Alejandro Medina

List of Publications by Year
in descending order

89 papers	1,716 citations	279487 23 h-index	329751 37 g-index
92 all docs	92 docs citations	92 times ranked	724 citing authors

#	Article	IF	Citations
1	High temperature central tower plants for concentrated solar power: 2021 overview. Renewable and Sustainable Energy Reviews, 2022, 155, 111828.	8.2	69
2	Success versus failure: Efficient heat devices in thermodynamics. Physical Review E, 2022, 105, 014115.	0.8	1
3	Onâ€•and offâ€design thermodynamic analysis of a hybrid polar solar thermal tower power plant. International Journal of Energy Research, 2021, 45, 1789-1805.	2.2	4
4	Compartmental Learning versus Joint Learning in Engineering Education. Mathematics, 2021, 9, 662.	1.1	1
5	Thermo-economic and sensitivity analysis of a central tower hybrid Brayton solar power plant. Applied Thermal Engineering, 2021, 186, 116454.	3.0	14
6	Multicriteria optimization of Brayton-like pumped thermal electricity storage with liquid media. Journal of Energy Storage, 2021, 44, 103242.	3.9	4
7	Towards a Sustainable Future through Renewable Energies at Secondary School: An Educational Proposal. Sustainability, 2021, 13, 12904.	1.6	1
8	Thermodynamic Performance of a Brayton Pumped Heat Energy Storage System: Influence of Internal and External Irreversibilities. Entropy, 2021, 23, 1564.	1.1	4
9	On-design pre-optimization and off-design analysis of hybrid Brayton thermosolar tower power plants for different fluids and plant configurations. Renewable and Sustainable Energy Reviews, 2020, 119, 109590.	8.2	9
10	Optimization, Stability, and Entropy in Endoreversible Heat Engines. Entropy, 2020, 22, 1323.	1.1	17
11	The equivalent low-dissipation combined cycle system and optimal analyses of a class of thermally driven heat pumps. Energy Conversion and Management, 2020, 220, 113100.	4.4	13
12	Thermodynamic optimization subsumed in stability phenomena. Scientific Reports, 2020, 10, 14305.	1.6	8
13	Pumped heat energy storage with liquid media: Thermodynamic assessment by a Brayton-like model. Energy Conversion and Management, 2020, 226, 113540.	4.4	21
14	Thermodynamic and Cost Analysis of a Solar Dish Power Plant in Spain Hybridized with a Micro-Gas Turbine. Energies, 2020, 13, 5178.	1.6	9
15	Energetic Self-Optimization Induced by Stability in Low-Dissipation Heat Engines. Physical Review Letters, 2020, 124, 050603.	2.9	21
16	Techno-economic analysis of a solar hybrid combined cycle power plant integrated with a packed bed storage at gas turbine exhaust. AIP Conference Proceedings, 2020, , .	0.3	3
17	Towards a more efficient generation of central tower hybrid thermosolar gas turbine power plants. AIP Conference Proceedings, 2019, , .	0.3	0
18	Thermally driven refrigerators: Equivalent low-dissipation three-heat-source model and comparison with experimental and simulated results. Energy Conversion and Management, 2019, 198, 111917.	4.4	16

#	Article	IF	Citations
19	Optimization induced by stability and the role of limited control near a steady state. Physical Review E, 2019, 100, 062128.	0.8	13
20	Continuous power output criteria and optimum operation strategies of an upgraded thermally regenerative electrochemical cycles system. Energy Conversion and Management, 2019, 180, 654-664.	4.4	37
21	Entropy generation and unified optimization of Carnot-like and low-dissipation refrigerators. Physical Review E, 2018, 97, 022139.	0.8	16
22	Roads to improve the performance of hybrid thermosolar gas turbine power plants: Working fluids and multi-stage configurations. Energy Conversion and Management, 2018, 165, 578-592.	4.4	18
23	Thermodynamic model of a hybrid Brayton thermosolar plant. Renewable Energy, 2018, 128, 473-483.	4.3	21
24	Thermodynamic simulation of a hybrid thermo-solar externally fired gas turbine power plant fueled with biomass. AIP Conference Proceedings, 2018, , .	0.3	1
25	Symbolic Analysis of the Cycle-to-Cycle Variability of a Gasolineâ€“Hydrogen Fueled Spark Engine Model. Energies, 2018, 11, 968.	1.6	2
26	On entropy research analysis: cross-disciplinary knowledge transfer. Scientometrics, 2018, 117, 123-139.	1.6	8
27	Thermodynamic simulation of a multi-step externally fired gas turbine powered by biomass. Energy Conversion and Management, 2017, 140, 182-191.	4.4	26
28	Modeling hybrid solar gas-turbine power plants: Thermodynamic projection of annual performance and emissions. Energy Conversion and Management, 2017, 134, 314-326.	4.4	23
29	Carnot-Like Heat Engines Versus Low-Dissipation Models. Entropy, 2017, 19, 182.	1.1	20
30	Simulation of cycle-to-cycle variations on spark ignition engines fueled with gasoline-hydrogen blends. International Journal of Hydrogen Energy, 2016, 41, 9087-9099.	3.8	32
31	Experimental study on detailed emissions speciation of an HCCI engine equipped with a three-way catalytic converter. Energy, 2016, 117, 388-397.	4.5	24
32	Seasonal thermodynamic prediction of the performance of a hybrid solar gas-turbine power plant. Energy Conversion and Management, 2016, 115, 89-102.	4.4	48
33	Numerical approach on the effects of gasoline-hydrogen blends on the cyclic variability in spark ignition engines. International Journal of Thermodynamics, 2016, 19, 92.	0.4	4
34	Multi-objective optimization of a multi-step solar-driven Brayton plant. Energy Conversion and Management, 2015, 99, 346-358.	4.4	40
35	Thermodynamic modeling of a hybrid solar gas-turbine power plant. Energy Conversion and Management, 2015, 93, 435-447.	4.4	74
36	Effects of Direct Fuel Injection Strategies on Cycle-by-Cycle Variability in a Gasoline Homogeneous Charge Compression Ignition Engine: Sample Entropy Analysis. Entropy, 2015, 17, 539-559.	1.1	6

#	Article	IF	Citations
37	Time, entropy generation, and optimization in low-dissipation heat devices. New Journal of Physics, 2015, 17, 075011.	1.2	35
38	The maximum power efficiency 1-â^šÏ„: Research, education, and bibliometric relevance. European Physical Journal: Special Topics, 2015, 224, 809-823.	1.2	13
39	Development and utilization of video clips as didactic resources for an experimental subject. , 2014, , .		0
40	Effect of ethanol addition on cyclic variability in a simulated spark ignition gasoline engine. Meccanica, 2014, 49, 2285-2297.	1.2	11
41	Cycle-to-Cycle Variability. , 2014, , 107-145.		1
42	Physical Laws and Model Structure of Simulations. , 2014, , 19-55.		0
43	Thermodynamic Engine Optimization. , 2014, , 87-106.		0
44	Validating and Comparing with Experiments and Other Models. , 2014, , 57-86.		0
45	Recuperative solar-driven multi-step gas turbine power plants. Energy Conversion and Management, 2013, 67, 171-178.	4.4	35
46	Fluctuations in the Energetic Properties of a Spark-Ignition Engine Model with Variability. Entropy, 2013, 15, 3277-3296.	1.1	6
47	Maximum overall efficiency for a solar-driven gas turbine power plant. International Journal of Energy Research, 2013, 37, 1580-1591.	2.2	13
48	Optimizing the geometrical parameters of a spark ignition engine: Simulation and theoretical tools. Applied Thermal Engineering, 2011, 31, 803-810.	3.0	22
49	On cycle-to-cycle heat release variations in a simulated spark ignition heat engine. Applied Energy, 2011, 88, 1557-1567.	5.1	47
50	Thermodynamic model and optimization of a multi-step irreversible Brayton cycle. Energy Conversion and Management, 2010, 51, 2134-2143.	4.4	38
51	Monofractal and multifractal analysis of simulated heat release fluctuations in a spark ignition heat engine. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 5662-5670.	1.2	27
52	Optimizing the operation of a spark ignition engine: Simulation and theoretical tools. Journal of Applied Physics, 2009, 105, 094904.	1.1	32
53	Theoretical and simulated models for an irreversible Otto cycle. Journal of Applied Physics, 2008, 104, 094911.	1.1	43
54	A Measurement ofgListening to Falling Balls. Physics Teacher, 2007, 45, 175-177.	0.2	13

#	Article	IF	Citations
55	Dynamical characterization of rotationally hindered species in liquids. Journal of Chemical Physics, 2005, 123, 234509.	1.2	6
56	Infrared spectral profiles in liquids and atom-diatom interactions. Journal of Chemical Physics, 2004, 121, 6353-6360.	1.2	12
57	Vibration-rotation spectra of hydrogen halides in rare-gas liquids: Q-branch absorption. Pure and Applied Chemistry, 2004, 76, 241-246.	0.9	2
58	Multipole â€" Induced Dipole Contributions to the Far-Infrared Spectra of Diatomic Molecules in Non-Polar Solvents. , 2004, , 361-385.		0
59	InfraredQ-branch absorption and rotationally-hindered species in liquids. Journal of Chemical Physics, 2003, 119, 5176-5184.	1.2	10
60	Vibration-rotation spectra of HCl in rare-gas liquid mixtures: Molecular dynamics simulations of Q-branch absorption. Journal of Chemical Physics, 2002, 116, 5058.	1.2	21
61	Feynman's ratchet optimization: maximum power and maximum efficiency regimes. Journal Physics D: Applied Physics, 2001, 34, 1000-1006.	1.3	79
62	Unified optimization criterion for energy converters. Physical Review E, 2001, 63, 037102.	0.8	104
63	Optimization of heat engines including the saving of natural resources and the reduction of thermal pollution. Journal Physics D: Applied Physics, 2000, 33, 355-359.	1.3	51
64	Estimation of the quadrupole and hexadecapole moments of N2 from the far-infrared spectrum of a N2â€"Xe gaseous mixture. Journal of Chemical Physics, 1999, 110, 5218-5223.	1.2	14
65	Experimental and theoretical study of the far-infrared spectra of HCl dissolved in liquid Ar, Kr, and Xe. Molecular Physics, 1999, 96, 1115-1124.	0.8	8
66	Electric multipolar induction in the far-infrared spectra of CO in liquid Ar: Translational/rotational contributions and static cancellation effects. Journal of Chemical Physics, 1998, 108, 9480-9486.	1.2	2
67	Irreversible Carnot cycle under per-unit-time efficiency optimization. Applied Physics Letters, 1998, 73, 853-855.	1.5	11
68	Velasco, Roco, Medina, and Calvo HernÃ¡ndez Reply:. Physical Review Letters, 1998, 81, 5470-5470.	2.9	1
69	Many-body components in the integrated far-infrared absorption coefficient of diatomic molecules in spherical solvents. Journal of Chemical Physics, 1997, 107, 4844-4851.	1.2	5
70	New Performance Bounds for a Finite-Time Carnot Refrigerator. Physical Review Letters, 1997, 78, 3241-3244.	2.9	70
71	Irreversible refrigerators under per-unit-time coefficient of performance optimization. Applied Physics Letters, 1997, 71, 1130-1132.	1.5	28
72	Optimum performance of a regenerative Brayton thermal cycle. Journal of Applied Physics, 1997, 82, 2735-2741.	1.1	86

#	Article	IF	Citations
73	Power and efficiency in a regenerative gas-turbine cycle with multiple reheating and intercooling stages. Journal Physics D: Applied Physics, 1996, 29, 1462-1468.	1.3	20
74	Permanent and interaction-induced far-infrared spectra of CO in dense Ar: a molecular dynamics approach. Journal of Molecular Liquids, 1996, 70, 169-183.	2.3	3
75	Regenerative gas turbines at maximum power density conditions. Journal Physics D: Applied Physics, 1996, 29, 2802-2805.	1.3	54
76	An irreversible and optimized four stroke cycle model for automotive engines. European Journal of Physics, 1996, 17, 11-18.	0.3	13
77	Theoretical analysis of the far-infrared spectra of HCl in liquid Ar along the Ar liquid-vapour coexistence line. Journal of Molecular Liquids, 1995, 63, 251-264.	2.3	4
78	Farâ€infrared permanent and induced dipole absorption of diatomic molecules in rareâ€gas fluids. II. Application to the COâ€“Ar system. Journal of Chemical Physics, 1995, 103, 9175-9186.	1.2	19
79	On an irreversible air standard Otto-cycle model. European Journal of Physics, 1995, 16, 73-75.	0.3	21
80	Power and efficiency in a regenerative gas turbine. Journal Physics D: Applied Physics, 1995, 28, 2020-2023.	1.3	28
81	Farâ€infrared spectra of HCl in dense Ar and timeâ€dependent anisotropic potential autocorrelation functions. A molecular dynamics study. Journal of Chemical Physics, 1994, 100, 252-261.	1.2	10
82	Memory and nonadditivity effects on the far-infrared spectra of DCl, HCl and HF in liquid SF6. Chemical Physics Letters, 1993, 202, 364-370.	1.2	1
83	Theoretical far-infrared spectra of CO in Ar gas. Chemical Physics Letters, 1993, 216, 593-598.	1.2	5
84	Study of the contribution from the J = 1 and J = 2 parts of the anisotropic potential to the far-infrared spectra of HCl in Ar, Kr and Xe liquids.. Journal of Molecular Structure, 1993, 294, 99-102.	1.8	3
85	Mixing and memory effects on the far-infrared spectra of HF in liquid SF6.. Journal of Molecular Structure, 1993, 294, 91-94.	1.8	1
86	Far-infrared spectra of HCl in dense Ar: analysis of two time correction functions for the interaction. Journal of Molecular Structure, 1993, 294, 95-98.	1.8	2
87	Line-by-line far-infrared spectra of HCl in dense Ar: Asymmetric profiles. Physical Review A, 1992, 45, 5289-5292.	1.0	7
88	Analysis of memory and nonadditivity effects on the far infrared spectra of HCl in rare gas liquids. Journal of Molecular Liquids, 1992, 54, 67-72.	2.3	3
89	Quantitative study of memory and nonadditivity effects of the far-infrared spectrum of HCl in dense Ar. Physical Review A, 1991, 44, 3023-3031.	1.0	17