined gasification and power to fuel. Renewable Energy, 2020, 158, 598-611.	8.9	10
72	Experimental Investigation and CFD Analysis of Heat Transfer in Single Phase Subcooler of a Small Scale Waste Heat Recovery ORC. Energy Procedia, 2017, 129, 487-494.	1.8	9

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73	Adsorption of thiophene by activated carbon: A global sensitivity analysis. Journal of Environmental Chemical Engineering, 2017, 5, 4173-4184.	6.7	9
74	Solar thermal power plants. , 2019, , 179-235.		9
75	Hybrid Cascade Heat Pump and Thermal-Electric Energy Storage System for Residential Buildings: Experimental Testing and Performance Analysis. Energies, 2021, 14, 2580.	3.1	9
76	Life cycle analysis of a waste heat recovery for marine engines Organic Rankine Cycle. Energy, 2022, 257, 124698.	8.8	9
77	Techno-Economic Optimization of Medium Temperature Solar-Driven Subcritical Organic Rankine Cycle. Thermo, 2021, 1, 77-105.	1.3	4
78	An environmental and economic evaluation of the lignite power generation system by using the life cycle analysis principles. International Journal of Global Warming, 2017, 13, 296.	0.5	3
79	Numerical analysis of a GPHE's hydrodynamic and thermal characteristics, by applying an iterative procedure for the thermal boundary conditions. International Journal of Heat and Mass Transfer, 2018, 118, 88-102.	4.8	3
80	Hydrogen Production from Biomass Gasification. Biofuels and Biorefineries, 2015, , 97-117.	0.5	3
81	Design Evaluation for a Finned-Tube CO2 Gas Cooler in Residential Applications. Energies, 2020, 13, 2428.	3.1	2
82	EU Emissions Trading Scheme Application in Bulgaria, Greece and Romania from 2008 to 2012. The Anthropocene: Politik - Economics - Society - Science, 2017, , 45-60.	0.2	1
83	Piston Expanders Technology as a Way to Recover Energy From the Expansion of Highly Wet Organic Refrigerants. , 2015, , .		0
84	Novel Analytical and Numerical Methods in Heat Transfer Enhancement and Thermal Management. Journal of Applied Mathematics, 2016, 2016, 1-2.	0.9	0
85	Dynamic Modelling of a Hybrid Solar Thermal/Electric Storage System for Application in Residential Buildings. , 2018, , .		0
86	Thermo-economic analysis of an efficient lignite-fired power system integrated with flue gas fan mill pre-drying. , 0, , .		0