

Joaquin Marro

List of Publications by Year in descending order

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157
papers

3,963
citations

236833

25
h-index

182361

51
g-index

162
all docs

162
docs citations

162
times ranked

1442
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamical scaling of structure function in quenched binary alloys. <i>Acta Metallurgica</i> , 1982, 30, 297-310.	2.1	270
2	Computer Simulation of the Time Evolution of a Quenched Model Alloy in the Nucleation Region. <i>Physical Review Letters</i> , 1979, 43, 282-285.	2.9	262
3	Time evolution of a quenched binary alloy. II. Computer simulation of a three-dimensional model system. <i>Physical Review B</i> , 1975, 12, 2000-2011.	1.1	189
4	Time evolution of a quenched binary alloy. III. Computer simulation of a two-dimensional model system. <i>Physical Review B</i> , 1976, 13, 4328-4335.	1.1	121
5	Time evolution of a quenched binary alloy. IV. Computer simulation of a three-dimensional model system. <i>Physical Review B</i> , 1977, 15, 3014-3026.	1.1	120
6	The interpretation of structure functions in quenched binary alloys. <i>Acta Metallurgica</i> , 1983, 31, 1849-1860.	2.1	106
7	Entropic Origin of Disassortativity in Complex Networks. <i>Physical Review Letters</i> , 2010, 104, 108702.	2.9	106
8	Monte Carlo studies of percolation phenomena for a simple cubic lattice. <i>Journal of Statistical Physics</i> , 1976, 15, 345-353.	0.5	93
9	Computer experiments on phase separation in binary alloys. <i>Advances in Colloid and Interface Science</i> , 1979, 10, 173-214.	7.0	73
10	Growth of clusters in a first-order phase transition. <i>Journal of Statistical Physics</i> , 1978, 19, 243-267.	0.5	71
11	Nonequilibrium second-order phase transitions in stochastic lattice systems: A finite-size scaling analysis in two dimensions. <i>Journal of Statistical Physics</i> , 1987, 49, 89-119.	0.5	70
12	Nonequilibrium phase diagram of Ising model with competing dynamics. <i>Physical Review Letters</i> , 1987, 59, 1934-1937.	2.9	69
13	Influence of topology on the performance of a neural network. <i>Neurocomputing</i> , 2004, 58-60, 229-234.	3.5	67
14	Effective Hamiltonian description of nonequilibrium spin systems. <i>Physical Review Letters</i> , 1989, 62, 1929-1932.	2.9	62
15	Stationary nonequilibrium states in the Ising model with locally competing temperatures. <i>Journal of Statistical Physics</i> , 1987, 49, 551-568.	0.5	54
16	Nonequilibrium phase transition in stochastic lattice gases: Simulation of a three-dimensional system. <i>Journal of Statistical Physics</i> , 1985, 38, 725-733.	0.5	52
17	Nonequilibrium phase transitions in stochastic lattice systems: Influence of the hopping rates. <i>Journal of Statistical Physics</i> , 1986, 43, 441-461.	0.5	48
18	Critical behavior of Ising models with static site dilution. <i>Physical Review B</i> , 1986, 34, 347-349.	1.1	36

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19	Competition Between Synaptic Depression and Facilitation in Attractor Neural Networks. <i>Neural Computation</i> , 2007, 19, 2739-2755.	1.3	35
20	Phase transitions in a driven lattice gas in two planes. <i>Journal of Statistical Physics</i> , 1995, 78, 1493-1520.	0.5	34
21	Metastability, nucleation, and noise-enhanced stabilization out of equilibrium. <i>Physical Review E</i> , 2006, 74, 050101.	0.8	33
22	Can intrinsic noise induce various resonant peaks?. <i>New Journal of Physics</i> , 2011, 13, 053014.	1.2	33
23	Is the Particle Current a Relevant Feature in Driven Lattice Gases?. <i>Physical Review Letters</i> , 2001, 87, 195702.	2.9	29
24	Kinetics of a first-order phase transition: computer simulations and theory. <i>Journal of Statistical Physics</i> , 1984, 34, 399-426.	0.5	27
25	Nonequilibrium discontinuous phase transitions in a fast ionic conductor model: Coexistence and spinodal lines. <i>Journal of Statistical Physics</i> , 1987, 49, 121-137.	0.5	26
26	Chaotic hopping between attractors in neural networks. <i>Neural Networks</i> , 2007, 20, 230-235.	3.3	26
27	Critical behavior in nonequilibrium phase transitions. <i>Physical Review B</i> , 1987, 35, 3372-3375.	1.1	25
28	Effects of Fast Presynaptic Noise in Attractor Neural Networks. <i>Neural Computation</i> , 2006, 18, 614-633.	1.3	25
29	Robust Short-Term Memory without Synaptic Learning. <i>PLoS ONE</i> , 2013, 8, e50276.	1.1	25
30	Nonequilibrium steady states and phase transitions in driven diffusive systems. <i>Annals of Physics</i> , 1990, 199, 366-411.	1.0	23
31	Phase transitions in driven lattice gases. <i>Physical Review E</i> , 1996, 53, 6038-6047.	0.8	22
32	Relevance of the Cahn-Hilliard-Cook theory at early times in spinodal decomposition. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1983, 95, 443-446.	0.9	21
33	Concurrence of form and function in developing networks and its role in synaptic pruning. <i>Nature Communications</i> , 2018, 9, 2236.	5.8	20
34	Equilibrium cluster distributions of the three-dimensional Ising model in the one phase region. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1983, 122, 563-586.	1.2	19
35	A Nonequilibrium Version of the Spin-Glass Problem. <i>Europhysics Letters</i> , 1991, 15, 375-380.	0.7	19
36	Neural networks with fast time-variation of synapses. <i>Journal of Physics A</i> , 1997, 30, 7801-7816.	1.6	19

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37	Efficient Transmission of Subthreshold Signals in Complex Networks of Spiking Neurons. PLoS ONE, 2015, 10, e0121156.	1.1	19
38	Kinetics of a finite one-dimensional mixture of hard rods with different masses. Journal of Statistical Physics, 1983, 31, 565-575.	0.5	18
39	Stochastic Resonance Crossovers in Complex Networks. PLoS ONE, 2012, 7, e51170.	1.1	18
40	Brain Performance versus Phase Transitions. Scientific Reports, 2015, 5, 12216.	1.6	18
41	Nonequilibrium Ising models with competing, reaction-diffusion dynamics. Physical Review A, 1989, 40, 5802-5814.	1.0	17
42	Effects of fast presynaptic noise in attractor neural networks. Neural Computation, 2006, 18, 614-33.	1.3	17
43	Time-displaced correlation functions in an infinite one-dimensional mixture of hard rods with different diameters. Journal of Statistical Physics, 1978, 18, 179-190.	0.5	16
44	Long-time tails in the velocity autocorrelation function of hard-rod binary mixtures. Physical Review Letters, 1985, 54, 731-734.	2.9	16
45	Functional optimization in complex excitable networks. Europhysics Letters, 2008, 83, 46006.	0.7	16
46	A theoretical description of inverse stochastic resonance in nature. Communications in Nonlinear Science and Numerical Simulation, 2020, 80, 104975.	1.7	16
47	Nonequilibrium impure lattice systems. Journal of Physics A, 1992, 25, 1453-1471.	1.6	15
48	Evolving networks and the development of neural systems. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P03003.	0.9	15
49	Scaling of the Excess Energy in Thermodynamically Unstable Solutions. Physical Review Letters, 1985, 54, 1424-1427.	2.9	14
50	Stationary distributions for systems with competing creation-annihilation dynamics. Journal of Physics A, 1990, 23, 3809-3823.	1.6	14
51	Modeling ionic diffusion in magnetic systems. Physical Review B, 1998, 58, 11488-11492.	1.1	14
52	Switching between memories in neural automata with synaptic noise. Neurocomputing, 2004, 58-60, 67-71.	3.5	14
53	How Memory Conforms to Brain Development. Frontiers in Computational Neuroscience, 2019, 13, 22.	1.2	14
54	Nonequilibrium phase transitions in lattice systems with random-field competing kinetics. Physical Review B, 1992, 46, 8244-8262.	1.1	13

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55	Kinetic lattice models of disorder. Journal of Statistical Physics, 1994, 74, 663-686.	0.5	13
56	Monte Carlo study of the CO-poisoning dynamics in a model for the catalytic oxidation of CO. Journal of Chemical Physics, 2000, 113, 10279-10283.	1.2	13
57	Kinetics of phase separation in the driven lattice gas: Self-similar pattern growth under anisotropic nonequilibrium conditions. Physical Review B, 2003, 67, .	1.1	13
58	Nonlinear preferential rewiring in fixed-size networks as a diffusion process. Physical Review E, 2009, 79, 050104.	0.8	13
59	Universality test for critical amplitudes in two dimensional percolation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1976, 59, 180-182.	0.9	12
60	Anisotropic Lattice Gases. Journal of Statistical Physics, 1998, 90, 817-826.	0.5	12
61	Instabilities in attractor networks with fast synaptic fluctuations and partial updating of the neurons activity. Neural Networks, 2008, 21, 1272-1277.	3.3	12
62	Ising models with anisotropic interactions: Stationary nonequilibrium states with a nonuniform temperature profile. Physica A: Statistical Mechanics and Its Applications, 1987, 144, 585-603.	1.2	10
63	Mean-field solution of a nonequilibrium random-exchange Ising-model system. Physical Review B, 1992, 45, 10408-10418.	1.1	10
64	Ising Systems with Conflicting Dynamics: Exact Results for Random Interactions and Fields. Europhysics Letters, 1994, 25, 169-174.	0.7	10
65	Effect of Correlated Fluctuations of Synapses in the Performance of Neural Networks. Physical Review Letters, 1998, 81, 2827-2830.	2.9	10
66	Analysis of the interface in a nonequilibrium two-temperature Ising model. Physical Review B, 2004, 70, .	1.1	9
67	Unstable dynamics, nonequilibrium phases, and criticality in networked excitable media. Physical Review E, 2010, 82, 041105.	0.8	9
68	Emergence and interpretation of oscillatory behaviour similar to brain waves and rhythms. Communications in Nonlinear Science and Numerical Simulation, 2020, 83, 105093.	1.7	9
69	Monte Carlo study of a kinetic lattice model with random diffusion of disorder. Physical Review E, 1994, 49, 2041-2048.	0.8	8
70	Growth and scaling in anisotropic spinodal decomposition. Europhysics Letters, 2002, 59, 14-20.	0.7	8
71	Reentrant behavior of the spinodal curve in a nonequilibrium ferromagnet. Physical Review E, 2004, 70, 021101.	0.8	8
72	Complex behavior in a network with time-dependent connections and silent nodes. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P02017.	0.9	8

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73	A numerical study of one-dimensional systems: kinetics and equilibrium states. Journal of Physics C: Solid State Physics, 1985, 18, 4691-4701.	1.5	7
74	Fast-ionic-conductor behavior of driven lattice-gas models. Phase Transitions, 1991, 29, 129-156.	0.6	7
75	Critical and scaling properties of cluster distributions in nonequilibrium Ising-like systems. Physical Review E, 1995, 52, 6006-6012.	0.8	7
76	Effects of static and dynamic disorder on the performance of neural automata. Biophysical Chemistry, 2005, 115, 285-288.	1.5	7
77	Lennard-Jones and lattice models of driven fluids. Physical Review E, 2005, 72, 026103.	0.8	7
78	Control of neural chaos by synaptic noise. BioSystems, 2007, 87, 186-190.	0.9	7
79	Demagnetization via Nucleation of the Nonequilibrium Metastable Phase in a Model of Disorder. Journal of Statistical Physics, 2008, 133, 29-58.	0.5	7
80	Growth strategy determines the memory and structural properties of brain networks. Neural Networks, 2021, 142, 44-56.	3.3	7
81	Cluster kinetics in the lattice gas model: the Becker-Doring type of equations. Journal of Physics C: Solid State Physics, 1987, 20, 2491-2500.	1.5	6
82	Reaction-diffusion lattice gas: Theory and computer results. Physical Review E, 1993, 47, 885-898.	0.8	6
83	Neural Networks in Which Synaptic Patterns Fluctuate with Time. Journal of Statistical Physics, 1999, 94, 837-858.	0.5	6
84	Critical and finite-size-scaling behaviours of short-range order parameters. Journal of Physics Condensed Matter, 1989, 1, 8147-8154.	0.7	5
85	Ising critical behavior of a non-Hamiltonian lattice system. Physical Review E, 1994, 50, 3237-3240.	0.8	5
86	Demagnetization of spin systems at low temperature. Physical Review B, 1997, 56, 8863-8866.	1.1	5
87	Attractor neural networks with activity-dependent synapses: The role of synaptic facilitation. Neurocomputing, 2007, 70, 2022-2025.	3.5	5
88	On the generalization of the Boltzmann equation. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1974, 20, 25-54.	0.2	4
89	Time evolution of the excess energy in supersaturated solid solutions: microcalorimetric experiments, computer simulations and theory. Journal of Physics C: Solid State Physics, 1985, 18, 1377-1386.	1.5	4
90	Microscopic observations on a kinetic Ising model. American Journal of Physics, 1986, 54, 1114-1121.	0.3	4

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91	Nonequilibrium model of neural networks. , 1991, , 25-32.		4
92	Non-equilibrium phase transitions in lattice systems with random-field competing kinetics: mean-field theory. Journal of Physics Condensed Matter, 1992, 4, 9309-9320.	0.7	4
93	A kinetic ANNNI model. Journal of Physics A, 1994, 27, 1111-1119.	1.6	4
94	Non-equilibrium layered lattice gases. Journal of Physics A, 1995, 28, 4669-4678.	1.6	4
95	Algorithms for identification and categorization. AIP Conference Proceedings, 2005, , .	0.3	4
96	A brief comment on the modeling of flow. Computer Physics Communications, 2008, 179, 144-149.	3.0	4
97	Signal transmission competing with noise in model excitable brains. , 2013, , .		4
98	Dynamics of phase separation: Cluster kinetics and self-similarity property of the structure function. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1986, 142, 253-262.	0.9	3
99	Three-dimensional ferromagnetic ising models with quenched, random non-magnetic impurities. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1986, 142, 31-40.	0.9	3
100	Effective-field theory for the magnetic and thermal properties of site- and bond-impure systems. Journal of Physics C: Solid State Physics, 1986, 19, 1567-1580.	1.5	3
101	Exactly soluble Ising models with anisotropic interactions and arbitrary external magnetic field. Journal of Physics A, 1987, 20, 1829-1838.	1.6	3
102	Phase transition in the Ising ferromagnetic model with fixed spins. Physical Review B, 1988, 38, 500-507.	1.1	3
103	Monte Carlo study of the generalized reaction-diffusion lattice-gas model system. Journal of Statistical Physics, 1990, 61, 1283-1293.	0.5	3
104	Nonequilibrium anisotropic phases, nucleation, and critical behavior in a driven Lennard-Jones fluid. Physical Review B, 2006, 73, .	1.1	3
105	A kinetic equation for dense gases. Physics Letters, Section A: General, Atomic and Solid State Physics, 1973, 44, 41-42.	0.9	2
106	On the existence of kinetic equations. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1974, 20, 55-63.	0.2	2
107	A comment on clusters free-energy models. Surface Science, 1986, 172, L539-L543.	0.8	2
108	On exact bounds for the cluster free energy in the three-dimensional lattice-gas model. Physica A: Statistical Mechanics and Its Applications, 1986, 135, 620-626.	1.2	2

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109	Model studies of the thermal and magnetic properties in disordered systems. Journal of Magnetism and Magnetic Materials, 1986, 54-57, 54-56.	1.0	2
110	One-dimensional mixtures of hard points with stochastic boundary conditions. Journal of Physics A, 1989, 22, 1355-1369.	1.6	2
111	Lattice gas near two dimensions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 172, 29-33.	0.9	2
112	Diffusion in a one-dimensional gas of hard point particles. Journal of Statistical Physics, 1993, 71, 225-233.	0.5	2
113	On the equilibrium and time relaxation of a lattice gas in several boxes. Molecular Physics, 1996, 88, 1157-1171.	0.8	2
114	Understanding scale invariance in a minimal model of complex relaxation phenomena. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P02004-P02004.	0.9	2
115	EEGs Disclose Significant Brain Activity Correlated with Synaptic Fickleness. Biology, 2021, 10, 647.	1.3	2
116	Statistical approach to the kinetics of nonuniform fluids. Physica A: Statistical Mechanics and Its Applications, 1978, 94, 297-320.	1.2	1
117	Nucleation theory and the cloud-point. Surface Science, 1986, 177, 14-24.	0.8	1
118	Nonequilibrium neural network with competing dynamics. Physica A: Statistical Mechanics and Its Applications, 1998, 253, 57-65.	1.2	1
119	Granada hosts a world venture in computational science. Computers in Physics, 1998, 12, 301.	0.6	1
120	Critical properties of nonequilibrium anisotropic lattice gases. Physica A: Statistical Mechanics and Its Applications, 2000, 279, 143-150.	1.2	1
121	Modeling nonequilibrium phase transitions and critical behavior in complex systems. Computer Physics Communications, 2002, 147, 115-119.	3.0	1
122	Modelling Neural Systems with Short-Term Depression and Facilitation. AIP Conference Proceedings, 2007, , .	0.3	1
123	Information processing with unstable memories. AIP Conference Proceedings, 2007, , .	0.3	1
124	On the similarities and differences between lattice and offâ€ˆlattice models of driven fluids. European Physical Journal: Special Topics, 2007, 143, 269-272.	1.2	1
125	Networks with heterogeneously weighted connections and partial synchronization of nodes. Computer Physics Communications, 2007, 177, 180-183.	3.0	1
126	CHAOS IN HETEROGENEOUS NETWORKS WITH TEMPORALLY INERT NODES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 677-686.	0.7	1

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127	EXCITABLE NETWORKS: NONEQUILIBRIUM CRITICALITY AND OPTIMUM TOPOLOGY. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 869-875.	0.7	1
128	Phase transitions and stationary nonequilibrium states. , 1987, , 227-257.		1
129	Lattice Versus Lennard-Jones Models with a Net Particle Flow. , 2007, , 53-62.		1
130	Instability of Attractors in Auto-associative Networks with Bio-inspired Fast Synaptic Noise. Lecture Notes in Computer Science, 2005, , 161-167.	1.0	1
131	Physics Clues on the Mind Substrate and Attributes. Frontiers in Computational Neuroscience, 2022, 16, 836532.	1.2	1
132	Modified Fisher Droplet Model. Materials Research Society Symposia Proceedings, 1982, 21, 13.	0.1	0
133	A comment on clusters free-energy models. Surface Science Letters, 1986, 172, L539-L543.	0.1	0
134	Integral equations for dense fluids: A priori controllable approximations. Journal of Chemical Physics, 1987, 87, 4042-4047.	1.2	0
135	Phase transition in Ising ferromagnetic lattices with fixed spins (abstract). Journal of Applied Physics, 1988, 63, 3041-3041.	1.1	0
136	Magnetic system under a fluctuating field. Phase Transitions, 1993, 42, 141-148.	0.6	0
137	STEADY STATES IN NONEQUILIBRIUM LATTICE SYSTEMS. International Journal of Modern Physics C, 1993, 04, 357-364.	0.8	0
138	Interacting particle lattice systems: Some recent results on nonequilibrium steady states and phase transitions. Chaos, Solitons and Fractals, 1995, 6, 305-314.	2.5	0
139	Magnetic relaxation via competing dynamics. Lecture Notes in Physics, 1997, , 299-299.	0.3	0
140	Neural networks with fluctuating synapses. Lecture Notes in Physics, 1997, , 304-304.	0.3	0
141	A kinetic description of disorder. , 1997, , 450-462.		0
142	On the effect of synaptic fluctuations during retrieval processes in neural network models. Computer Physics Communications, 1999, 121-122, 98-102.	3.0	0
143	Coarsening under Anisotropic Conditions in a Lattice Gas Model. AIP Conference Proceedings, 2003, , .	0.3	0
144	Metastability and Avalanches in a Nonequilibrium Ferromagnetic System. AIP Conference Proceedings, 2003, , .	0.3	0

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145	Stochastic resonance and scale invariance in nonequilibrium metastable states. European Physical Journal B, 2006, 49, 103-108.	0.6	0
146	The effect of topology on neural networks with unstable memories. AIP Conference Proceedings, 2007, , .	0.3	0
147	Uncovering the Critical. , 2021, , 1-10.		0
148	By Completing a Bestiary. , 2021, , 1-28.		0
149	Mind Atoms. , 2021, , 1-12.		0
150	Shaping Relationships. , 2021, , 1-20.		0
151	Penetrating the Mind. , 2021, , 1-16.		0
152	Criticality, Complexity, and Allied Dynamics. , 2021, , 1-28.		0
153	The Brain In Silico. , 2021, , 1-36.		0
154	Development of Neural Network Structure with Biological Mechanisms. Lecture Notes in Computer Science, 2009, , 228-235.	1.0	0
155	Nonequilibrium Behavior in Neural Networks: Criticality and Optimal Performance. , 2011, , 597-603.		0
156	Time Evolution of Phase Separation in Binary Mixtures. , 1984, , 125-129.		0
157	Kinetically disordered lattice systems. , 1990, , 397-409.		0