Mark A Novotny

List of Publications by Year
in descending order

92 papers	2,719 citations	159585 30 h-index	197818 49 g-index
92 all docs	92 docs citations	92 times ranked	1212 citing authors

#	Article	IF	Citations
1	Kinetic Ising Model in an Oscillating Field: Finite-Size Scaling at the Dynamic Phase Transition. Physical Review Letters, 1998, 81, 834-837.	7.8	204
2	Monte Carlo Algorithms with Absorbing Markov Chains: Fast Local Algorithms for Slow Dynamics. Physical Review Letters, 1995, 74, 1-5.	7.8	142
3	Kinetic Ising model in an oscillating field: Avrami theory for the hysteretic response and finite-size scaling for the dynamic phase transition. Physical Review E, 1999, 59, 2710-2729.	2.1	125
4	Suppressing Roughness of Virtual Times in Parallel Discrete-Event Simulations. Science, 2003, 299, 677-679.	12.6	125
5	Test of the Kolmogorov-Johnson-Mehl-Avrami picture of metastable decay in a model with microscopic dynamics. Physical Review B, 1999, 59, 9053-9069.	3.2	96
6	Numerical study of a mixed Ising ferrimagnetic system. Journal of Physics Condensed Matter, 1997, 9, 5951-5964.	1.8	93
7	Stochastic hysteresis and resonance in a kinetic Ising system. Physical Review E, 1998, 57, 6512-6533.	2.1	83
8	From Massively Parallel Algorithms and Fluctuating Time Horizons to Nonequilibrium Surface Growth. Physical Review Letters, 2000, 84, 1351-1354.	7.8	77
9	An evaluation of the performance of Restricted Boltzmann Machines as a model for anomaly network intrusion detection. Computer Networks, 2018, 144, 111-119.	5.1	74
10	Critical behavior of the Baxter-Wu model with quenched impurities. Physical Review B, 1981, 24, 1468-1481.	3.2	69
11	Magnetization switching in nanoscale ferromagnetic grains: description by a kinetic Ising model. Journal of Magnetism and Magnetic Materials, 1995, 150, 37-50.	2.3	68
12	First-Order Reentrant Transition in Granular Superconducting Films. Physical Review Letters, 1984, 53, 2177-2180.	7.8	67
13	Numerical investigation of a model for oxygen ordering inYBa2Cu3O6+x. Physical Review B, 1990, 41, 8772-8791.	3.2	66
14	Electrical, magnetic, and optical properties of the tetrathiafulvalene (TTF) pseudohalides,(TTF)12(SCN)7and(TTF)12(SeCN)7. Physical Review B, 1977, 15, 595-601.	3.2	56
15	Parallelization of a Dynamic Monte Carlo Algorithm: A Partially Rejection-Free Conservative Approach. Journal of Computational Physics, 1999, 153, 488-508.	3.8	52
16	Superexchange in copper(II) dimers. 1. Synthesis, characterization, and magnetic behavior of the novel di-.mu.-bromo-bis[bromo(dimethylglyoxime)copper(II)], [CuBr2(dmgH)]2. Inorganic Chemistry, 1980, 19, 2470-2473.	4.0	51
17	New coherent states in periodic arrays of ultrasmall Josephson junctions. Physical Review B, 1988, 38, 4562-4579.	3.2	51
18	A new approach to an old algorithm for the Simulation of Ising-like Systems. Computers in Physics, 1995, 9, 46.	0.5	49

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19	Effects of boundary conditions on magnetization switching in kinetic Ising models of nanoscale ferromagnets. Physical Review B, 1997, 55, 11521-11540.	3.2	44
20	The nature of the transition in d = 4 U(1) lattice gauge theory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1986, 172, 86-92.	4.1	43
21	Density of states of the two-dimensional Hubbard model on a 4Ã—4 lattice. Physical Review B, 1992, 46, 11779-11786.	3.2	41
22	Simulated Dynamics of Underpotential Deposition of Cu with Sulfate on Au(111). Journal of the Electrochemical Society, 1999, 146, 1035-1040.	2.9	40
23	Structural phase transitions and oxygen-oxygen interaction energies inYBa2Cu3O6+x. Physical Review B, 1992, 46, 381-389.	3.2	38
24	Method to study relaxation of metastable phases: Macroscopic mean-field dynamics. Physical Review E, 1995, 52, 356-372.	2.1	38
25	Diffusion-limited aggregation with surface tension. Physical Review A, 1988, 38, 1019-1026.	2.5	37
26	Optical, spin-resonance, and magnetoresistance studies of(tetrathiatetracene)2(iodide)3. The nature of the ground state. Physical Review B, 1978, 17, 2853-2857.	3.2	36
27	Reweighting in Monte Carlo and Monte Carlo renormalization-group studies. Physical Review B, 1991, 43, 5773-5783.	3.2	33
28	Numerical transfer-matrix study of metastability in thed=2 Ising model. Physical Review Letters, 1993, 71, 3898-3901.	7.8	33
29	Projection Method for Statics and Dynamics of Lattice Spin Systems. Physical Review Letters, 1998, 80, 3384-3387.	7.8	33
30	MCRG study of dâ€dimensional random field Ising models. Journal of Applied Physics, 1982, 53, 1925-1926.	2.5	31
31	Low-temperature nucleation in a kinetic Ising model under different stochastic dynamics with local energy barriers. Journal of Chemical Physics, 2004, 121, 4193-4202.	3.0	30
32	Critical exponents for the Ising model between one and two dimensions. Physical Review B, 1992, 46, 2939-2950.	3.2	28
33	Application of a constrained-transfer-matrix method to metastability in the d = 2 Ising ferromagnet. Physica A: Statistical Mechanics and Its Applications, 1994, 212, 194-229.	2.6	28
34	Analytical and computational study of magnetization switching in kinetic Ising systems with demagnetizing fields. Physical Review B, 1996, 54, 4113-4127.	3.2	28
35	Transfer matrix studies ofdâ‰¥3 Ising models. Journal of Applied Physics, 1990, 67, 5448-5450.	2.5	25
36	Monte Carlo renormalization-group study of the Baxter-Wu model. Physical Review B, 1982, 26, 330-336.	3.2	23

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37	Macroscopic effects of local oxygen fluctuations in YBa2Cu3O6+x. Physical Review B, 1991, 43, 202-209.	3.2	23
38	Numerical transfer-matrix study of a model with competing metastable states. Physical Review E, 1994, 50, 1930-1947.	2.1	23
39	First-order structural phase transitions in a lattice-gas model for YBa2Cu3O6+x. Physical Review B, 1990, 42, 10738-10741.	3.2	22
40	Spinodals and transfer matrices in $d=1$ models. Physical Review B, 1986, 33, 7729-7737.	3.2	21
41	What is the dimension from scaling of finite systems?. Physical Review Letters, 1993, 70, 109-112.	7.8	21
42	Electron paramagnetic resonance linewidths and line shapes for the molecular magnets Fe[sub 8] and Mn[sub 12]. Journal of Applied Physics, 2002, 91, 7167.	2.5	21
43	Monte Carlo renormalization-group study of the impure Baxter-Wu model. Physical Review B, 1985, 32, 3112-3117.	3.2	19
44	Asymptotic behavior and noise reduction in diffusion-limited aggregation models. Physical Review A, 1989, 39, 2587-2592.	2.5	19
45	Monte Carlo simulation of magnetization reversal in Fe sesquilayers on W(110). Physical Review B, 1997, 56, 11791-11796.	3.2	19
46	Hysteresis loop areas in kinetic Ising models: Effects of the switching mechanism. Journal of Applied Physics, 1998, 83, 6494-6496.	2.5	19
47	A new battery-charging method suggested by molecular dynamics simulations. Physical Chemistry Chemical Physics, 2010, 12, 2740.	2.8	19
48	Evidence for a New Ordered Phase in a Periodic Array of Ultrasmall Josephson Junctions. Europhysics Letters, 1987, 3, 1295-1300.	2.0	18
49	Simulations of metastable decay in two- and three-dimensional models with microscopic dynamics. Journal of Non-Crystalline Solids, 2000, 274, 356-363.	3.1	18
50	Training a Quantum Annealing Based Restricted Boltzmann Machine on Cybersecurity Data. IEEE Transactions on Emerging Topics in Computational Intelligence, 2022, 6, 417-428.	4.9	18
51	Comparison of D-Wave Quantum Annealing and Classical Simulated Annealing for Local Minima Determination. IEEE Journal on Selected Areas in Information Theory, 2020, 1, 515-525.	2.5	17
52	Large-scale computer investigations of finite-temperature nucleation and growth phenomena in magnetization reversal and hysteresis (invited). Journal of Applied Physics, 2002, 91, 6908.	2.5	16
53	Monte Carlo Renormalization Group for SU(2) Lattice Gauge Theory. Physical Review Letters, 1984, 53, 527-530.	7.8	15
54	Equilibrium and non-equilibrium applications of lattice-gas models in electrochemistry. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1998, 134, 3-14.	4.7	15

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55	Quantum decoherence scaling with bath size: Importance of dynamics, connectivity, and randomness. Physical Review A, 2013, 87, .	2.5	14
56	Thermal magnetization reversal in arrays of nanoparticles. Journal of Applied Physics, 2001, 89, 7588-7590.	2.5	12
57	Kinetic behavior of the Baxter-Wu model with quenched impurities. Physical Review B, 1985, 32, 5874-5879.	3.2	11
58	Equivalence of transfer matrices. Journal of Mathematical Physics, 1988, 29, 2280-2287.	1.1	11
59	Finite-range-scaling analysis of metastability in an Ising model with long-range interactions. Physical Review E, 1994, 49, 2711-2725.	2.1	10
60	EXTREME LONG-TIME DYNAMIC MONTE CARLO SIMULATIONS FOR METASTABLE DECAY IN THE d=3 ISING FERROMAGNET. International Journal of Modern Physics C, 2003, 14, 121-131.	1.7	10
61	First-order reversal curve analysis of homogeneous nucleation in the two-dimensional kinetic Ising model. Journal of Applied Physics, 2005, 97, 10E510.	2.5	10
62	Monte Carlo renormalization group for quantum systems. Physical Review B, 1985, 31, 1449-1456.	3.2	9
63	Numerical Transfer Matrix Study of the Ising Model between One and Two Dimensions. Europhysics Letters, 1992, 17, 297-302.	2.0	9
64	Numerical transfer-matrix study of surface-tension anisotropy in Ising models on square and cubic lattices. Physical Review B, 1993, 48, 14584-14598.	3.2	9
65	Critical finite-range scaling in scalar-field theories and Ising models. Physical Review E, 1993, 47, 1474-1485.	2.1	9
66	ADVANCED DYNAMIC ALGORITHMS FOR THE DECAY OF METASTABLE PHASES IN DISCRETE SPIN MODELS: BRIDGING DISPARATE TIME SCALES. International Journal of Modern Physics C, 1999, 10, 1483-1493.	1.7	9
67	Dynamic Monte Carlo simulations for a square-lattice Ising ferromagnet with a phonon heat bath. Computer Physics Communications, 2002, 147, 737-740.	7.5	8
68	Comparison of Use of a 2000 Qubit D-Wave Quantum Annealer and MCMC for Sampling, Image Reconstruction, and Classification. IEEE Transactions on Emerging Topics in Computational Intelligence, 2021, 5, 119-129.	4.9	8
69	APPLICATION OF THE PROJECTED DYNAMICS METHOD TO AN ANISOTROPIC HEISENBERG MODEL. International Journal of Modern Physics C, 1999, 10, 1503-1512.	1.7	7
70	Low-temperature long-time simulations of Ising ferromagnets using the Monte Carlo with Absorbing Markov Chains method. Computer Physics Communications, 2002, 147, 659-664.	7.5	7
71	Transition state in magnetization reversal. Journal of Applied Physics, 2003, 93, 6817-6819.	2.5	7
72	Monte Carlo study of the arbitrary q–state Potts model. Journal of Applied Physics, 1982, 53, 7997-7998.	2.5	6

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73	Molecular fields in chainlike metamagnets. Solid State Communications, 1985, 54, 843-844.	1.9	6
74	FeTAC, a chainlike metamagnet. Journal of Applied Physics, 1985, 57, 3343-3345.	2.5	5
75	Thermal and dynamic effects in Langevin simulation of hysteresis in nanoscale pillars. Physica B: Condensed Matter, 2001, 306, 117-120.	2.7	5
76	Magnetic small world nanomaterials: Physical small-world networks. Journal of Applied Physics, 2005, 97, 10B309.	2.5	5
77	Angular dependence of switching properties in single Fe nanopillars. Journal of Applied Physics, 2004, 95, 6666-6668.	2.5	4
78	Measuring the Impact of Accurate Feature Selection on the Performance of RBM in Comparison to State of the Art Machine Learning Algorithms. Electronics (Switzerland), 2020, 9, 1167.	3.1	4
79	Computer simulation of a 1dquantum ground state. Journal of Applied Physics, 1984, 55, 2447-2449.	2.5	3
80	Thermodynamics of the fully frustrated quantum Josephson-junction array: A hybrid Monte Carlo study. Physical Review B, 1994, 50, 1321-1324.	3.2	3
81	Projective dynamics analysis of magnetization reversal. Physica B: Condensed Matter, 2004, 343, 195-199.	2.7	3
82	Mapping the dynamics of multi-dimensional systems onto a nearest-neighbor coupled discrete set of states conserving the mean first-passage times: a projective dynamics approach. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 345004.	2.1	3
83	The Ising model between one and two dimensions. Journal of Applied Physics, 1988, 63, 3546-3547.	2.5	2
84	Momentum-space Monte Carlo renormalization-group procedure. Physical Review B, 1991, 44, 4314-4325.	3.2	2
85	SMALL PURE CARBON MOLECULES WITH SMALL-WORLD NETWORKS USING DENSITY FUNCTIONAL THEORY SIMULATIONS. International Journal of Modern Physics C, 2009, 20, 1345-1356.	1.7	2
86	QUANTUM TRANSPORT THROUGH FULLY CONNECTED BETHE LATTICES. International Journal of Modern Physics C, 2012, 23, 1240010.	1.7	2
87	Computational statistical physics: 21st century extrema. Computer Physics Communications, 2002, 146, 132-133.	7.5	1
88	EC-FORC: A New Cyclic-Voltammetry Based Method for Examining Phase Transitions and Predicting Equilibrium. ECS Transactions, 2007, 6, 53-60.	0.5	1
89	MIXING DIFFERENT RANDOM DEPOSITIONS IN NONEQUILIBRIUM SURFACE GROWTH MODELS. International Journal of Modern Physics C, 2009, 20, 1377-1385.	1.7	1
90	Two modes of magnetization switching in a simulated iron nanopillar in an obliquely oriented field. Journal of Physics Condensed Matter, 2010, 22, 236001.	1.8	1

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91	Accelerated convergence in exact-diagonalization studies. Physical Review B, 1993, 48, 6255-6259.	3.2	0
92	A New Charging Method for Li-Ion Batteries: Dependence of the Charging Time on the Direction of an Additional Oscillating Field. ECS Transactions, 2010, 33, 33-37.	0.5	0