Massimiliano Esposito

List of Publications by Year
in descending order

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137 papers	9,466 citations	50566 48 h-index	45040 94 g-index
142 all docs	142 docs citations	142 times ranked	3186 citing authors

#	Article	IF	Citations
1	Quantum collisional thermostats. New Journal of Physics, 2022, 24, 023018.	1.2	5
2	Thermodynamics of concentration vs flux control in chemical reaction networks. Journal of Chemical Physics, 2022, 156, 014116.	1.2	8
3	Beyond thermodynamic uncertainty relations: nonlinear response, error-dissipation trade-offs, and speed limits. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 124002.	0.7	5
4	Finite-Time Dynamical Phase Transition in Nonequilibrium Relaxation. Physical Review Letters, 2022, 128, 110603.	2.9	14
5	Insights from an information thermodynamics analysis of a synthetic molecular motor. Nature Chemistry, 2022, 14, 530-537.	6.6	54
6	Reliability and entropy production in nonequilibrium electronic memories. Physical Review E, 2022, 105, 034107.	0.8	7
7	Free-energy transduction in chemical reaction networks: From enzymes to metabolism. Journal of Chemical Physics, 2022, 157, .	1.2	8
8	Kinetic and energetic insights into the dissipative non-equilibrium operation of an autonomous light-powered supramolecular pump. Nature Nanotechnology, 2022, 17, 746-751.	15.6	40
9	Nonequilibrium thermodynamics of non-ideal chemical reaction networks. Journal of Chemical Physics, 2021, 154, 094114.	1.2	24
10	Characterizing autonomous Maxwell demons. Physical Review E, 2021, 103, 032118.	0.8	11
11	Thermalization Induced by Quantum Scattering. PRX Quantum, 2021, 2, .	3.5	10
12	Local detailed balance across scales: From diffusions to jump processes and beyond. Physical Review E, 2021, 103, 042114.	0.8	12
13	Linear response in large deviations theory: a method to compute non-equilibrium distributions. New Journal of Physics, 2021, 23, 093003.	1.2	6
14	Stochastic Thermodynamics of Nonlinear Electronic Circuits: A Realistic Framework for Computing Around <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>k</mml:mi><mml:mi>T</mml:mi></mml:math>. Physical Review X, 2021, 11, .	2.8	25
15	Nonequilibrium thermodynamics of light-induced reactions. Journal of Chemical Physics, 2021, 155, 114101.	1.2	16
16	Micro-reversibility and thermalization with collisional baths. Physica A: Statistical Mechanics and Its Applications, 2020, 552, 122108.	1.2	11
17	Stochastic and Quantum Thermodynamics of Driven RLC Networks. Physical Review X, 2020, 10, .	2.8	18
18	Open questions on nonequilibrium thermodynamics of chemical reaction networks. Communications Chemistry, 2020, 3, .	2.0	10

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19	Dissipation-Time Uncertainty Relation. Physical Review Letters, 2020, 125, 120604.	2.9	57
20	Measurability of nonequilibrium thermodynamics in terms of the Hamiltonian of mean force. Physical Review E, 2020, 101, 050101.	0.8	17
21	Chemical cloaking. Physical Review E, 2020, 101, 060102.	0.8	14
22	Strong current response to slow modulation: A metabolic case-study. Journal of Chemical Physics, 2020, 152, 134101.	1.2	4
23	Efficiency Fluctuations of Stochastic Machines Undergoing a Phase Transition. Physical Review Letters, 2020, 124, 250603.	2.9	20
24	Effective thermodynamics of two interacting underdamped Brownian particles. Physical Review E, 2020, 101, 022116.	0.8	9
25	Work Statistics across a Quantum Phase Transition. Physical Review Letters, 2020, 124, 170603.	2.9	32
26	Unifying thermodynamic uncertainty relations. New Journal of Physics, 2020, 22, 053046.	1.2	74
27	Stochastic thermodynamics of all-to-all interacting many-body systems. New Journal of Physics, 2020, 22, 063005.	1.2	11
28	Thermodynamics of non-elementary chemical reaction networks. New Journal of Physics, 2020, 22, 093040.	1.2	15
29	Thermodynamics of optical Bloch equations. New Journal of Physics, 2020, 22, 103039.	1.2	28
30	Heat transport in overdamped quantum systems. Physical Review B, 2020, 102, .	1.1	1
31	Reply to â€œComment on â€˜Measurability of nonequilibrium thermodynamics in terms of the Hamiltonian of mean forceâ€™â€. Physical Review E, 2020, 102, 066102.	0.8	3
32	Large deviations and dynamical phase transitions in stochastic chemical networks. Journal of Chemical Physics, 2019, 151, .	1.2	43
33	Negative differential response in chemical reactions. New Journal of Physics, 2019, 21, 073005.	1.2	20
34	Entropy Production in Open Systems: The Predominant Role of Intraenvironment Correlations. Physical Review Letters, 2019, 123, 200603.	2.9	52
35	Thermodynamic efficiency in dissipative chemistry. Nature Communications, 2019, 10, 3865.	5.8	41
36	Thermodynamics of Majority-Logic Decoding in Information Erasure. Entropy, 2019, 21, 284.	1.1	6

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37	Effective Fluctuation and Response Theory. Journal of Statistical Physics, 2019, 176, 94-168.	0.5	18
38	Thermodynamics of Quantum Information Flows. Physical Review Letters, 2019, 122, 150603.	2.9	52
39	Landau-Zener Lindblad equation and work extraction from coherences. Physical Review E, 2019, 99, 042142.	0.8	13
40	Universality in driven Potts models. Physical Review E, 2019, 99, 022135.	0.8	23
41	Thermodynamics of chemical waves. Journal of Chemical Physics, 2019, 151, 234103.	1.2	28
42	Non-Markovianity and negative entropy production rates. Physical Review E, 2019, 99, 012120.	0.8	60
43	Quantum thermodynamics of the resonant-level model with driven system-bath coupling. Physical Review B, 2018, 97, .	1.1	32
44	Conservation laws shape dissipation. New Journal of Physics, 2018, 20, 023007.	1.2	47
45	Fermionic reaction coordinates and their application to an autonomous Maxwell demon in the strong-coupling regime. Physical Review B, 2018, 97, .	1.1	69
46	Detailed Fluctuation Theorems: A Unifying Perspective. Entropy, 2018, 20, 635.	1.1	31
47	Landauer Principle Stands up to Quantum Test. Physics Magazine, 2018, 11, .	0.1	1
48	Thermodynamically consistent coarse graining of biocatalysts beyond Michaelisâ€“Menten. New Journal of Physics, 2018, 20, 042002.	1.2	40
49	Conservation laws and work fluctuation relations in chemical reaction networks. Journal of Chemical Physics, 2018, 149, 245101.	1.2	39
50	Collective Power: Minimal Model for Thermodynamics of Nonequilibrium Phase Transitions. Physical Review X, 2018, 8, .	2.8	47
51	Information Thermodynamics of Turing Patterns. Physical Review Letters, 2018, 121, 108301.	2.9	53
52	Response Functions as Quantifiers of Non-Markovianity. Physical Review Letters, 2018, 121, 040601.	2.9	16
53	Focus on quantum thermodynamics. New Journal of Physics, 2017, 19, 010201.	1.2	35
54	Carnot efficiency at divergent power output. Europhysics Letters, 2017, 118, 40003.	0.7	45

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55	Quantum and Information Thermodynamics: A Unifying Framework Based on Repeated Interactions. Physical Review X, 2017, 7, .	2.8	225
56	Effective Thermodynamics for a Marginal Observer. Physical Review Letters, 2017, 119, 240601.	2.9	51
57	Kinetics and thermodynamics of a driven open quantum system. Physical Review E, 2017, 96, 052132.	0.8	16
58	Stochastic thermodynamics in the strong coupling regime: An unambiguous approach based on coarse graining. Physical Review E, 2017, 95, 062101.	0.8	65
59	Collective effects enhancing power and efficiency. Europhysics Letters, 2017, 120, 30009.	0.7	21
60	Quantum Thermodynamics with Degenerate Eigenstate Coherences. Entropy, 2016, 18, 447.	1.1	33
61	Nonequilibrium Thermodynamics of Chemical Reaction Networks: Wisdom from Stochastic Thermodynamics. Physical Review X, 2016, 6, .	2.8	110
62	Overdamped stochastic thermodynamics with multiple reservoirs. Physical Review E, 2016, 94, 062148.	0.8	25
63	Work producing reservoirs: Stochastic thermodynamics with generalized Gibbs ensembles. Physical Review E, 2016, 94, 020102.	0.8	21
64	Dissipation in small systems: Landau-Zener approach. Physical Review E, 2016, 93, 062118.	0.8	7
65	Conservation laws and symmetries in stochastic thermodynamics. Physical Review E, 2016, 94, 052117.	0.8	28
66	Fluctuation-Dissipation Relations Far from Equilibrium. Physical Review Letters, 2016, 117, 180601.	2.9	32
67	Tightening the uncertainty principle for stochastic currents. Physical Review E, 2016, 94, 052104.	0.8	106
68	Nature of heat in strongly coupled open quantum systems. Physical Review B, 2015, 92, .	1.1	105
69	Stochastic thermodynamics of hidden pumps. Physical Review E, 2015, 91, 052114.	0.8	26
70	Dissipation in noisy chemical networks: The role of deficiency. Journal of Chemical Physics, 2015, 143, 184103.	1.2	30
71	Glucans monomer-exchange dynamics as an open chemical network. Journal of Chemical Physics, 2015, 143, 244903.	1.2	7
72	Kinetics and thermodynamics of reversible polymerization in closed systems. New Journal of Physics, 2015, 17, 085008.	1.2	11

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73	Double quantum dot coupled to a quantum point contact: a stochastic thermodynamics approach. New Journal of Physics, 2015, 17, 095005.	1.2	16
74	Efficiency Statistics at All Times: Carnot Limit at Finite Power. Physical Review Letters, 2015, 114, 050601.	2.9	114
75	Quantum Thermodynamics: A Nonequilibrium Greenâ€™s Function Approach. Physical Review Letters, 2015, 114, 080602.	2.9	139
76	Stochastic thermodynamics of rapidly driven systems. New Journal of Physics, 2015, 17, 055002.	1.2	47
77	Thermodynamics of the polaron master equation at finite bias. Journal of Chemical Physics, 2015, 142, 134106.	1.2	16
78	Efficiency fluctuations in quantum thermoelectric devices. Physical Review B, 2015, 91, .	1.1	53
79	Ensemble and trajectory thermodynamics: A brief introduction. Physica A: Statistical Mechanics and Its Applications, 2015, 418, 6-16.	1.2	262
80	Work statistics in stochastically driven systems. New Journal of Physics, 2014, 16, 095001.	1.2	37
81	Transient fluctuation theorems for the currents and initial equilibrium ensembles. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P10033.	0.9	21
82	Thermodynamics with Continuous Information Flow. Physical Review X, 2014, 4, .	2.8	181
83	Mutual entropy production in bipartite systems. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P04010.	0.9	31
84	Universal theory of efficiency fluctuations. Physical Review E, 2014, 90, 052145.	0.8	89
85	Irreversible thermodynamics of open chemical networks. I. Emergent cycles and broken conservation laws. Journal of Chemical Physics, 2014, 141, 024117.	1.2	96
86	Exact fluctuation theorem without ensemble quantities. Physical Review E, 2014, 89, 052119.	0.8	34
87	The unlikely Carnot efficiency. Nature Communications, 2014, 5, 4721.	5.8	181
88	Nonconvexity of the relative entropy for Markov dynamics: A Fisher information approach. Physical Review E, 2013, 88, 012112.	0.8	27
89	Entropy-generated power and its efficiency. Physical Review E, 2013, 88, 042115.	0.8	6
90	Thermodynamics of quantum-jump-conditioned feedback control. Physical Review E, 2013, 88, 062107.	0.8	25

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91	Thermodynamics of a Physical Model Implementing a Maxwell Demon. Physical Review Letters, 2013, 110, 040601.	2.9	183
92	Single-electron transistor strongly coupled to vibrations: counting statistics and fluctuation theorem. New Journal of Physics, 2013, 15, 033032.	1.2	42
93	Effective fluctuation theorems for electron transport in a double quantum dot coupled to a quantum point contact. Physical Review B, 2013, 88, .	1.1	23
94	Modulated two-level system: Exact work statistics. Physical Review E, 2013, 88, 032137.	0.8	22
95	Finite-time erasing of information stored in fermionic bits. Physical Review E, 2013, 87, 012111.	0.8	54
96	Entropy production in quantum Brownian motion. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P04005.	0.9	37
97	Stochastic thermodynamics for â€œMaxwell demonâ€•feedbacks. Europhysics Letters, 2012, 99, 30003.	0.7	90
98	Stochastically driven single-level quantum dot: A nanoscale finite-time thermodynamic machine and its various operational modes. Physical Review E, 2012, 85, 031117.	0.8	56
99	Stochastic thermodynamics under coarse graining. Physical Review E, 2012, 85, 041125.	0.8	254
100	Nonequilibrium Thermodynamics and Noseâ^'Hoover Dynamics. Journal of Physical Chemistry B, 2011, 115, 5144-5147.	1.2	9
101	Fluctuation theorems for capacitively coupled electronic currents. Physical Review B, 2011, 84, .	1.1	54
102	Second law and Landauer principle far from equilibrium. Europhysics Letters, 2011, 95, 40004.	0.7	259
103	Thermodynamics of a stochastic twin elevator. Physical Review E, 2011, 84, 051134.	0.8	12
104	Finite-time thermodynamics for a single-level quantum dot. Europhysics Letters, 2010, 89, 20003.	0.7	82
105	Extracting chemical energy by growing disorder: efficiency at maximum power. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P01008.	0.9	26
106	Entropy production as correlation between system and reservoir. New Journal of Physics, 2010, 12, 013013.	1.2	299
107	On the relation between event-based and time-based current statistics. Europhysics Letters, 2010, 89, 10008.	0.7	5
108	Quantum-dot Carnot engine at maximum power. Physical Review E, 2010, 81, 041106.	0.8	205

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109	Efficiency at Maximum Power of Low-Dissipation Carnot Engines. Physical Review Letters, 2010, 105, 150603.	2.9	441
110	Three faces of the second law. I. Master equation formulation. Physical Review E, 2010, 82, 011143.	0.8	252
111	Three faces of the second law. II. Fokker-Planck formulation. Physical Review E, 2010, 82, 011144.	0.8	167
112	Self-Consistent Quantum Master Equation Approach to Molecular Transport. Journal of Physical Chemistry C, 2010, 114, 20362-20369.	1.5	60
113	Three Detailed Fluctuation Theorems. Physical Review Letters, 2010, 104, 090601.	2.9	321
114	Transport in molecular states language: Generalized quantum master equation approach. Physical Review B, 2009, 79, .	1.1	86
115	Pulse propagation in tapered granular chains: An analytic study. Physical Review E, 2009, 80, 031303.	0.8	47
116	Pulse propagation in decorated granular chains: An analytical approach. Physical Review E, 2009, 80, 051302.	0.8	41
117	Thermoelectric efficiency at maximum power in a quantum dot. Europhysics Letters, 2009, 85, 60010.	0.7	278
118	Universality of Efficiency at Maximum Power. Physical Review Letters, 2009, 102, 130602.	2.9	349
119	Reaching optimal efficiencies using nanosized photoelectric devices. Physical Review B, 2009, 80, .	1.1	105
120	Nonequilibrium fluctuations, fluctuation theorems, and counting statistics in quantum systems. Reviews of Modern Physics, 2009, 81, 1665-1702.	16.4	1,067
121	Single-Electron Counting Spectroscopy: Simulation Study of Porphyrin in a Molecular Junction. Nano Letters, 2008, 8, 1137-1141.	4.5	20
122	Interference effects in the counting statistics of electron transfers through a double quantum dot. Physical Review B, 2008, 77, .	1.1	48
123	Continuous-time random walk for open systems: Fluctuation theorems and counting statistics. Physical Review E, 2008, 77, 051119.	0.8	50
124	Statistics and fluctuation theorem for boson and fermion transport through mesoscopic junctions. Physical Review B, 2007, 76, .	1.1	30
125	Quantum master equation for the microcanonical ensemble. Physical Review E, 2007, 76, 041134.	0.8	23
126	Entropy fluctuation theorems in driven open systems: Application to electron counting statistics. Physical Review E, 2007, 76, 031132.	0.8	112

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127	Fluctuation theorem for counting statistics in electron transport through quantum junctions. Physical Review B, 2007, 75, .	1.1	63
128	Quantum master equation for electron transport through quantum dots and single molecules. Physical Review B, 2006, 74, .	1.1	203
129	Fluctuation theorems for quantum master equations. Physical Review E, 2006, 73, 046129.	0.8	130
130	Decoherence and kinetic processes in quantum nanosystems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 341, 435-440.	0.9	2
131	Exactly Solvable Model of Quantum Diffusion. Journal of Statistical Physics, 2005, 121, 463-496.	0.5	22
132	Emergence of diffusion in finite quantum systems. Physical Review B, 2005, 71, .	1.1	35
133	Overdamping by weakly coupled environments. Physical Review A, 2005, 72, .	1.0	2
134	Dissipative quantum dynamics in terms of a reduced density matrix distributed over the environment energy. Europhysics Letters, 2004, 65, 742-748.	0.7	6
135	Quantum master equation for a system influencing its environment. Physical Review E, 2003, 68, 066112.	0.8	62
136	Spin relaxation in a complex environment. Physical Review E, 2003, 68, 066113.	0.8	44
137	Quantum scattering as a work source. Quantum - the Open Journal for Quantum Science, 0, 6, 750.	0.0	3