Lapo Casetti

List of Publications by Year
in descending order

66 papers	1,703 citations	331670 21 h-index	289244 40 g-index
67 all docs	67 docs citations	67 times ranked	642 citing authors

#	Article	IF	Citations
1	Geometric approach to Hamiltonian dynamics and statistical mechanics. Physics Reports, 2000, 337, 237-341.	25.6	213
2	Riemannian theory of Hamiltonian chaos and Lyapunov exponents. Physical Review E, 1996, 54, 5969-5984.	2.1	122
3	Geometry of Dynamics, Lyapunov Exponents, and Phase Transitions. Physical Review Letters, 1997, 79, 4361-4364.	7.8	121
4	Gaussian Model for Chaotic Instability of Hamiltonian Flows. Physical Review Letters, 1995, 74, 375-378.	7.8	99
5	The Fermi-Pasta-Ulam problem revisited: Stochasticity thresholds in nonlinear Hamiltonian systems. Physical Review E, 1997, 55, 6566-6574.	2.1	83
6	Topological signature of first-order phase transitions in a mean-field model. Europhysics Letters, 2003, 62, 775-781.	2.0	71
7	Efficient symplectic algorithms for numerical simulations of Hamiltonian flows. Physica Scripta, 1995, 51, 29-34.	2.5	70
8	Phase Transitions and Topology Changes in Configuration Space. Journal of Statistical Physics, 2003, 111, 1091-1123.	1.2	61
9	Analytic computation of the strong stochasticity threshold in Hamiltonian dynamics using Riemannian geometry. Physical Review E, 1993, 48, 4320-4332.	2.1	58
10	Partial equivalence of statistical ensembles and kinetic energy. Physica A: Statistical Mechanics and Its Applications, 2007, 384, 318-334.	2.6	52
11	Geometry of dynamics and phase transitions in classical latticeÏ†4theories. Physical Review E, 1998, 57, 3886-3899.	2.1	47
12	Thermodynamics of Nonadditive Systems. Physical Review Letters, 2015, 114, 230601.	7.8	40
13	Weak and strong chaos in Fermiâ€"Pastaâ€"Ulam models and beyond. Chaos, 2005, 15, 015106.	2.5	39
14	Topological Origin of the Phase Transition in a Mean-Field Model. Physical Review Letters, 1999, 82, 4160-4163.	7.8	38
15	Hamiltonian dynamics of the two-dimensional lattice model. Journal of Physics A, 1998, 31, 3357-3381.	1.6	37
16	Topological aspects of geometrical signatures of phase transitions. Physical Review E, 1999, 60, R5009-R5012.	2.1	35
17	First-order coil-globule transition driven by vibrational entropy. Nature Communications, 2012, 3, 1065.	12.8	32
18	Topology and phase transitions: From an exactly solvable model to a relation between topology and thermodynamics. Physical Review E, 2005, 71, 036152.	2.1	31

#	ARTICLE	IF	CITATIONS
19	Exact result on topology and phase transitions at any finiteN. Physical Review E, 2002, 65, 036112.	2.1	28
20	Heat transport in oscillator chains with long-range interactions coupled to thermal reservoirs. Physical Review E, 2018, 97, 032102.	2.1	27
21	Lattice model for cold and warm swelling of polymers in water. Physical Review E, 2000, 61, R2208-R2211.	2.1	23
22	Temperature inversion in long-range interacting systems. Physical Review E, 2015, 92, 020101.	2.1	22
23	Nonanalyticities of Entropy Functions of Finite and Infinite Systems. Physical Review Letters, 2006, 97, 100602.	7.8	21
24	Energy landscape and phase transitions in the self-gravitating ring model. Physical Review E, 2009, 80, 060103.	2.1	19
25	Long-range interacting systems in the unconstrained ensemble. Physical Review E, 2017, 95, 012140.	2.1	18
26	Curvature of the Energy Landscape and Folding of Model Proteins. Physical Review Letters, 2006, 97, 218104.	7.8	17
27	Exploring the energy landscape of XY models. Physical Review E, 2013, 87, .	2.1	17
28	Vortex Structures in a Chain of Coupled Bosonic Wells and the Mott Regime. Journal of Low Temperature Physics, 2002, 126, 455-460.	1.4	15
29	Kinetic energy and microcanonical nonanalyticities in finite and infinite systems. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P07036.	2.3	15
30	Surprises from quenches in long-range-interacting systems: temperature inversion and cooling. New Journal of Physics, 2016, 18, 103051.	2.9	15
31	Caloric curve of star clusters. Physical Review E, 2012, 85, 061105.	2.1	14
32	Velocity filtration and temperature inversion in a system with long-range interactions. European Physical Journal B, 2014, 87, 1.	1.5	14
33	Microcanonical Relation between Continuous and Discrete Spin Models. Physical Review Letters, 2011, 106, 057208.	7.8	12
34	Topological conditions for discrete symmetry breaking and phase transitions. Journal of Physics A, 2006, 39, 529-545.	1.6	10
35	Geometry of the energy landscape and folding transition in a simple model of a protein. Physical Review E, 2008, 77, 051917.	2.1	10
36	A solvable model of a self-gravitating system. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P05006.	2.3	10

#	Article	IF	Citations
37	Concavity, Response Functions and Replica Energy. Entropy, 2018, 20, 907.	2.2	10
38	Relaxation Times in an Anharmonic Crystal with Diluted Impurities. Europhysics Letters, 1995, 32, 549-554.	2.0	9
39	Dynamical origin of non-thermal states in galactic filaments. Monthly Notices of the Royal Astronomical Society, 2018, 475, 1137-1147.	4.4	9
40	Violent relaxation in the Hamiltonian mean field model: I. Cold collapse and effective dissipation. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 043201.	2.3	9
41	Geometric dynamical observables in rare gas crystals. Physical Review E, 1997, 55, 2539-2545.	2.1	8
42	Chaos in effective classical and quantum dynamics. Physical Review E, 1998, 57, R1223-R1226.	2.1	8
43	Phase transitions in Thirring's model. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 073205.	2.3	8
44	Graph theoretical analysis of the energy landscape of model polymers. Physical Review E, 2009, 80, 011905.	2.1	7
45	N-body chaos and the continuum limit in numerical simulations of self-gravitating systems, revisited. Monthly Notices of the Royal Astronomical Society, 2019, 489, 5876-5888.	4.4	7
46	Dynamical and statistical properties of Hamiltonian systems with many degrees of freedom. Rivista Del Nuovo Cimento, 1999, 22, 1-74.	5.7	6
47	Model for the hydration of nonpolar compounds and polymers. Physical Review E, 2001, 64, 051805.	2.1	6
48	Stochastic dynamics of model proteins on a directed graph. Physical Review E, 2009, 79, 061925.	2.1	6
49	Geometry of the energy landscape of the self-gravitating ring. Physical Review E, 2012, 86, 041136.	2.1	6
50	Vibrational entropy and the structural organization of proteins. European Physical Journal E, 2010, 33, 89-96.	1.6	5
51	Discreteness effects, N-body chaos and the onset of radial-orbit instability. Monthly Notices of the Royal Astronomical Society, 2020, 494, 1027-1034.	4.4	5
52	Density of states of continuous and discrete spin models: a case study. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P02007.	2.3	4
53	Reply to "Comment on 'Temperature inversion in long-range interacting systems'". Physical Review E, 2016, 93, 066102.	2.1	4
54	Phase transitions in the unconstrained ensemble. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 014004.	2.3	4

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55	Monte Carlo simulations in the unconstrained ensemble. Physical Review E, 2021, 103, L061303.	2.1	4
56	Critical energy density of $O(n)$ models in d = 3. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P12001.	2.3	4
57	Coarse-grained collisionless dynamics with long-range interactions. Physical Review Research, 2020, 2, .	3.6	4
58	Modeling hydration water and its role in polymer folding. Journal of Biological Physics, 2001, 27, 243-256.	1.5	3
59	Density of states of the <mml:math altimg="si59.gif" display="inline" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.el. Physica A, .	2.6	3
60	Violent relaxation in the Hamiltonian mean field model: II. Non-equilibrium phase diagrams. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 013210.	2.3	3
61	Symplectic coarse graining approach to the dynamics of spherical self-gravitating systems. Monthly Notices of the Royal Astronomical Society, 2022, 512, 3015-3029.	4.4	3
62	Geometric approach to chaos in the classical dynamics of Abelian lattice gauge theory. Journal of Physics A, 1999, 32, 3055-3067.	1.6	2
63	Nuclear fusion in excited hydrogen molecules. Zeitschrift Für Physik A, Atomic Nuclei, 1990, 337, 207-210.	0.3	0
64	Chaos in effective classical and quantum dynamics of nonlinear oscillators. European Physical Journal Special Topics, 1998, 08, Pr6-203-Pr6-207.	0.2	0
65	Traveling towards fame: Albert Einstein and the Eddington eclipse expedition to Príncipe and Sobral in 1919. Studi E Saggi, 0, , 421-440.	0.0	0
66	Noise, friction and the radial-orbit instability in anisotropic stellar systems: stochastic N–body simulations. Proceedings of the International Astronomical Union, 2021, 15, 152-157.	0.0	0