Victor Martin-Mayor

List of Publications by Year
in descending order

146 papers	5,309 citations	81900 39 h-index	106344 65 g-index
149 all docs	149 docs citations	149 times ranked	2955 citing authors

#	Article	IF	Citations
1	Colossal Effects in Transition Metal Oxides Caused by Intrinsic Inhomogeneities. Physical Review Letters, 2001, 87, 277202.	7.8	394
2	Phonon interpretation of the â€˜boson peakâ€™ in supercooled liquids. Nature, 2003, 422, 289-292.	27.8	291
3	Critical behavior of the three-dimensional Ising spin glass. Physical Review B, 2000, 62, 14237-14245.	3.2	217
4	Critical exponents of the three-dimensional diluted Ising model. Physical Review B, 1998, 58, 2740-2747.	3.2	202
5	Scaling corrections: site percolation and Ising model in three dimensions. Journal of Physics A, 1999, 32, 1-13.	1.6	162
6	Finite size effects on measures of critical exponents in d = 3 O(N) models. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 387, 125-131.	4.1	125
7	Hybrid Monte Carlo algorithm for the double exchange model. Nuclear Physics B, 2001, 596, 587-610.	2.5	106
8	Universality in the Three-Dimensional Random-Field Ising Model. Physical Review Letters, 2013, 110, 227201.	7.8	96
9	An In-Depth View of the Microscopic Dynamics of Ising Spin Glasses at Fixed Temperature. Journal of Statistical Physics, 2009, 135, 1121-1158.	1.2	83
10	Critical parameters of the three-dimensional Ising spin glass. Physical Review B, 2013, 88, .	3.2	82
11	Nonequilibrium Spin-Glass Dynamics from Picoseconds to a Tenth of a Second. Physical Review Letters, 2008, 101, 157201.	7.8	77
12	Janus: An FPGA-Based System for High-Performance Scientific Computing. Computing in Science and Engineering, 2009, 11, 48-58.	1.2	75
13	Phase transition in the three dimensional Heisenberg spin glass: Finite-size scaling analysis. Physical Review B, 2009, 80, .	3.2	73
14	New universality class in three dimensions?: the antiferromagnetic RP2 model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 378, 207-212.	4.1	71
15	Vibrational Spectrum of Topologically Disordered Systems. Physical Review Letters, 2001, 87, 085502.	7.8	70
16	Nature of the spin-glass phase at experimental length scales. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P06026.	2.3	70
17	Equilibrium Fluid-Solid Coexistence of Hard Spheres. Physical Review Letters, 2012, 108, 165701.	7.8	69
18	Phase diagram and influence of defects in the double perovskites. Physical Review B, 2003, 67, .	3.2	66

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19	Spin-Glass Transition of the Three-Dimensional Heisenberg Spin Glass. Physical Review Letters, 2006, 97, 217204.	7.8	66
20	Lattice-Spin Mechanism in Colossal Magnetoresistive Manganites. Physical Review Letters, 2002, 88, 136401.	7.8	64
21	Ising exponents in the two-dimensional site-diluted Ising model. Journal of Physics A, 1997, 30, 8379-8383.	1.6	63
22	The four-dimensional site-diluted Ising model: A finite-size scaling study. Nuclear Physics B, 1998, 512, 681-701.	2.5	60
23	Unraveling Quantum Annealers using Classical Hardness. Scientific Reports, 2015, 5, 15324.	3.3	60
24	Measures of critical exponents in the four-dimensional site percolation. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1997, 400, 346-351.	4.1	59
25	The Mpemba effect in spin glasses is a persistent memory effect. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15350-15355.	7.1	59
26	Simulating spin systems on IANUS, an FPGA-based computer. Computer Physics Communications, 2008, 178, 208-216.	7.5	57
27	Thermodynamic glass transition in a spin glass without time-reversal symmetry. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6452-6456.	7.1	54
28	Critical behavior in the site-diluted three-dimensional three-state Potts model. Physical Review B, 2000, 61, 3215-3218.	3.2	50
29	Microcanonical Approach to the Simulation of First-Order Phase Transitions. Physical Review Letters, 2007, 98, 137207.	7.8	49
30	Soft Modes, Localization, and Two-Level Systems in Spin Glasses. Physical Review Letters, 2015, 115, 267205.	7.8	49
31	Phase Transitions in Disordered Systems: The Example of the Random-Field Ising Model in Four Dimensions. Physical Review Letters, 2016, 116, 227201.	7.8	47
32	Three-dimensional randomly dilute Ising model: Monte Carlo results. Physical Review E, 2003, 68, 036136.	2.1	46
33	Critical properties of the antiferromagnetic P2 model in three dimensions. Nuclear Physics B, 1997, 483, 707-736.	2.5	45
34	Vibrations in glasses and Euclidean random matrix theory. Journal of Physics Condensed Matter, 2002, 14, 2167-2179.	1.8	45
35	Temperature Scaling Law for Quantum Annealing Optimizers. Physical Review Letters, 2017, 119, 110502.	7.8	44
36	Variational mean-field approach to the double-exchange model. Physical Review B, 2001, 63, .	3.2	41

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37	Monte Carlo study of O(3) antiferromagnetic models in three dimensions. Physical Review B, 1996, 53, 2537-2545.	3.2	40
38	Interplay between double-exchange, superexchange, and Lifshitz localization in doped manganites. Physical Review B, 2002, 66, .	3.2	40
39	Janus II: A new generation application-driven computer for spin-system simulations. Computer Physics Communications, 2014, 185, 550-559.	7.5	40
40	Monte Carlo determination of the phase diagram of the double-exchange model. Physical Review B, 2001, 64, .	3.2	39
41	Restoration of dimensional reduction in the random-field Ising model at five dimensions. Physical Review E, 2017, 95, 042117.	2.1	39
42	The three-dimensional Ising spin glass in an external magnetic field: the role of the silent majority. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P05014.	2.3	38
43	Summability of the perturbative expansion for a zero-dimensional disordered spin model. Journal of Physics A, 2000, 33, 841-850.	1.6	37
44	Static versus Dynamic Heterogeneities in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>D</mml:mi><mml:mo>=</mml:mo><mml:mn>3</mml:mn></mml:math>Edwards-Anderson-Ising Spin Glass. Physical Review Letters, 2010, 105, 177202.	7.8	37
45	Correspondence between long-range and short-range spin glasses. Physical Review B, 2012, 86, .	3.2	36
46	Discontinuous transitions in double-exchange materials. Physical Review B, 2001, 63, .	3.2	35
47	Phase Diagram of a Polydisperse Soft-Spheres Model for Liquids and Colloids. Physical Review Letters, 2007, 98, 085702.	7.8	35
48	Critical behavior of the specific heat in glass formers. Physical Review E, 2006, 73, 020501.	2.1	34
49	First-Order Transition in a Three-Dimensional Disordered System. Physical Review Letters, 2008, 100, 057201.	7.8	33
50	Temperature chaos in 3D Ising spin glasses is driven by rare events. Europhysics Letters, 2013, 103, 67003.	2.0	33
51	Evidence for Supersymmetry in the Random-Field Ising Model at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>D</mml:mi><mml:mo>=</mml:mo><mml:mn>5</mml:mn></mml:math>. Physical Review Letters, 2019, 122, 240603.	7.8	33
52	The dynamical structure factor in topologically disordered systems. Journal of Chemical Physics, 2001, 114, 8068-8081.	3.0	31
53	Matching Microscopic and Macroscopic Responses in Glasses. Physical Review Letters, 2017, 118, 157202.	7.8	31
54	Brillouin and boson peaks in glasses from vector Euclidean random matrix theory. Journal of Chemical Physics, 2003, 119, 8577-8591.	3.0	30

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55	Dynamical transition in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>D</mml:mi><mml:mo>=</mml:mo><mml:mn>3</mml:m spin glass in an external magnetic field. Physical Review E, 2014, 89, 032140.	2.1	33
56	Efficient numerical methods for the random-field Ising model: Finite-size scaling, reweighting extrapolation, and computation of response functions. Physical Review E, 2016, 93, 063308.	2.1	30
57	Aging Rate of Spin Glasses from Simulations Matches Experiments. Physical Review Letters, 2018, 120, 267203.	7.8	29
58	Dynamical structure factor in disordered systems. Physical Review E, 2000, 62, 2373-2379.	2.1	27
59	Review of Recent Developments in the Random-Field Ising Model. Journal of Statistical Physics, 2018, 172, 665-672.	1.2	27
60	Analog errors in Ising machines. Quantum Science and Technology, 2019, 4, 02LT03.	5.8	27
61	Critical structure factor in Ising systems. Physical Review E, 2002, 66, 026112.	2.1	24
62	Ianus: an adaptive FPGA computer. Computing in Science and Engineering, 2006, 8, 41-49.	1.2	24
63	Phase transition in three-dimensional Heisenberg spin glasses with strong random anisotropies through a multi-GPU parallelization. Physical Review B, 2014, 89, .	3.2	24
64	A statics-dynamics equivalence through the fluctuationâ€"dissipation ratio provides a window into the spin-glass phase from nonequilibrium measurements. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1838-1843.	7.1	23
65	Ion kinetic transport in the presence of collisions and electric field in TJ-II ECRH plasmas. Plasma Physics and Controlled Fusion, 2007, 49, 753-776.	2.1	23
66	Practical engineering of hard spin-glass instances. Physical Review A, 2016, 94, .	2.5	22
67	Reconfigurable computing for Monte Carlo simulations: Results and prospects of the Janus project. European Physical Journal: Special Topics, 2012, 210, 33-51.	2.6	21
68	Testing statics-dynamics equivalence at the spin-glass transition in three dimensions. Physical Review B, 2015, 91, .	3.2	21
69	Universal critical behavior of the two-dimensional Ising spin glass. Physical Review B, 2016, 94, .	3.2	21
70	Rejuvenation and memory in model spin glasses in three and four dimensions. Physical Review B, 2005, 72, .	3.2	20
71	Comment on â€œEvidence of Non-Mean-Field-Like Low-Temperature Behavior in the Edwards-Anderson Spin-Glass Modelâ€. Physical Review Letters, 2013, 110, 219701.	7.8	20
72	Weak first-order transition in the three-dimensional site-diluted Ising antiferromagnet in a magnetic field. Physical Review B, 2007, 76, .	3.2	19

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73	Tethered Monte Carlo: Computing the effective potential without critical slowing down. Nuclear Physics B, 2009, 807, 424-454.	2.5	19
74	Sample-to-sample fluctuations of the overlap distributions in the three-dimensional Edwards-Anderson spin glass. Physical Review B, 2011, 84, .	3.2	17
75	Asymptotic aging in structural glasses. Physical Review B, 2004, 70, .	3.2	16
76	Anderson localization in Euclidean random matrices. Physical Review B, 2005, 71, .	3.2	16
77	Critical behavior of the dilute antiferromagnet in a magnetic field. Physical Review B, 2011, 84, .	3.2	16
78	Temperature chaos is a non-local effect. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 123301.	2.3	16
79	Ion Orbits and Ion Confinement Studies on ECRH Plasmas in TJ-II Stellarator. Fusion Science and Technology, 2006, 50, 412-418.	1.1	15
80	Mean-value identities as an opportunity for Monte Carlo error reduction. Physical Review E, 2009, 79, 051109.	2.1	15
81	Finite-size scaling analysis of the distributions of pseudo-critical temperatures in spin glasses. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P10019.	2.3	15
82	Advantages of Unfair Quantum Ground-State Sampling. Scientific Reports, 2017, 7, 1044.	3.3	15
83	Slowing down of spin glass correlation length growth: Simulations meet experiments. Physical Review B, 2019, 100, .	3.2	15
84	Numerical study of the enlarged O(5) symmetry of the 3D antiferromagnetic RP2 spin model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 628, 281-290.	4.1	14
85	Spin glass phase in the four-state three-dimensional Potts model. Physical Review B, 2009, 79, .	3.2	14
86	Kinetic simulations of fast ions in stellarators. Nuclear Fusion, 2011, 51, 083040.	3.5	14
87	Cumulative overlap distribution function in realistic spin glasses. Physical Review B, 2014, 90, .	3.2	14
88	Dynamic variational study of chaos: spin glasses in three dimensions. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 033302.	2.3	14
89	Test for random number generators:â€‚â€‚Schwinger-Dyson equations for the Ising model. Physical Review E, 1998, 58, 6787-6791.	2.1	13
90	Ageing in spin-glasses in three, four and infinite dimensions. Journal of Physics A, 2003, 36, 10755-10771.	1.6	13

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91	On the high-density expansion for Euclidean random matrices. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P02015.	2.3	13
92	ISDEP: Integrator of stochastic differential equations for plasmas. Computer Physics Communications, 2012, 183, 1877-1883.	7.5	13
93	Temperature chaos is present in off-equilibrium spin-glass dynamics. Communications Physics, 2021, 4, .	5.3	13
94	Ion heating in transitions to CERC in the stellarator TJ-II. Nuclear Fusion, 2008, 48, 065008.	3.5	12
95	Critical properties of the four-state commutative random permutation glassy Potts model in three and four dimensions. Physical Review B, 2008, 77, .	3.2	12
96	Learning a local symmetry with neural networks. Physical Review E, 2019, 100, 050102.	2.1	12
97	Scaling Law Describes the Spin-Glass Response in Theory, Experiments, and Simulations. Physical Review Letters, 2020, 125, 237202.	7.8	12
98	Slow growth of magnetic domains helps fast evolution routes for out-of-equilibrium dynamics. Physical Review E, 2021, 104, 044114.	2.1	11
99	Separation and fractionation of order and disorder in highly polydisperse systems. Physical Review E, 2010, 82, 021501.	2.1	10
100	Tethered Monte Carlo: Managing Rugged Free-Energy Landscapes with a Helmholtz-Potential Formalism. Journal of Statistical Physics, 2011, 144, 554-596.	1.2	10
101	Numerical test of the Cardy-Jacobsen conjecture in the site-diluted Potts model in three dimensions. Physical Review B, 2012, 86, .	3.2	10
102	An experiment-oriented analysis of 2D spin-glass dynamics: a twelve time-decades scaling study. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 224002.	2.1	10
103	Spin-glass dynamics in the presence of a magnetic field: exploration of microscopic properties. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 033301.	2.3	10
104	Dynamic structure factor of the three-dimensional Ising model with purely relaxational dynamics. Physical Review E, 2003, 68, 016110.	2.1	9
105	Numerical Construction of the Aizenman-Wehr Metastate. Physical Review Letters, 2017, 119, 037203.	7.8	9
106	Is the antiferromagneticRP2model in four dimensions trivial?. Physical Review D, 1997, 55, 5067-5074.	4.7	8
107	Spin-glass ordering in diluted magnetic semiconductors: A Monte Carlo study. Physical Review B, 2000, 62, 4999-5002.	3.2	8
108	Vibrational spectra in glasses. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 637-649.	0.6	8

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109	Optimized Monte Carlo method for glasses. Philosophical Magazine, 2007, 87, 581-586.	1.6	8
110	Spin glasses on the hypercube. Physical Review B, 2010, 81, .	3.2	8
111	Critical behavior of three-dimensional disordered Potts models with many states. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P05002.	2.3	8
112	Specific-heat exponent and modified hyperscaling in the 4D random-field Ising model. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 033302.	2.3	8
113	Phase diagram of the bosonic double-exchange model. Physical Review B, 2005, 71, .	3.2	7
114	Microcanonical finite-size scaling in second-order phase transitions with diverging specific heat. Physical Review E, 2009, 80, 051105.	2.1	7
115	Impact of 3D features on ion collisional transport in ITER. Nuclear Fusion, 2010, 50, 125007.	3.5	7
116	Out-of-equilibrium 2D Ising spin glass: almost, but not quite, a free-field theory. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 103301.	2.3	7
117	Three-dimensional Heisenberg spin glass under a weak random anisotropy. Physical Review B, 2011, 84, .	3.2	6
118	How we are leading a 3-XORSAT challenge: From the energy landscape to the algorithm and its efficient implementation on GPUs (a). Europhysics Letters, 2021, 133, 60005.	2.0	6
119	Critical exponents and unusual properties of the broken phase in the 3d-RP2 antiferromagnetic model. Nuclear Physics, Section B, Proceedings Supplements, 1997, 53, 686-689.	0.4	5
120	The Janus project: boosting spin-glass simulations using FPGAs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 227-232.	0.4	5
121	Dimensional crossover in the aging dynamics of spin glasses in a film geometry. Physical Review B, 2019, 100, .	3.2	5
122	Vibrational spectra in glasses. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 637-649.	0.6	5
123	Phase diagram and quasiparticles of a lattice SU(2) scalar-fermion model in 2+1 dimensions. Physical Review D, 1999, 61, .	4.7	4
124	Precursors of the spin glass transition in three dimensions. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 084016.	2.3	4
125	On the critical exponent <i>Î±</i> of the 5D random-field Ising model. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 093203.	2.3	4
126	Dynamical generation of a gauge symmetry in the double-exchange model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2003, 560, 140-148.	4.1	3

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127	Rejuvenation and Memory in Model Spin Glasses. Progress of Theoretical Physics Supplement, 2005, 157, 25-28.	0.1	3
128	Campos<i>etÂal.</i>Reply:. Physical Review Letters, 2007, 99, .	7.8	3
129	Ensemble equivalence in spin systems with short-range interactions. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P08024.	2.3	3
130	An Ising model for metal-organic frameworks. Journal of Chemical Physics, 2017, 147, 084704.	3.0	3
131	Numerical study of barriers and valleys in the free-energy landscape of spin glasses. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 134002.	2.1	3
132	An FPGA-Based Supercomputer for Statistical Physics: The Weird Case of Janus. , 2013, , 481-506.		3
133	Cluster Monte Carlo algorithm with a conserved order parameter. Physical Review E, 2009, 80, 015701.	2.1	2
134	Numerical test of the replica-symmetric Hamiltonian for correlations of the critical state of spin glasses in a field. Physical Review E, 2022, 105, .	2.1	2
135	Finite-size scaling of the d = 4 site-diluted Ising model. Nuclear Physics, Section B, Proceedings Supplements, 1998, 63, 625-627.	0.4	1
136	A lattice field theoretical model for high-Tc superconductivity. Nuclear Physics, Section B, Proceedings Supplements, 1998, 63, 658-660.	0.4	1
137	A model for the doped copper oxide compounds. Europhysics Letters, 1998, 42, 541-546.	2.0	1
138	Eigenvalue analysis of the density matrix of four-dimensional spin glasses supports replica symmetry breaking. Physical Review B, 2002, 66, .	3.2	1
139	Nonequilibrium spin glass dynamics with Janus. , 2009, , .		1
140	Neutron scattering experiments and simulations near the magnetic percolation threshold of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Fe</mml:mi><mml:mi mathvariant="normal">x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">Zn</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi mathvariant="normal">x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="norm	3.2	1
141	Spin Glass Simulations on the Janus Architecture: A Desperate Quest for Strong Scaling. Lecture Notes in Computer Science, 2013, , 528-537.	1.3	1
142	Antiferromagnetism in four dimensions: search for non-triviality. Nuclear Physics, Section B, Proceedings Supplements, 1997, 53, 680-682.	0.4	0
143	COLOSSAL EFFECTS IN TRANSITION METAL OXIDES CAUSED BY INTRINSIC INHOMOGENEITIES. International Journal of Modern Physics B, 2002, 16, 3293-3293.	2.0	0
144	Ion kinetic transport in TJ-II. , 2008, , .		0

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145	Exploring Complex Landscapes with Classical Monte Carlo. Lecture Notes in Physics, 0, , 339-372.	0.7	0
146	MICROCANONICAL METHOD FOR THE STUDY OF FIRST-ORDER TRANSITIONS. , 2008, , .		0