

Umberto Lucia

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3891037/publications.pdf>

Version: 2024-02-01

111
papers

2,369
citations

218381

26
h-index

276539

41
g-index

123
all docs

123
docs citations

123
times ranked

1238
citing authors

#	ARTICLE	IF	CITATIONS
1	A thermoeconomic indicator for the sustainable development with social considerations. Environment, Development and Sustainability, 2022, 24, 2022-2036.	2.7	21
2	Thermal resonance in living cells to control their heat exchange: Possible applications in cancer treatment. International Communications in Heat and Mass Transfer, 2022, 131, 105842.	2.9	4
3	Sustainability analyses of photovoltaic electrolysis and magnetic heat engine coupled novel system used for hydrogen production and electricity generation. Sustainable Energy Technologies and Assessments, 2022, 52, 102094.	1.7	2
4	Why does thermomagnetic resonance affect cancer growth? A non-equilibrium thermophysical approach. Journal of Thermal Analysis and Calorimetry, 2022, 147, 5525-5531.	2.0	1
5	Biomethanation of Rice Straw: A Sustainable Perspective for the Valorisation of a Field Residue in the Energy Sector. Sustainability, 2022, 14, 5679.	1.6	8
6	Sustainable Development and Workers Ability: Considerations on the Education Index in the Human Development Index. Sustainability, 2022, 14, 8372.	1.6	4
7	Thermoeconomic analysis of Earth system in relation to sustainability: a thermodynamic analysis of weather changes due to anthropic activities. Journal of Thermal Analysis and Calorimetry, 2021, 145, 701-707.	2.0	14
8	Biofuels from Micro-Organisms: Thermodynamic Considerations on the Role of Electrochemical Potential on Micro-Organisms Growth. Applied Sciences (Switzerland), 2021, 11, 2591.	1.3	6
9	Nonequilibrium Temperature: An Approach from Irreversibility. Materials, 2021, 14, 2004.	1.3	8
10	Entropy estimation within in vitro neural-astrocyte networks as a measure of development instability. Physical Review E, 2021, 103, 042412.	0.8	1
11	The Gouy-Stodola Theoremâ€”From Irreversibility to Sustainabilityâ€”The Thermodynamic Human Development Index. Sustainability, 2021, 13, 3995.	1.6	24
12	Irreversible Thermodynamics and Bioeconomy: Toward a Human-Oriented Sustainability. Frontiers in Physics, 2021, 9, .	1.0	15
13	The Potential of Visible and Far-Red to Near-Infrared Light in Glaucoma Neuroprotection. Applied Sciences (Switzerland), 2021, 11, 5872.	1.3	4
14	Thermal Physics and Glaucoma II: Preliminary Evidences for a Thermophysical Design of a Possible Visible-Light-Photons Therapy. Applied Sciences (Switzerland), 2021, 11, 6301.	1.3	1
15	Thermoeconomic Analysis of Alessandria District: A Case Study for an Engineering Thermodynamic Indicator for Sustainability. Tecnica Italiana, 2021, 65, 151-156.	0.2	1
16	Biofuels Analysis Based on the THDI Indicator of Sustainability. Frontiers in Energy Research, 2021, 9, .	1.2	10
17	Economic and Human Features for Energy and Environmental Indicators: A Tool to Assess Countriesâ€™ Progress towards Sustainability. Sustainability, 2020, 12, 9716.	1.6	9
18	Entropy-Based Pandemics Forecasting. Frontiers in Physics, 2020, 8, .	1.0	31

#	ARTICLE	IF	CITATIONS
19	Thermal Resonance and Cell Behavior. Entropy, 2020, 22, 774.	1.1	18
20	Thermomagnetic resonance affects cancer growth and motility. Royal Society Open Science, 2020, 7, 200299.	1.1	18
21	Alzheimer's Disease: A Thermodynamic Perspective. Applied Sciences (Switzerland), 2020, 10, 7562.	1.3	1
22	How Life Works? A Continuous Seebeck-Peltier Transition in Cell Membrane?. Entropy, 2020, 22, 960.	1.1	17
23	Time, Irreversibility and Entropy Production in Nonequilibrium Systems. Entropy, 2020, 22, 887.	1.1	26
24	The $\hat{\rho}$ -statistics approach to epidemiology. Scientific Reports, 2020, 10, 19949.	1.6	44
25	Thermal Physics and Glaucoma: From Thermodynamic to Biophysical Considerations to Designing Future Therapies. Applied Sciences (Switzerland), 2020, 10, 7071.	1.3	8
26	Seebeck's Peltier Transition Approach to Oncogenesis. Applied Sciences (Switzerland), 2020, 10, 7166.	1.3	2
27	Thermodynamic optimisation of the biofuel production based on mutualism. Energy Reports, 2020, 6, 1561-1571.	2.5	26
28	Time & clocks: A thermodynamic approach. Results in Physics, 2020, 16, 102977.	2.0	12
29	Non-Equilibrium Thermodynamic Approach to Ca ²⁺ -Fluxes in Cancer. Applied Sciences (Switzerland), 2020, 10, 6737.	1.3	8
30	Time: a Constructal viewpoint & its consequences. Scientific Reports, 2019, 9, 10454.	1.6	15
31	Theoretical biophysical approach to cross-linking effects on eyes pressure. Physica A: Statistical Mechanics and Its Applications, 2019, 534, 122163.	1.2	6
32	The extremely low frequency electromagnetic stimulation selective for cancer cells elicits growth arrest through a metabolic shift. Biochimica Et Biophysica Acta - Molecular Cell Research, 2019, 1866, 1389-1397.	1.9	26
33	Exergy inefficiency: An indicator for sustainable development analysis. Energy Reports, 2019, 5, 62-69.	2.5	47
34	A thermodynamic approach to the microclimate environment of museums. Physica A: Statistical Mechanics and Its Applications, 2019, 517, 66-72.	1.2	2
35	Introduction to Constructal Law Analysis for a Simplified Hourly Energy Balance Model of Residential Buildings at District Scale. Tecnica Italiana, 2019, 63, 13-20.	0.2	2
36	The importance of ion fluxes for cancer proliferation and metastasis: A thermodynamic analysis. Journal of Theoretical Biology, 2018, 445, 1-8.	0.8	9

#	ARTICLE	IF	CITATIONS
37	Thermodynamic considerations on the role of heat and mass transfer in biochemical causes of carcinogenesis. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018, 490, 1164-1170.	1.2	14
38	Unreal perpetual motion machine, Rydberg constant and Carnot non-unitary efficiency as a consequence of the atomic irreversibility. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018, 492, 962-968.	1.2	10
39	Cyanobacteria and Microalgae: Thermoeconomic Considerations in Biofuel Production. <i>Energies</i> , 2018, 11, 156.	1.6	22
40	Celebration of Professor Adrian Bejan on his 70th birthday. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 1377-1378.	2.5	1
41	Cancer Risk in Patients With Cystic Fibrosis. <i>Gastroenterology</i> , 2018, 154, 2282-2283.	0.6	2
42	Unavailability percentage as energy planning and economic choice parameter. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 75, 197-204.	8.2	25
43	Ground-source pump system for heating and cooling: Review and thermodynamic approach. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 70, 867-874.	8.2	118
44	Constructal law analysis of Cl ⁻ transport in eyes aqueous humor. <i>Scientific Reports</i> , 2017, 7, 6856.	1.6	24
45	Irreversible thermodynamic analysis and application for molecular heat engines. <i>Chemical Physics</i> , 2017, 494, 47-55.	0.9	15
46	An engineering thermodynamic approach to select the electromagnetic wave effective on cell growth. <i>Journal of Theoretical Biology</i> , 2017, 429, 181-189.	0.8	23
47	Some thermodynamic considerations on low frequency electromagnetic waves effects on cancer invasion and metastasis. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017, 467, 289-295.	1.2	10
48	Second law efficiency for living cells. <i>Frontiers in Bioscience - Scholar</i> , 2017, 9, 270-275.	0.8	28
49	The wasted primary resource value: an indicator for the thermodynamics of sustainability for municipalities policy. <i>International Journal of Thermodynamics</i> , 2017, 20, 166-172.	0.4	3
50	Econophysics and bio-chemical engineering thermodynamics: The exergetic analysis of a municipality. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 462, 421-430.	1.2	24
51	Macroscopic irreversibility and microscopic paradox: A Constructal law analysis of atoms as open systems. <i>Scientific Reports</i> , 2016, 6, 35796.	1.6	21
52	Constructal approach to bio-engineering: the ocular anterior chamber temperature. <i>Scientific Reports</i> , 2016, 6, 31099.	1.6	21
53	Constructal approach to cell membranes transport: Amending the "Norton-Simon" hypothesis for cancer treatment. <i>Scientific Reports</i> , 2016, 6, 19451.	1.6	18
54	Electromagnetic waves and living cells: A kinetic thermodynamic approach. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 461, 577-585.	1.2	7

#	ARTICLE	IF	CITATIONS
55	Second law considerations on the third law: From Boltzmann and Loschmidt paradox to non equilibrium temperature. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 444, 121-128.	1.2	10
56	Considerations on non equilibrium thermodynamics of interactions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 447, 314-319.	1.2	15
57	Thermodynamic considerations on Ca ²⁺ -induced biochemical reactions in living cells. <i>Chemical Physics Letters</i> , 2016, 645, 84-87.	1.2	3
58	Investigating the impact of electromagnetic fields on human cells: A thermodynamic perspective. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 443, 42-48.	1.2	9
59	Irreversibility in river flow. <i>International Journal of Heat and Technology</i> , 2016, 34, S95-S100.	0.3	0
60	Irreversibility in river flow. <i>International Journal of Heat and Technology</i> , 2016, 34, S95-S100.	0.3	2
61	Bioengineering thermodynamics of biological cells. <i>Theoretical Biology and Medical Modelling</i> , 2015, 12, 29.	2.1	49
62	The Second Law Today: Using Maximum-Minimum Entropy Generation. <i>Entropy</i> , 2015, 17, 7786-7797.	1.1	10
63	Some considerations on molecular machines and Loschmidt paradox. <i>Chemical Physics Letters</i> , 2015, 623, 98-100.	1.2	16
64	Constructal thermodynamics combined with infrared experiments to evaluate temperature differences in cells. <i>Scientific Reports</i> , 2015, 5, 11587.	1.6	29
65	Fokker-Planck Equation and Thermodynamic System Analysis. <i>Entropy</i> , 2015, 17, 763-771.	1.1	5
66	A thermodynamic approach to the $\frac{\text{mitosis}}{\text{apoptosis}}$ ratio in cancer. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2015, 436, 246-255.	1.2	26
67	Entropy production and generation: Clarity from nanosystems considerations. <i>Chemical Physics Letters</i> , 2015, 629, 87-90.	1.2	15
68	A Link between Nano- and Classical Thermodynamics: Dissipation Analysis (The Entropy Generation) $T_j \frac{dQ_j}{T_j} - \frac{dQ}{T}$ / <i>Overlock 10 Tf 5</i>	1.1	26
69	GeV plasmons and spalling neutrons from crushing of iron-rich natural rocks. <i>Chemical Physics Letters</i> , 2015, 640, 112-114.	1.2	6
70	Quanta and entropy generation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2015, 419, 115-121.	1.2	21
71	Bio-engineering thermodynamics: an engineering science for thermodynamics of biosystems. <i>International Journal of Thermodynamics</i> , 2015, 18, 254.	0.4	24
72	The Gouy-Stodola Theorem in Bioenergetic Analysis of Living Systems (Irreversibility in Bioenergetics) $T_j \frac{dQ_j}{T_j} - \frac{dQ}{T}$ / <i>Overlock 10 Tf 5</i>	1.6	40

#	ARTICLE	IF	CITATIONS
73	Entropy generation approach to cell systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 406, 1-11.	1.2	36
74	Entropy generation and cell growth with comments for a thermodynamic anticancer approach. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 406, 107-118.	1.2	30
75	Transport processes in biological systems: Tumoral cells and human brain. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 393, 327-336.	1.2	15
76	Entropy generation: Minimum inside and maximum outside. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 396, 61-65.	1.2	17
77	Entropy generation and the Fokker-Planck equation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 393, 256-260.	1.2	15
78	Overview on fuel cells. <i>Renewable and Sustainable Energy Reviews</i> , 2014, 30, 164-169.	8.2	237
79	Thermodynamic approach to nano-properties of cell membrane. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 407, 185-191.	1.2	25
80	Transport processes and irreversible thermodynamics analysis in tumoral systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 410, 380-390.	1.2	21
81	A thermo-physical analysis of the proton pump vacuolar-ATPase: the constructal approach. <i>Scientific Reports</i> , 2014, 4, 6763.	1.6	29
82	Entropy and exergy in irreversible renewable energy systems. <i>Renewable and Sustainable Energy Reviews</i> , 2013, 20, 559-564.	8.2	47
83	Thermodynamics and cancer stationary states. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 3648-3653.	1.2	37
84	Stationary open systems: A brief review on contemporary theories on irreversibility. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 1051-1062.	1.2	95
85	Carnot efficiency: Why?. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 3513-3517.	1.2	34
86	Irreversible human brain. <i>Medical Hypotheses</i> , 2013, 80, 112-114.	0.8	14
87	Exergy flows as bases of constructal law. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 6284-6287.	1.2	19
88	Different chemical reaction times between normal and solid cancer cells. <i>Medical Hypotheses</i> , 2013, 81, 58-61.	0.8	13
89	Entropy generation: From outside to inside!. <i>Chemical Physics Letters</i> , 2013, 583, 209-212.	1.2	30
90	Molecular machine as chemical-thermodynamic devices. <i>Chemical Physics Letters</i> , 2013, 556, 242-244.	1.2	20

#	ARTICLE	IF	CITATIONS
91	Adsorber efficiency in adsorption refrigeration. <i>Renewable and Sustainable Energy Reviews</i> , 2013, 20, 570-575.	8.2	17
92	From Lotka to the entropy generation approach. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 3634-3639.	1.2	28
93	Thermodynamic paths and stochastic order in open systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 3912-3919.	1.2	38
94	Multiscale Mesoscopic Entropy of Driven Macroscopic Systems. <i>Entropy</i> , 2013, 15, 5053-5064.	1.1	11
95	Entropy versus entransy. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2013, .	2.4	12
96	Maximum or minimum entropy generation for open systems?. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012, 391, 3392-3398.	1.2	72
97	Irreversibility in biophysical and biochemical engineering. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012, 391, 5997-6007.	1.2	38
98	Nuclear temperature: a global thermodynamic approach. <i>International Journal of Nuclear Energy Science and Technology</i> , 2011, 6, 76.	0.2	4
99	Some considerations on the photofission excitation function. <i>International Journal of Nuclear Energy Science and Technology</i> , 2011, 6, 146.	0.2	1
100	Second law analysis of the ideal Ericsson magnetic refrigeration. <i>Renewable and Sustainable Energy Reviews</i> , 2011, 15, 2872-2875.	8.2	12
101	Maximum entropy generation and -exponential model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 4558-4563.	1.2	33
102	Irreversibility, entropy and incomplete information. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009, 388, 4025-4033.	1.2	38
103	Hydrodynamic cavitation: from theory towards a new experimental approach. <i>Open Physics</i> , 2009, 7, .	0.8	2
104	A pn-pair mass evaluation in nuclear photofission. <i>International Journal of Nuclear Energy Science and Technology</i> , 2009, 4, 196.	0.2	3
105	General approach to obtain the magnetic refrigeration ideal coefficient of performance. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2008, 387, 3477-3479.	1.2	7
106	Statistical approach of the irreversible entropy variation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2008, 387, 3454-3460.	1.2	28
107	Probability, ergodicity, irreversibility and dynamical systems. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2008, 464, 1089-1104.	1.0	55
108	Irreversible entropy variation and the problem of the trend to equilibrium. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 376, 289-292.	1.2	38

#	ARTICLE	IF	CITATIONS
109	Physical model for the engineering analysis of the thermoelasticity of solid bodies. Chinese Journal of Mechanical Engineering (English Edition), 2000, 13, 165.	1.9	5
110	Maximum principle and open systems including two-phase flows. International Journal of Thermal Sciences, 1998, 37, 813-817.	0.2	14
111	Global analysis of dissipations due to irreversibility. International Journal of Thermal Sciences, 1997, 36, 605-609.	0.2	27