Gian Paolo Beretta

List of Publications by Year
in descending order

80	1,473	331538	360920
papers	citations	21	35
		h-index	g-index

81	81	81	691
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Reformulation of Degree of Disequilibrium Analysis for Automatic Selection of Kinetic Constraints in the Rate-Controlled Constrained-Equilibrium Method. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	1.4	0
2	Dynamic Approach to Evaluate the Effect of Reducing District Heating Temperature on Indoor Thermal Comfort. Energies, 2021, 14, 25.	1.6	14
3	The fourth law of thermodynamics: steepest entropy ascent. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190168.	1.6	20
4	Time–Energy and Time–Entropy Uncertainty Relations in Nonequilibrium Quantum Thermodynamics under Steepest-Entropy-Ascent Nonlinear Master Equations. Entropy, 2019, 21, 679.	1.1	5
5	Exergy loss based allocation method for hybrid renewable-fossil power plants applied to an integrated solar combined cycle. Energy, 2019, 173, 893-901.	4.5	11
6	Physics of nanoscale immiscible fluid displacement. Physical Review Fluids, 2019, 4, .	1.0	7
7	Ergodicity, Maximum Entropy Production, and Steepest Entropy Ascent in the Proofs of Onsager's Reciprocal Relations. Journal of Non-Equilibrium Thermodynamics, 2018, 43, 101-110.	2.4	2
8	Systematic Constraint Selection Strategy for Rate-Controlled Constrained-Equilibrium Modeling of Complex Nonequilibrium Chemical Kinetics. Journal of Non-Equilibrium Thermodynamics, 2018, 43, 121-130.	2.4	6
9	Validation of the ASVDADD Constraint Selection Algorithm for Effective RCCE Modeling of Natural Gas Ignition in Air. Journal of Energy Resources Technology, Transactions of the ASME, 2018, 140, .	1.4	4
10	Extending Degree of Disequilibrium Analysis for Automatic Selection of Kinetic Constraints in the Rate-Controlled Constrained-Equilibrium Method. , 2018, , .		0
11	Steepest-entropy-ascent nonequilibrium quantum thermodynamic framework to model chemical reaction rates at an atomistic level. Physical Review E, 2017, 95, 042139.	0.8	15
12	Multi-physics interactions drive VEGFR2 relocation on endothelial cells. Scientific Reports, 2017, 7, 16700.	1.6	19
13	On the thermodynamic properties of thermal plasma in the flame kernel of hydrocarbon/air premixed gases. European Physical Journal D, 2016, 70, 1.	0.6	19
14	Validation of the ASVDADD Constraint Selection Algorithm for Effective RCCE Modeling of Natural Gas Ignition in Air. , 2016, , .		2
15	Degree of Disequilibrium analysis for automatic selection of kinetic constraints in the Rate-Controlled Constrained-Equilibrium method. Combustion and Flame, 2016, 168, 342-364.	2.8	24
16	A Novel Sequence of Exposition of Engineering Thermodynamics*. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	2
17	Steepest-entropy-ascent quantum thermodynamic modeling of decoherence in two different microscopic composite systems. Physical Review A, 2015, 91, .	1.0	33
18	What is the Third Law?. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	1

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19	What is a Simple System?*. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	5
20	Electromagnetic Radiation: A Carrier of Energy and Entropy*. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	5
21	What is a Chemical Equilibrium State?*. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	3
22	Essential equivalence of the general equation for the nonequilibrium reversible-irreversible coupling (GENERIC) and steepest-entropy-ascent models of dissipation for nonequilibrium thermodynamics. Physical Review E, 2015, 91, 042138.	0.8	29
23	What is the Second LAW?*. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	2
24	What is Heat?. Journal of Energy Resources Technology, Transactions of the ASME, 2015, 137, .	1.4	4
25	Recent Progress in the Definition of Thermodynamic Entropy. Entropy, 2014, 16, 1547-1570.	1.1	26
26	Allocating resources and products in multi-hybrid multi-cogeneration: What fractions of heat and power are renewable in hybrid fossil-solar CHP?. Energy, 2014, 78, 587-603.	4.5	15
27	Steepest entropy ascent model for far-nonequilibrium thermodynamics: Unified implementation of the maximum entropy production principle. Physical Review E, 2014, 90, 042113.	0.8	59
28	Allocating electricity production from a hybrid fossil-renewable power plant among its multi primary resources. Energy, 2013, 60, 344-360.	4.5	16
29	Steepest-Entropy-Ascent Quantum Thermodynamic Non-Equilibrium Modeling of Decoherence of a Composite System of Two Interacting Spin-Â½ Systems. , 2013, , .		3
30	What Fraction of the Electrical Energy Produced in a Hybrid Solar-Fossil Power Plant Should Qualify as â€˜Renewable Electricityâ€™?. , 2013, , .		2
31	Heat transfer enhancement by spinodal decomposition in micro heat exchangers. MATEC Web of Conferences, 2013, 3, 01075.	0.1	0
32	Steepest Entropy Ascent Models of the Boltzmann Equation: Comparisons With Hard-Sphere Dynamics and Relaxation-Time Models for Homogeneous Relaxation From Highly Non-Equilibrium States. , 2013, , .		1
33	What Fraction of the Fuel Consumed by a Heat-and-Power Cogeneration Facility Should Be Allocated to the Heat Produced? Old Problem, Novel Approach. , 2013, , .		0
34	The Rate-Controlled Constrained-Equilibrium Approach to Far-From-Local-Equilibrium Thermodynamics. Entropy, 2012, 14, 92-130.	1.1	49
35	Heat transfer enhancement by spinodal decomposition in micro heat exchangers. Experimental Thermal and Fluid Science, 2012, 42, 38-45.	1.5	14
36	Novel approach for fair allocation of primary energy consumption among cogenerated energy-intensive products based on the actual local area production scenario. Energy, 2012, 44, 1107-1120.	4.5	18

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37	Quantum thermodynamic Carnot and Otto-like cycles for a two-level system. Europhysics Letters, 2012, 99, 20005.	0.7	30
38	Heat transfer enhancement in a small pipe by spinodal decomposition of a low viscosity, liquid?liquid, strongly non-regular mixture. International Journal of Heat and Mass Transfer, 2012, 55, 897-906.	2.5	11
39	Maximum entropy production rate in quantum thermodynamics. Journal of Physics: Conference Series, 2010, 237, 012004.	0.3	37
40	Dissolution of a Liquid Microdroplet in a Nonideal Liquid-Liquid Mixture Far from Thermodynamic Equilibrium. Physical Review Letters, 2009, 103, 064501.	2.9	44
41	Nonlinear quantum evolution equations to model irreversible adiabatic relaxation with maximal entropy production and other nonunitary processes. Reports on Mathematical Physics, 2009, 64, 139-168.	0.4	73
42	Minimal dissipation rate approach to correlate phase inversion data. International Journal of Multiphase Flow, 2008, 34, 684-689.	1.6	12
43	Where is the entropy challenge?. , 2008, , .		8
44	The Second Law from Locally Maximal Entropy Generation Quantum Dynamics. , 2008, , .		1
45	Discussion on â€œFrontiers of the Second Lawâ€. , 2008, , .		0
46	Discussion on â€œTeaching the Second Lawâ€. , 2008, , .		0
47	Discussion on â€œThe Second Law and Energyâ€. , 2008, , .		0
48	The Second Law and Statistical Mechanics. , 2008, , .		1
49	Rigorous Axiomatic Definition of Entropy Valid Also for Non-Equilibrium States. , 2008, , .		1
50	Contact Geometry of Nonequilibrium Thermodynamics. , 2008, , .		3
51	Modeling Non-Equilibrium Dynamics of a Discrete Probability Distribution: General Rate Equation for Maximal Entropy Generation in a Maximum-Entropy Landscape with Time-Dependent Constraints. Entropy, 2008, 10, 160-182.	1.1	28
52	Evidence of convective heat transfer enhancement induced by spinodal decomposition. Physical Review E, 2007, 75, 066306.	0.8	26
53	WELL-BEHAVED NONLINEAR EVOLUTION EQUATION FOR STEEPEST-ENTROPY-ASCENT DISSIPATIVE QUANTUM DYNAMICS. International Journal of Quantum Information, 2007, 05, 249-255.	0.6	15
54	World energy consumption and resources: an outlook for the rest of the century. International Journal of Environmental Technology and Management, 2007, 7, 99.	0.1	25

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55	Nonlinear Dynamical Equation for Irreversible, Steepest-Entropy-Ascent Relaxation to Stable Equilibrium. AIP Conference Proceedings, 2007, , .	0.3	1
56	Effects of quenching rate and viscosity on spinodal decomposition. Physical Review E, 2006, 74, 011507.	0.8	29
57	Nonlinear model dynamics for closed-system, constrained, maximal-entropy-generation relaxation by energy redistribution. Physical Review E, 2006, 73, 026113.	0.8	70
58	THE HATSOPOULOSâ€"GYFTOPOULOS RESOLUTION OF THE SCHRÃ—DINGERâ€"PARK PARADOX ABOUT THE CONCEPT OF "STATE" IN QUANTUM STATISTICAL MECHANICS. Modern Physics Letters A, 2006, 21, 2799-2811.	0.5	7
59	NONLINEAR EXTENSIONS OF SCHRÃ—DINGERâ€"VON NEUMANN QUANTUM DYNAMICS: A SET OF NECESSARY CONDITIONS FOR COMPATIBILITY WITH THERMODYNAMICS. Modern Physics Letters A, 2005, 20, 977-984.	0.5	20
60	Thermodynamic derivations of conditions for chemical equilibrium and of Onsager reciprocal relations for chemical reactors. Journal of Chemical Physics, 2004, 121, 2718.	1.2	16
61	Flow and heat transfer in cavities between rotor and stator disks. International Journal of Heat and Mass Transfer, 2003, 46, 2715-2726.	2.5	21
62	Influence of gaseous species transport on the response of solid state gas sensors within enclosures. Sensors and Actuators B: Chemical, 2001, 78, 144-150.	4.0	19
63	What is Diffusion?. Journal of Energy Resources Technology, Transactions of the ASME, 1994, 116, 136-139.	1.4	2
64	Entropy Generation Rate in a Chemically Reacting System. Journal of Energy Resources Technology, Transactions of the ASME, 1993, 115, 208-212.	1.4	16
65	Boiling regimes in a closed two-phase thermosyphon. International Journal of Heat and Mass Transfer, 1990, 33, 2099-2110.	2.5	46
66	Solid Slider Bearings Lubricated by Their Own Melting or Sublimation. Journal of Tribology, 1987, 109, 296-300.	1.0	9
67	Steepest entropy ascent in Quantum Thermodynamics. Lecture Notes in Physics, 1987, , 441-443.	0.3	12
68	Quantum thermodynamics of nonequilibrium. Onsager reciprocity and dispersion-dissipation relations. Foundations of Physics, 1987, 17, 365-381.	0.6	35
69	A theorem on Lyapunov stability for dynamical systems and a conjecture on a property of entropy. Journal of Mathematical Physics, 1986, 27, 305-308.	0.5	24
70	A General Nonlinear Evolution Equation for Irreversible Conservative Approach to Stable Equilibrium. NATO ASI Series Series B: Physics, 1986, , 193-204.	0.2	2
71	Intrinsic Entropy and Intrinsic Irreversibility for a Single Isolated Constituent of Matter: Broader Kinematics and Generalized Nonlinear Dynamics. NATO ASI Series Series B: Physics, 1986, , 205-212.	0.2	4
72	Effect of irreversible atomic relaxation on resonance fluorescence, absorption, and stimulated emission. International Journal of Theoretical Physics, 1985, 24, 1233-1258.	0.5	14

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73	Entropy and irreversibility for a single isolated two level system: New individual quantum states and new nonlinear equation of motion. International Journal of Theoretical Physics, 1985, 24, 119-134.	0.5	19
74	Quantum thermodynamics. A new equation of motion for a general quantum system. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1985, 87, 77-97.	0.2	69
75	General Thermodynamic Analysis for Engine Combustion Modeling. , 1985, , .		6
76	On the relation between classical and quantum—thermodynamic entropy. Journal of Mathematical Physics, 1984, 25, 1507-1510.	0.5	18
77	Quantum thermodynamics. A new equation of motion for a single constituent of matter. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1984, 82, 169-191.	0.2	81
78	Turbulent flame propagation and combustion in spark ignition engines. Combustion and Flame, 1983, 52, 217-245.	2.8	161
79	Energy and Entropy Balances in a Combustion Chamber: Analytical Solution. Combustion Science and Technology, 1983, 30, 19-29.	1.2	19
80	Fuel savings and reduction of greenhouse gases in a large waste-to-energy cogeneration facility. , 0, , .		2