

Mark A Novotny

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Kinetic Ising Model in an Oscillating Field: Finite-Size Scaling at the Dynamic Phase Transition. <i>Physical Review Letters</i> , 1998, 81, 834-837.	2.9	204
2	Monte Carlo Algorithms with Absorbing Markov Chains: Fast Local Algorithms for Slow Dynamics. <i>Physical Review Letters</i> , 1995, 74, 1-5.	2.9	142
3	Kinetic Ising model in an oscillating field: Avrami theory for the hysteretic response and finite-size scaling for the dynamic phase transition. <i>Physical Review E</i> , 1999, 59, 2710-2729.	0.8	125
4	Suppressing Roughness of Virtual Times in Parallel Discrete-Event Simulations. <i>Science</i> , 2003, 299, 677-679.	6.0	125
5	Test of the Kolmogorov-Johnson-Mehl-Avrami picture of metastable decay in a model with microscopic dynamics. <i>Physical Review B</i> , 1999, 59, 9053-9069.	1.1	96
6	Numerical study of a mixed Ising ferrimagnetic system. <i>Journal of Physics Condensed Matter</i> , 1997, 9, 5951-5964.	0.7	93
7	Stochastic hysteresis and resonance in a kinetic Ising system. <i>Physical Review E</i> , 1998, 57, 6512-6533.	0.8	83
8	From Massively Parallel Algorithms and Fluctuating Time Horizons to Nonequilibrium Surface Growth. <i>Physical Review Letters</i> , 2000, 84, 1351-1354.	2.9	77
9	An evaluation of the performance of Restricted Boltzmann Machines as a model for anomaly network intrusion detection. <i>Computer Networks</i> , 2018, 144, 111-119.	3.2	74
10	Critical behavior of the Baxter-Wu model with quenched impurities. <i>Physical Review B</i> , 1981, 24, 1468-1481.	1.1	69
11	Magnetization switching in nanoscale ferromagnetic grains: description by a kinetic Ising model. <i>Journal of Magnetism and Magnetic Materials</i> , 1995, 150, 37-50.	1.0	68
12	First-Order Reentrant Transition in Granular Superconducting Films. <i>Physical Review Letters</i> , 1984, 53, 2177-2180.	2.9	67
13	Numerical investigation of a model for oxygen ordering in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review B</i> , 1990, 41, 8772-8791.	1.1	66
14	Electrical, magnetic, and optical properties of the tetrathiafulvalene (TTF) pseudohalides, $(\text{TTF})_{12}(\text{SCN})_7$ and $(\text{TTF})_{12}(\text{SeCN})_7$. <i>Physical Review B</i> , 1977, 15, 595-601.	1.1	56
15	Parallelization of a Dynamic Monte Carlo Algorithm: A Partially Rejection-Free Conservative Approach. <i>Journal of Computational Physics</i> , 1999, 153, 488-508.	1.9	52
16	Superexchange in copper(II) dimers. 1. Synthesis, characterization, and magnetic behavior of the novel di- μ -bromo-bis[bromo(dimethylglyoxime)copper(II)], $[\text{CuBr}_2(\text{dmGH})]_2$. <i>Inorganic Chemistry</i> , 1980, 19, 2470-2473.	1.9	51
17	New coherent states in periodic arrays of ultrasmall Josephson junctions. <i>Physical Review B</i> , 1988, 38, 4562-4579.	1.1	51
18	A new approach to an old algorithm for the Simulation of Ising-like Systems. <i>Computers in Physics</i> , 1995, 9, 46.	0.6	49

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19	Effects of boundary conditions on magnetization switching in kinetic Ising models of nanoscale ferromagnets. <i>Physical Review B</i> , 1997, 55, 11521-11540.	1.1	44
20	The nature of the transition in $d = 4$ $U(1)$ lattice gauge theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1986, 172, 86-92.	1.5	43
21	Density of states of the two-dimensional Hubbard model on a $4\tilde{A}-4$ lattice. <i>Physical Review B</i> , 1992, 46, 11779-11786.	1.1	41
22	Simulated Dynamics of Underpotential Deposition of Cu with Sulfate on Au(111). <i>Journal of the Electrochemical Society</i> , 1999, 146, 1035-1040.	1.3	40
23	Structural phase transitions and oxygen-oxygen interaction energies in $YBa_2Cu_3O_{6+x}$. <i>Physical Review B</i> , 1992, 46, 381-389.	1.1	38
24	Method to study relaxation of metastable phases: Macroscopic mean-field dynamics. <i>Physical Review E</i> , 1995, 52, 356-372.	0.8	38
25	Diffusion-limited aggregation with surface tension. <i>Physical Review A</i> , 1988, 38, 1019-1026.	1.0	37
26	Optical, spin-resonance, and magnetoresistance studies of $(\text{tetrathiatetracene})_2(\text{iodide})_3$. The nature of the ground state. <i>Physical Review B</i> , 1978, 17, 2853-2857.	1.1	36
27	Reweighting in Monte Carlo and Monte Carlo renormalization-group studies. <i>Physical Review B</i> , 1991, 43, 5773-5783.	1.1	33
28	Numerical transfer-matrix study of metastability in the $d=2$ Ising model. <i>Physical Review Letters</i> , 1993, 71, 3898-3901.	2.9	33
29	Projection Method for Statics and Dynamics of Lattice Spin Systems. <i>Physical Review Letters</i> , 1998, 80, 3384-3387.	2.9	33
30	MCRG study of d -dimensional random field Ising models. <i>Journal of Applied Physics</i> , 1982, 53, 1925-1926.	1.1	31
31	Low-temperature nucleation in a kinetic Ising model under different stochastic dynamics with local energy barriers. <i>Journal of Chemical Physics</i> , 2004, 121, 4193-4202.	1.2	30
32	Critical exponents for the Ising model between one and two dimensions. <i>Physical Review B</i> , 1992, 46, 2939-2950.	1.1	28
33	Application of a constrained-transfer-matrix method to metastability in the $d = 2$ Ising ferromagnet. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1994, 212, 194-229.	1.2	28
34	Analytical and computational study of magnetization switching in kinetic Ising systems with demagnetizing fields. <i>Physical Review B</i> , 1996, 54, 4113-4127.	1.1	28
35	Transfer matrix studies of $d=3$ Ising models. <i>Journal of Applied Physics</i> , 1990, 67, 5448-5450.	1.1	25
36	Monte Carlo renormalization-group study of the Baxter-Wu model. <i>Physical Review B</i> , 1982, 26, 330-336.	1.1	23

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37	Macroscopic effects of local oxygen fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review B</i> , 1991, 43, 202-209.	1.1	23
38	Numerical transfer-matrix study of a model with competing metastable states. <i>Physical Review E</i> , 1994, 50, 1930-1947.	0.8	23
39	First-order structural phase transitions in a lattice-gas model for $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review B</i> , 1990, 42, 10738-10741.	1.1	22
40	Spinodals and transfer matrices in $d=1$ models. <i>Physical Review B</i> , 1986, 33, 7729-7737.	1.1	21
41	What is the dimension from scaling of finite systems?. <i>Physical Review Letters</i> , 1993, 70, 109-112.	2.9	21
42	Electron paramagnetic resonance linewidths and line shapes for the molecular magnets $\text{Fe}[\text{sub } 8]$ and $\text{Mn}[\text{sub } 12]$. <i>Journal of Applied Physics</i> , 2002, 91, 7167.	1.1	21
43	Monte Carlo renormalization-group study of the impure Baxter-Wu model. <i>Physical Review B</i> , 1985, 32, 3112-3117.	1.1	19
44	Asymptotic behavior and noise reduction in diffusion-limited aggregation models. <i>Physical Review A</i> , 1989, 39, 2587-2592.	1.0	19
45	Monte Carlo simulation of magnetization reversal in Fe sesquilayers on $\text{W}(110)$. <i>Physical Review B</i> , 1997, 56, 11791-11796.	1.1	19
46	Hysteresis loop areas in kinetic Ising models: Effects of the switching mechanism. <i>Journal of Applied Physics</i> , 1998, 83, 6494-6496.	1.1	19
47	A new battery-charging method suggested by molecular dynamics simulations. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 2740.	1.3	19
48	Evidence for a New Ordered Phase in a Periodic Array of Ultrasmall Josephson Junctions. <i>Europhysics Letters</i> , 1987, 3, 1295-1300.	0.7	18
49	Simulations of metastable decay in two- and three-dimensional models with microscopic dynamics. <i>Journal of Non-Crystalline Solids</i> , 2000, 274, 356-363.	1.5	18
50	Training a Quantum Annealing Based Restricted Boltzmann Machine on Cybersecurity Data. <i>IEEE Transactions on Emerging Topics in Computational Intelligence</i> , 2022, 6, 417-428.	3.4	18
51	Comparison of D-Wave Quantum Annealing and Classical Simulated Annealing for Local Minima Determination. <i>IEEE Journal on Selected Areas in Information Theory</i> , 2020, 1, 515-525.	1.9	17
52	Large-scale computer investigations of finite-temperature nucleation and growth phenomena in magnetization reversal and hysteresis (invited). <i>Journal of Applied Physics</i> , 2002, 91, 6908.	1.1	16
53	Monte Carlo Renormalization Group for $\text{SU}(2)$ Lattice Gauge Theory. <i>Physical Review Letters</i> , 1984, 53, 527-530.	2.9	15
54	Equilibrium and non-equilibrium applications of lattice-gas models in electrochemistry. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 1998, 134, 3-14.	2.3	15

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55	Quantum decoherence scaling with bath size: Importance of dynamics, connectivity, and randomness. <i>Physical Review A</i> , 2013, 87, .	1.0	14
56	Thermal magnetization reversal in arrays of nanoparticles. <i>Journal of Applied Physics</i> , 2001, 89, 7588-7590.	1.1	12
57	Kinetic behavior of the Baxter-Wu model with quenched impurities. <i>Physical Review B</i> , 1985, 32, 5874-5879.	1.1	11
58	Equivalence of transfer matrices. <i>Journal of Mathematical Physics</i> , 1988, 29, 2280-2287.	0.5	11
59	Finite-range-scaling analysis of metastability in an Ising model with long-range interactions. <i>Physical Review E</i> , 1994, 49, 2711-2725.	0.8	10
60	EXTREME LONG-TIME DYNAMIC MONTE CARLO SIMULATIONS FOR METASTABLE DECAY IN THE d=3 ISING FERROMAGNET. <i>International Journal of Modern Physics C</i> , 2003, 14, 121-131.	0.8	10
61	First-order reversal curve analysis of homogeneous nucleation in the two-dimensional kinetic Ising model. <i>Journal of Applied Physics</i> , 2005, 97, 10E510.	1.1	10
62	Monte Carlo renormalization group for quantum systems. <i>Physical Review B</i> , 1985, 31, 1449-1456.	1.1	9
63	Numerical Transfer Matrix Study of the Ising Model between One and Two Dimensions. <i>Europhysics Letters</i> , 1992, 17, 297-302.	0.7	9
64	Numerical transfer-matrix study of surface-tension anisotropy in Ising models on square and cubic lattices. <i>Physical Review B</i> , 1993, 48, 14584-14598.	1.1	9
65	Critical finite-range scaling in scalar-field theories and Ising models. <i>Physical Review E</i> , 1993, 47, 1474-1485.	0.8	9
66	ADVANCED DYNAMIC ALGORITHMS FOR THE DECAY OF METASTABLE PHASES IN DISCRETE SPIN MODELS: BRIDGING DISPARATE TIME SCALES. <i>International Journal of Modern Physics C</i> , 1999, 10, 1483-1493.	0.8	9
67	Dynamic Monte Carlo simulations for a square-lattice Ising ferromagnet with a phonon heat bath. <i>Computer Physics Communications</i> , 2002, 147, 737-740.	3.0	8
68	Comparison of Use of a 2000 Qubit D-Wave Quantum Annealer and MCMC for Sampling, Image Reconstruction, and Classification. <i>IEEE Transactions on Emerging Topics in Computational Intelligence</i> , 2021, 5, 119-129.	3.4	8
69	APPLICATION OF THE PROJECTED DYNAMICS METHOD TO AN ANISOTROPIC HEISENBERG MODEL. <i>International Journal of Modern Physics C</i> , 1999, 10, 1503-1512.	0.8	7
70	Low-temperature long-time simulations of Ising ferromagnets using the Monte Carlo with Absorbing Markov Chains method. <i>Computer Physics Communications</i> , 2002, 147, 659-664.	3.0	7
71	Transition state in magnetization reversal. <i>Journal of Applied Physics</i> , 2003, 93, 6817-6819.	1.1	7
72	Monte Carlo study of the arbitrary q-state Potts model. <i>Journal of Applied Physics</i> , 1982, 53, 7997-7998.	1.1	6

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73	Molecular fields in chainlike metamagnets. Solid State Communications, 1985, 54, 843-844.	0.9	6
74	FeTAC, a chainlike metamagnet. Journal of Applied Physics, 1985, 57, 3343-3345.	1.1	5
75	Thermal and dynamic effects in Langevin simulation of hysteresis in nanoscale pillars. Physica B: Condensed Matter, 2001, 306, 117-120.	1.3	5
76	Magnetic small world nanomaterials: Physical small-world networks. Journal of Applied Physics, 2005, 97, 10B309.	1.1	5
77	Angular dependence of switching properties in single Fe nanopillars. Journal of Applied Physics, 2004, 95, 6666-6668.	1.1	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.	1.8	4
79	Computer simulation of a 1d quantum ground state. Journal of Applied Physics, 1984, 55, 2447-2449.	1.1	3
80	Thermodynamics of the fully frustrated quantum Josephson-junction array: A hybrid Monte Carlo study. Physical Review B, 1994, 50, 1321-1324.	1.1	3
81	Projective dynamics analysis of magnetization reversal. Physica B: Condensed Matter, 2004, 343, 195-199.	1.3	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.	0.7	3
83	The Ising model between one and two dimensions. Journal of Applied Physics, 1988, 63, 3546-3547.	1.1	2
84	Momentum-space Monte Carlo renormalization-group procedure. Physical Review B, 1991, 44, 4314-4325.	1.1	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.	0.8	2
86	QUANTUM TRANSPORT THROUGH FULLY CONNECTED BETHE LATTICES. International Journal of Modern Physics C, 2012, 23, 1240010.	0.8	2
87	Computational statistical physics: 21st century extrema. Computer Physics Communications, 2002, 146, 132-133.	3.0	1
88	EC-FORC: A New Cyclic-Voltammetry Based Method for Examining Phase Transitions and Predicting Equilibrium. ECS Transactions, 2007, 6, 53-60.	0.3	1
89	MIXING DIFFERENT RANDOM DEPOSITIONS IN NONEQUILIBRIUM SURFACE GROWTH MODELS. International Journal of Modern Physics C, 2009, 20, 1377-1385.	0.8	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.	0.7	1

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91	Accelerated convergence in exact-diagonalization studies. Physical Review B, 1993, 48, 6255-6259.	1.1	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.	0.3	0