

Roberto Mulet

List of Publications by Year in descending order

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56
papers

730
citations

623734

14
h-index

580821

25
g-index

56
all docs

56
docs citations

56
times ranked

626
citing authors

#	ARTICLE	IF	CITATIONS
1	Real-time dynamics in diluted quantum networks. <i>Physical Review A</i> , 2022, 105, .	2.5	0
2	In silico media optimization for continuous cultures using genome scale metabolic networks: The case of CHO cells. <i>Biotechnology and Bioengineering</i> , 2021, 118, 1884-1897.	3.3	12
3	Quantum cluster variational method and phase diagram of the quantum ferromagnetic Ising model. <i>Physical Review B</i> , 2021, 104, .	13.2	13
4	Path-integral solution of MacArthur's resource-competition model for large ecosystems with random species-resources couplings. <i>Chaos</i> , 2021, 31, 103113.	2.5	0
5	Modeling functional resting-state brain networks through neural message passing on the human connectome. <i>Neural Networks</i> , 2020, 123, 52-69.	5.9	5
6	Statistical mechanics of interacting metabolic networks. <i>Physical Review E</i> , 2020, 101, 042401.	2.1	7
7	Cell population heterogeneity driven by stochastic partition and growth optimality. <i>Scientific Reports</i> , 2019, 9, 9406.	3.3	12
8	Maximum entropy and population heterogeneity in continuous cell cultures. <i>PLoS Computational Biology</i> , 2019, 15, e1006823.	3.2	20
9	Theory of Nonequilibrium Local Search on Random Satisfaction Problems. <i>Physical Review Letters</i> , 2019, 123, 230602.	7.8	6
10	Quantum cluster variational method and message passing algorithms revisited. <i>Physical Review B</i> , 2018, 97, .	3.2	3
11	In silico modelling of apoptosis induced by photodynamic therapy. <i>Journal of Theoretical Biology</i> , 2018, 436, 8-17.	1.7	6
12	Photodynamic therapy: Toward a systemic computational model. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 2018, 189, 201-213.	3.8	5
13	Exploring the diluted ferromagnetic spin model with a cavity master equation. <i>Physical Review E</i> , 2018, 97, 050103.	2.1	6
14	Microenvironmental cooperation promotes early spread and bistability of a Warburg-like phenotype. <i>Scientific Reports</i> , 2017, 7, 3103.	3.3	6
15	Gauge-free cluster variational method by maximal messages and moment matching. <i>Physical Review E</i> , 2017, 95, 043308.	2.1	1
16	Scattering theory of efficient quantum transport across finite networks. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 224003.	1.5	2
17	Characterizing steady states of genome-scale metabolic networks in continuous cell cultures. <i>PLoS Computational Biology</i> , 2017, 13, e1005835.	3.2	22
18	Tumor reactive ringlet oxygen approach for Monte Carlo modeling of photodynamic therapy dosimetry. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 2016, 160, 383-391.	3.8	13

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19	On the role of intrinsic noise on the response of the p53-Mdm2 module. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P09015.	2.3	2
20	Random field Ising model in two dimensions: Bethe approximation, cluster variational method and message passing algorithms. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P07003.	2.3	4
21	Statistical theory of designed quantum transport across disordered networks. <i>Physical Review E</i> , 2015, 91, 042137.	2.1	15
22	Centrosymmetry enhances quantum transport in disordered molecular networks. <i>New Journal of Physics</i> , 2014, 16, 055002.	2.9	21
23	Message passing and Monte Carlo algorithms: Connecting fixed points with metastable states. <i>Europhysics Letters</i> , 2014, 107, 57011.	2.0	9
24	Improving triplet-triplet-annihilation based upconversion systems by tuning their topological structure. <i>Journal of Chemical Physics</i> , 2014, 141, 184104.	3.0	10
25	Identifying All Moiety Conservation Laws in Genome-Scale Metabolic Networks. <i>PLoS ONE</i> , 2014, 9, e100750.	2.5	16
26	QUANTUM TRANSPORT IN BIOLOGICAL FUNCTIONAL UNITS: NOISE, DISORDER, STRUCTURE. <i>Fluctuation and Noise Letters</i> , 2013, 12, 1340007.	1.5	5
27	Optimally Designed Quantum Transport across Disordered Networks. <i>Physical Review Letters</i> , 2013, 111, 180601.	7.8	53
28	Replica cluster variational method: the replica symmetric solution for the 2D random bond Ising model. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013, 46, 135001.	2.1	16
29	Efficiency scaling of non-coherent upconversion in a one-dimensional model system. <i>Journal of Chemical Physics</i> , 2013, 138, 134505.	3.0	2
30	Stochastic approximation to the T cell mediated specific response of the immune system. <i>Journal of Theoretical Biology</i> , 2012, 295, 37-46.	1.7	3
31	Non-Arrhenius relaxation of the Heisenberg model with dipolar and anisotropic interactions. <i>Journal of Magnetism and Magnetic Materials</i> , 2012, 324, 128-134.	2.3	3
32	Reaction Networks as Systems for Resource Allocation: A Variational Principle for Their Non-Equilibrium Steady States. <i>PLoS ONE</i> , 2012, 7, e39849.	2.5	9
33	Dynamics of systems with isotropic competing interactions in an external field: a Langevin approach. <i>European Physical Journal B</i> , 2011, 81, 309-319.	1.5	5
34	Characterizing and improving generalized belief propagation algorithms on the 2D Edwards-Anderson model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, P12007.	2.3	14
35	Inference algorithm for finite-dimensional spin glasses: Belief propagation on the dual lattice. <i>Physical Review E</i> , 2011, 84, 046706.	2.1	10
36	Replica Cluster Variational Method. <i>Journal of Statistical Physics</i> , 2010, 139, 375-416.	1.2	25

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37	H [∞] T phase diagram of the two-dimensional Ising model with exchange and dipolar interactions. <i>Physical Review B</i> , 2010, 81, .	3.2	17
38	Zero temperature solutions of the Edwards-Anderson model in random Husimi lattices. <i>European Physical Journal B</i> , 2008, 65, 117-129.	1.5	9
39	Estimating the size of the solution space of metabolic networks. <i>BMC Bioinformatics</i> , 2008, 9, 240.	2.6	33
40	Langevin dynamics of fluctuation-induced first-order phase transitions: Self-consistent Hartree approximation. <i>Physical Review B</i> , 2007, 75, .	3.2	8
41	The marriage problem: From the bar of appointments to the agency. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 364, 389-402.	2.6	14
42	Evolutionary prisoner's dilemma in random graphs. <i>Physica D: Nonlinear Phenomena</i> , 2005, 208, 257-265.	2.8	60
43	Monte Carlo simulations of the equilibrium and non-equilibrium properties of low-dimensional magnetic systems with long-range dipolar interactions. <i>Journal of Magnetism and Magnetic Materials</i> , 2005, 294, e21-e25.	2.3	3
44	Illumination effects on the inter-grain barrier height distribution in CdTe thin films. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 3734-3737.	0.8	1
45	Adaptive drivers in a model of urban traffic. <i>Europhysics Letters</i> , 2004, 65, 283-289.	2.0	18
46	Coloring Random Graphs. <i>Physical Review Letters</i> , 2002, 89, 268701.	7.8	166
47	Learning to Coordinate in a Complex and Nonstationary World. <i>Physical Review Letters</i> , 2001, 87, 208701.	7.8	17
48	Universality of vortex avalanches in a type II superconductor with periodic pinning. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 275, 15-21.	2.6	7
49	New universality class for the permeability problem in a percolation cluster. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 268, 1-5.	2.6	1
50	Choice of sample size for high transport critical current density in a granular superconductor: percolation versus self-field effects. <i>Superconductor Science and Technology</i> , 1997, 10, 758-762.	3.5	8
51	The azimuthal critical state of a superconducting hollow cylinder. <i>Physica C: Superconductivity and Its Applications</i> , 1997, 292, 39-47.	1.2	1
52	Avalanche behavior in one-dimensional superconductors with a periodic distribution of pinning centers: a Monte Carlo approach. <i>Physica C: Superconductivity and Its Applications</i> , 1997, 281, 317-320.	1.2	2
53	Monte Carlo simulations of J _c (T) dependences for ceramic YBaCuO and BSCCO superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 1996, 262, 227-230.	1.2	2
54	Penetration of circular vortices into a superconducting hollow cylinder. <i>Journal of Superconductivity and Novel Magnetism</i> , 1995, 8, 779-780.	0.5	5

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55	Bean-livingston barriers in ideal type-II superconductors hollow cylinders. Physica C: Superconductivity and Its Applications, 1995, 252, 295-302.	1.2	2
56	Flux Creep Simulations in Hard Superconductors for Different Critical State Models. Physica Status Solidi (B): Basic Research, 1994, 182, K31.	1.5	4