

Robert H Swendsen

List of Publications by Year in descending order

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149
docs citations

149
times ranked

12759
citing authors

#	ARTICLE	IF	CITATIONS
1	Monte Carlo renormalization-group calculation for the d=3 Ising model using a modified transformation. Physical Review E, 2021, 104, 025311.	2.1	1
2	Thermodynamics of finite systems: a key issues review. Reports on Progress in Physics, 2018, 81, 072001.	20.1	19
3	Probability, Entropy, and Gibbs's Paradox(es). Entropy, 2018, 20, 450.	2.2	11
4	Finite thermal reservoirs and the canonical distribution. Physica A: Statistical Mechanics and Its Applications, 2017, 484, 1-10.	2.6	4
5	Detecting multi-spin interactions in the inverse Ising problem. Physica A: Statistical Mechanics and Its Applications, 2017, 483, 293-298.	2.6	2
6	Surprising convergence of the Monte Carlo renormalization group for the three-dimensional Ising model. Physical Review E, 2017, 95, 053305.	2.1	14
7	The definition of the thermodynamic entropy in statistical mechanics. Physica A: Statistical Mechanics and Its Applications, 2017, 467, 67-73.	2.6	10
8	Comparison of canonical and microcanonical definitions of entropy. Physica A: Statistical Mechanics and Its Applications, 2017, 467, 474-489.	2.6	14
9	Thermodynamics, Statistical Mechanics and Entropy. Entropy, 2017, 19, 603.	2.2	22
10	Negative temperatures and the definition of entropy. Physica A: Statistical Mechanics and Its Applications, 2016, 453, 24-34.	2.6	36
11	Magnetic ground state of semiconducting transition-metal trichalcogenide monolayers. Physical Review B, 2015, 91, .	3.2	352
12	Gibbs volume entropy is incorrect. Physical Review E, 2015, 92, 020103.	2.1	25
13	Continuity of the entropy of macroscopic quantum systems. Physical Review E, 2015, 92, 052110.	2.1	13
14	Cluster simulations of multi-spin Potts models. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P01026.	2.3	2
15	0.234: The Myth of a Universal Acceptance Ratio for Monte Carlo Simulations. Physics Procedia, 2015, 68, 120-124.	1.2	2
16	The ambiguity of "distinguishability" in statistical mechanics. American Journal of Physics, 2015, 83, 545-554.	0.7	9
17	The Inverse Ising Problem. Physics Procedia, 2014, 57, 99-103.	1.2	6
18	Unnormalized probability: A different view of statistical mechanics. American Journal of Physics, 2014, 82, 941-946.	0.7	10

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19	A model of motor performance during surface penetration: from physics to voluntary control. <i>Experimental Brain Research</i> , 2013, 230, 251-260.	1.5	6
20	Guaranteeing total balance in Metropolis algorithm Monte Carlo simulations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 6288-6299.	2.6	1
21	Using computation to teach the properties of the van der Waals fluid. <i>American Journal of Physics</i> , 2013, 81, 776-781.	0.7	0
22	Efficiency and time-dependent cross correlations in multivariable Monte Carlo updating. <i>Physical Review E</i> , 2013, 88, 053301.	2.1	3
23	Numerical computation for teaching quantum statistics. <i>American Journal of Physics</i> , 2013, 81, 866-872.	0.7	5
24	Monte Carlo renormalization-group analysis of percolation. <i>Physical Review E</i> , 2013, 88, 043307.	2.1	3
25	In defense of thermodynamics. <i>Journal of Thermal Analysis and Calorimetry</i> , 2012, 110, 1547-1551.	3.6	2
26	Choosing a Definition of Entropy that Works. <i>Foundations of Physics</i> , 2012, 42, 582-593.	1.3	13
27	Thermodynamic Identities. , 2012, , 138-155.		1
28	How physicists disagree on the meaning of entropy. <i>American Journal of Physics</i> , 2011, 79, 342-348.	0.7	40
29	How the maximum step size in Monte Carlo simulations should be adjusted. <i>Physics Procedia</i> , 2011, 15, 81-86.	1.2	11
30	Footnotes to the history of statistical mechanics: In Boltzmann's words. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 2898-2901.	2.6	1
31	Optimized convergence for multiple histogram analysis. <i>Journal of Computational Physics</i> , 2009, 228, 6119-6129.	3.8	29
32	Explaining irreversibility. <i>American Journal of Physics</i> , 2008, 76, 643-648.	0.7	19
33	Haptic Rendering and Psychophysical Evaluation of a Virtual Three-Dimensional Helical Spring. , 2008, , .		27
34	Gibbs's Paradox and the Definition of Entropy. <i>Entropy</i> , 2008, 10, 15-18.	2.2	43
35	Comparison of free energy methods for molecular systems. <i>Journal of Chemical Physics</i> , 2006, 125, 184114.	3.0	129
36	Statistical mechanics of colloids and Boltzmann's definition of the entropy. <i>American Journal of Physics</i> , 2006, 74, 187-190.	0.7	49

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37	Computer simulations at the fixed point using an inverse renormalization group transformation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2005, 346, 387-399.	2.6	4
38	The adaptive integration method for calculating general free energy functions. <i>Computer Physics Communications</i> , 2005, 169, 274-276.	7.5	2
39	Replica Monte Carlo Simulation (Revisited). <i>Progress of Theoretical Physics Supplement</i> , 2005, 157, 317-323.	0.1	29
40	Adaptive integration method for Monte Carlo simulations. <i>Physical Review E</i> , 2004, 69, 056704.	2.1	42
41	Response to Nagle's Criticism of My Proposed Definition of the Entropy. <i>Journal of Statistical Physics</i> , 2004, 117, 1063-1070.	1.2	4
42	Feeling textures through a probe: Effects of probe and surface geometry and exploratory factors. <i>Perception & Psychophysics</i> , 2003, 65, 613-631.	2.3	138
43	A Bayesian analysis of Monte Carlo correlation times for the two-dimensional Ising model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 323, 487-503.	2.6	5
44	The Development of Cluster and Histogram Methods. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	0
45	Sweeny and Gliozzi dynamics for simulations of Potts models in the Fortuin-Kasteleyn representation. <i>Physical Review E</i> , 2002, 66, 057101.	2.1	14
46	Inverse Monte Carlo Renormalization Group Transformations for Critical Phenomena. <i>Physical Review Letters</i> , 2002, 89, 275701.	7.8	20
47	Importance of multispin couplings in renormalized Hamiltonians. <i>Physical Review E</i> , 2002, 66, 056106.	2.1	6
48	Computational statistical physics in the 21st century. <i>Computer Physics Communications</i> , 2002, 146, 135-136.	7.5	0
49	Transition Matrix Monte Carlo Method. <i>Journal of Statistical Physics</i> , 2002, 106, 245-285.	1.2	148
50	Statistical Mechanics of Classical Systems with Distinguishable Particles. <i>Journal of Statistical Physics</i> , 2002, 107, 1143-1166.	1.2	34
51	Evaluation of experimental parameters for growth of homogeneous solid solutions. <i>Journal of Crystal Growth</i> , 2001, 233, 609-617.	1.5	9
52	Crystalline ground states of an entropically stabilized quasicrystal model. <i>Physical Review B</i> , 2001, 64, .	3.2	14
53	Calculation of effective Hamiltonians for renormalized or non-Hamiltonian systems. <i>Physical Review E</i> , 2001, 63, 066128.	2.1	6
54	TRANSITION MATRIX MONTE CARLO. <i>International Journal of Modern Physics C</i> , 1999, 10, 1563-1569.	1.7	21

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55	Bayesian analysis of series expansions. Computer Physics Communications, 1999, 121-122, 1-4.	7.5	1
56	Transition Matrix Monte Carlo Reweighting and Dynamics. Physical Review Letters, 1999, 82, 476-479.	7.8	120
57	Intermediate-temperature ordering in a three-state antiferromagnetic Potts model. Physical Review B, 1998, 58, 9125-9130.	3.2	7
58	Rotationally symmetric ordered phase in the three-state antiferromagnetic Potts model. Physical Review B, 1996, 53, 2210-2212.	3.2	17
59	HISTOGRAM ANALYSIS OF MONTE CARLO SIMULATION. International Journal of Modern Physics C, 1996, 07, 281-285.	1.7	1
60	Multidimensional free-energy calculations using the weighted histogram analysis method. Journal of Computational Chemistry, 1995, 16, 1339-1350.	3.3	728
61	Statistical errors in histogram reweighting. Physical Review E, 1995, 51, 5092-5100.	2.1	77
62	Improved variational wave function for the two-dimensional spin-1/2 Heisenberg antiferromagnet. Physical Review B, 1994, 49, 3303-3307.	3.2	5
63	Modern methods of analyzing Monte Carlo computer simulations. Physica A: Statistical Mechanics and Its Applications, 1993, 194, 53-62.	2.6	63
64	Efficient Monte Carlo methods for the computer simulation of biological molecules. Physical Review A, 1992, 45, 8894-8901.	2.5	103
65	New monte carlo methods for improved efficiency of computer simulations in statistical mechanics. Topics in Applied Physics, 1992, , 75-91.	0.8	23
66	THE weighted histogram analysis method for free-energy calculations on biomolecules. I. The method. Journal of Computational Chemistry, 1992, 13, 1011-1021.	3.3	5,736
67	New Monte Carlo Methods for Improved Efficiency of Computer Simulations in Statistical Mechanics. Topics in Applied Physics, 1992, , 75-91.	0.8	0
68	Acceleration methods for Monte Carlo computer simulations. Computer Physics Communications, 1991, 65, 281-288.	7.5	2
69	Acceleration Algorithms in Monte Carlo Simulations in Statistical Physics. International Journal of Modern Physics C, 1991, 02, 201-208.	1.7	0
70	Cluster Monte Carlo algorithms. Physica A: Statistical Mechanics and Its Applications, 1990, 167, 565-579.	2.6	240
71	Three-state antiferromagnetic Potts models: A Monte Carlo study. Physical Review B, 1990, 42, 2465-2474.	3.2	108
72	Antiferromagnetic Potts models. Physical Review Letters, 1989, 63, 109-112.	7.8	116

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73	Optimized Monte Carlo data analysis. Physical Review Letters, 1989, 63, 1195-1198.	7.8	2,329
74	Optimized Monte Carlo Data Analysis. Computers in Physics, 1989, 3, 101-104.	0.5	74
75	New Monte Carlo technique for studying phase transitions. Physical Review Letters, 1988, 61, 2635-2638.	7.8	2,350
76	Monte Carlo and high-temperature-expansion calculations of a spin-glass effective Hamiltonian. Physical Review B, 1988, 38, 9086-9092.	3.2	10
77	Anisotropic renormalization-group transformations. Physical Review B, 1988, 37, 3531-3533.	3.2	2
78	Monte Carlo renormalization-group study of Ising spin glasses. Physical Review B, 1988, 37, 7745-7750.	3.2	33
79	Low-temperature properties of the $\pm J$ Ising spin glass in two dimensions. Physical Review B, 1988, 38, 4840-4844.	3.2	76
80	Quasicrystal equilibrium state. Physical Review Letters, 1987, 58, 706-709.	7.8	163
81	Nonuniversal critical dynamics in Monte Carlo simulations. Physical Review Letters, 1987, 58, 86-88.	7.8	2,315
82	Why the Brazil nuts are on top: Size segregation of particulate matter by shaking. Physical Review Letters, 1987, 58, 1038-1040.	7.8	818
83	Monte Carlo simulation of particulate matter segregation. Powder Technology, 1986, 49, 59-69.	4.2	145
84	Replica Monte Carlo Simulation of Spin-Glasses. Physical Review Letters, 1986, 57, 2607-2609.	7.8	1,547
85	Swendsen Responds. Physical Review Letters, 1986, 56, 2333-2333.	7.8	9
86	Monte Carlo renormalization-group study of tricritical behavior in two dimensions. Physical Review B, 1986, 33, 7700-7707.	3.2	53
87	Statistical mechanics and disordered systems. Communications of the ACM, 1985, 28, 363-373.	4.5	27
88	Monte Carlo calculation of renormalized coupling parameters. II. $d=3$ Ising model. Physical Review B, 1984, 30, 3875-3881.	3.2	27
89	Monte Carlo calculation of renormalized coupling parameters. I. $d=2$ Ising model. Physical Review B, 1984, 30, 3866-3874.	3.2	44
90	First-Order Transition in a Model with Nearest-Neighbor Interactions. Physical Review Letters, 1984, 52, 1535-1538.	7.8	124

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91	Optimization of Real-Space Renormalization-Group Transformations. Physical Review Letters, 1984, 52, 2321-2323.	7.8	48
92	Monte Carlo renormalization-group study of the rectangular Ising ferromagnet: Universality and a fixed line. Physical Review B, 1984, 30, 2787-2794.	3.2	13
93	New Universal Behavior for the Impure Baxter Model. Physical Review Letters, 1984, 53, 679-682.	7.8	27
94	Monte Carlo Calculation of Renormalized Coupling Parameters. Physical Review Letters, 1984, 52, 1165-1168.	7.8	97
95	Monte Carlo renormalization-group calculations of critical behavior in the simple-cubic Ising model. Physical Review B, 1984, 29, 4030-4040.	3.2	299
96	Monte Carlo renormalization group. Journal of Statistical Physics, 1984, 34, 963-973.	1.2	12
97	A helium diffraction study of the reconstructed Au(100) surface. Surface Science, 1983, 127, 223-242.	1.9	92
98	Monte Carlo renormalization-group studies of two-dimensional models. Surface Science, 1983, 125, 104-115.	1.9	2
99	Monte Carlo renormalization-group study of the $d=3$ planar model. Physical Review B, 1983, 27, 391-400.	3.2	24
100	Critical behavior of the three-state Potts model: Monte Carlo renormalization group. Physical Review B, 1983, 28, 3897-3903.	3.2	6
101	First- and Second-Order Phase Transitions in the $d=2$ XY Model. Physical Review Letters, 1982, 49, 1302-1305.	7.8	52
102	Monte Carlo renormalization-group studies of critical phenomena. Journal of Applied Physics, 1982, 53, 1920-1924.	2.5	9
103	Monte Carlo renormalization-group study of the Baxter-Wu model. Physical Review B, 1982, 26, 330-336.	3.2	23
104	Comment on a Monte Carlo test of theories for the planar model, the F model, and related systems. Physical Review B, 1982, 25, 2019-2021.	3.2	18
105	An iterative method for calculating hard-wall diffraction intensities. Surface Science, 1982, 114, 405-413.	1.9	21
106	Monte Carlo Renormalization Group. , 1982, , 395-422.		3
107	Tricritical Universality in Two Dimensions. Physical Review Letters, 1981, 46, 1437-1440.	7.8	130
108	Dynamics of random sequential adsorption. Physical Review A, 1981, 24, 504-508.	2.5	252

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109	Gauge-Invariant Renormalization-Group Transformation without Gauge Fixing. Physical Review Letters, 1981, 47, 1775-1777.	7.8	67
110	Duality relations for models with quenched random interactions. Physical Review B, 1981, 24, 313-318.	3.2	6
111	Critical exponents and marginality of the four-state Potts model: Monte Carlo renormalization group. Physical Review B, 1981, 24, 6732-6735.	3.2	26
112	Monte Carlo Renormalization-Group Transformations in Momentum Space. Physical Review Letters, 1981, 47, 1159-1162.	7.8	13
113	Monte Carlo renormalization-group studies of q-state Potts models in two dimensions. Physical Review B, 1980, 21, 4094-4107.	3.2	74
114	Critical behavior of the four-dimensional Ising model. Physical Review B, 1980, 22, 4481-4483.	3.2	35
115	First order phase transitions and the three-state potts model. Journal of Magnetism and Magnetic Materials, 1980, 15-18, 399-400.	2.3	4
116	Monte Carlo renormalization-group studies of the d=2 Ising model. Physical Review B, 1979, 20, 2080-2087.	3.2	70
117	Critical behavior of the three-dimensional Ising model. Physical Review B, 1979, 20, 2077-2079.	3.2	41
118	The surprising effectiveness of the Migdal-Kadanoff renormalization scheme. Physics Letters, Section A: General, Atomic and Solid State Physics, 1979, 69, 382-384.	2.1	10
119	Monte Carlo Renormalization Group. Physical Review Letters, 1979, 42, 859-861.	7.8	290
120	First-Order Phase Transitions and the Three-State Potts Model. Physical Review Letters, 1979, 43, 799-802.	7.8	161
121	Monte Carlo Renormalization Group and Ising Models with $n > 2$. Physical Review Letters, 1979, 43, 177-180.	7.8	133
122	The influence of impurities on interstitial diffusion. Journal of Physics F: Metal Physics, 1978, 8, 433-446.	1.6	41
123	Correlation functions in XY models and step free energies in roughening models. Physical Review B, 1978, 17, 3710-3713.	3.2	52
124	Monte Carlo study of the Coulomb gas and the Villain XY model in the discrete Gaussian roughening representation. Physical Review B, 1978, 18, 492-502.	3.2	31
125	Roughening transition in the solid-on-solid model. Physical Review B, 1977, 15, 689-692.	3.2	27
126	Exponent Inequalities at the Roughening Transition. Physical Review Letters, 1977, 38, 615-617.	7.8	11

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127	Tricritical Transitions, Interface Roughening, and the Classical XY Model. Physical Review Letters, 1977, 39, 1414-1417.	7.8	32
128	Monte Carlo studies of the interface roughening transition. Physical Review B, 1977, 15, 5421-5431.	3.2	124
129	Space renormalization group approach to arbitrary spin Ising models. Physics Letters, Section A: General, Atomic and Solid State Physics, 1977, 64, 325-326.	2.1	22
130	Calculation of the correlation time for motional narrowing of the ^{181}Ta Mössbauer line. Solid State Communications, 1976, 18, 541-543.	1.9	9
131	Thermodynamic properties of surface steps. Journal of Crystal Growth, 1976, 36, 11-14.	1.5	8
132	Spiral growth of crystals: Simulations on a stochastic model. Journal of Crystal Growth, 1976, 35, 73-78.	1.5	53
133	Solution of a truncated Kirkwood-Salsburg equation for the hard-sphere gas. Physical Review A, 1976, 13, 872-877.	2.5	3
134	Critical temperatures of the spin-sing model. Physical Review B, 1976, 13, 3071-3073.	3.2	34
135	Type-II order in face-centered-cubic Heisenberg antiferromagnets. Physical Review B, 1976, 13, 3912-3915.	3.2	8
136	"Critical" Slowing Down at the Roughening Transition. Physical Review Letters, 1976, 37, 1478-1481.	7.8	13
137	Comment on the linewidth of the nuclear acoustic resonance in bcc metals with hydrogen interstitials. Physical Review B, 1976, 13, 5096-5098.	3.2	4
138	Modified Callen decoupling in the Green's-function theory of Heisenberg antiferromagnets. Physical Review B, 1975, 11, 1935-1942.	3.2	11
139	Magnetic Order in the Heisenberg Model. Physical Review Letters, 1974, 32, 1439-1442.	7.8	11
140	The interpretation of a theorem by Lebowitz. Journal of Statistical Physics, 1973, 8, 293-294.	1.2	0
141	Does the face-centered-cubic, nearest-neighbor Heisenberg antiferromagnet have a non-zero Néel temperature?. Physics Letters, Section A: General, Atomic and Solid State Physics, 1973, 46, 63-64.	2.1	3
142	Antiferromagnetic order in cubic crystals. Journal of Physics C: Solid State Physics, 1973, 6, 3763-3773.	1.5	13
143	Nonmagnetic Impurity in a Heisenberg Ferromagnet with First- and Second-Neighbor Exchange. Physical Review B, 1972, 6, 1903-1907.	3.2	3
144	Modified Callen Decoupling in the Green's-Function Theory of the Heisenberg Ferromagnet with Application to the Europium Chalcogenides. Physical Review B, 1972, 5, 116-123.	3.2	52

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145	Green's Functions of the Face-Centered-Cubic Heisenberg Ferromagnet with Second-Neighbor Interactions. Physical Review B, 1972, 6, 2860-2875.	3.2	10
146	Zero-frequency behavior of thermodynamic green's functions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1967, 25, 505-506.	2.1	24