

Robert H Swendsen

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

143
papers

18,968
citations

42
h-index

137
g-index

149
ext. papers

20,273
ext. citations

3.6
avg, IF

6.59
L-index

#	Paper	IF	Citations
143	Monte Carlo renormalization-group calculation for the d=3 Ising model using a modified transformation. <i>Physical Review E</i> , 2021 , 104, 025311	2.4	
142	Thermodynamics of finite systems: a key issues review. <i>Reports on Progress in Physics</i> , 2018 , 81, 072001	14.4	12
141	Probability, Entropy, and Gibbs' Paradox(es). <i>Entropy</i> , 2018 , 20,	2.8	7
140	Finite thermal reservoirs and the canonical distribution. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017 , 484, 1-10	3.3	4
139	Detecting multi-spin interactions in the inverse Ising problem. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017 , 483, 293-298	3.3	1
138	Surprising convergence of the Monte Carlo renormalization group for the three-dimensional Ising model. <i>Physical Review E</i> , 2017 , 95, 053305	2.4	10
137	The definition of the thermodynamic entropy in statistical mechanics. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017 , 467, 67-73	3.3	10
136	Comparison of canonical and microcanonical definitions of entropy. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017 , 467, 474-489	3.3	12
135	Thermodynamics, Statistical Mechanics and Entropy. <i>Entropy</i> , 2017 , 19, 603	2.8	15
134	Negative temperatures and the definition of entropy. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016 , 453, 24-34	3.3	28
133	Magnetic ground state of semiconducting transition-metal trichalcogenide monolayers. <i>Physical Review B</i> , 2015 , 91,	3.3	248
132	Gibbs volume entropy is incorrect. <i>Physical Review E</i> , 2015 , 92, 020103	2.4	20
131	Continuity of the entropy of macroscopic quantum systems. <i>Physical Review E</i> , 2015 , 92, 052110	2.4	10
130	Cluster simulations of multi-spin Potts models. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015 , 2015, P01026	1.9	2
129	0.234: The Myth of a Universal Acceptance Ratio for Monte Carlo Simulations. <i>Physics Procedia</i> , 2015 , 68, 120-124		2
128	The ambiguity of distinguishability in statistical mechanics. <i>American Journal of Physics</i> , 2015 , 83, 545-554	7	8
127	Unnormalized probability: A different view of statistical mechanics. <i>American Journal of Physics</i> , 2014 , 82, 941-946	0.7	9

126	The Inverse Ising Problem. <i>Physics Procedia</i> , 2014 , 57, 99-103		5
125	A model of motor performance during surface penetration: from physics to voluntary control. <i>Experimental Brain Research</i> , 2013 , 230, 251-60	2.3	6
124	Guaranteeing total balance in Metropolis algorithm Monte Carlo simulations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013 , 392, 6288-6299	3.3	0
123	Using computation to teach the properties of the van der Waals fluid. <i>American Journal of Physics</i> , 2013 , 81, 776-781	0.7	
122	Efficiency and time-dependent cross correlations in multivariable Monte Carlo updating. <i>Physical Review E</i> , 2013 , 88, 053301	2.4	3
121	Numerical computation for teaching quantum statistics. <i>American Journal of Physics</i> , 2013 , 81, 866-872	0.7	4
120	Monte Carlo renormalization-group analysis of percolation. <i>Physical Review E</i> , 2013 , 88, 043307	2.4	3
119	Choosing a Definition of Entropy that Works. <i>Foundations of Physics</i> , 2012 , 42, 582-593	1.2	11
118	In defense of thermodynamics. <i>Journal of Thermal Analysis and Calorimetry</i> , 2012 , 110, 1547-1551	4.1	2
117	An Introduction to Statistical Mechanics and Thermodynamics 2012 ,		31
116	How physicists disagree on the meaning of entropy. <i>American Journal of Physics</i> , 2011 , 79, 342-348	0.7	29
115	How the maximum step size in Monte Carlo simulations should be adjusted. <i>Physics Procedia</i> , 2011 , 15, 81-86		9
114	Footnotes to the history of statistical mechanics: In Boltzmann's words. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010 , 389, 2898-2901	3.3	1
113	Optimized convergence for multiple histogram analysis. <i>Journal of Computational Physics</i> , 2009 , 228, 6119-6129	4.1	28
112	Explaining irreversibility. <i>American Journal of Physics</i> , 2008 , 76, 643-648	0.7	14
111	Haptic Rendering and Psychophysical Evaluation of a Virtual Three-Dimensional Helical Spring 2008 ,		24
110	Gibbs Paradox and the Definition of Entropy. <i>Entropy</i> , 2008 , 10, 15-18	2.8	34
109	Comparison of free energy methods for molecular systems. <i>Journal of Chemical Physics</i> , 2006 , 125, 1841-1849	3.4	115

108	Statistical mechanics of colloids and Boltzmann's definition of the entropy. <i>American Journal of Physics</i> , 2006 , 74, 187-190	0.7	46
107	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	3.3	4
106	The adaptive integration method for calculating general free energy functions. <i>Computer Physics Communications</i> , 2005 , 169, 274-276	4.2	2
105	Replica Monte Carlo Simulation (Revisited). <i>Progress of Theoretical Physics Supplement</i> , 2005 , 157, 317-323		26
104	Adaptive integration method for Monte Carlo simulations. <i>Physical Review E</i> , 2004 , 69, 056704	2.4	35
103	Response to Nagle's Criticism of My Proposed Definition of the Entropy. <i>Journal of Statistical Physics</i> , 2004 , 117, 1063-1070	1.5	4
102	Feeling textures through a probe: effects of probe and surface geometry and exploratory factors. <i>Perception & Psychophysics</i> , 2003 , 65, 613-31		117
101	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	3.3	5
100	Transition Matrix Monte Carlo Method. <i>Journal of Statistical Physics</i> , 2002 , 106, 245-285	1.5	135
99	Statistical Mechanics of Classical Systems with Distinguishable Particles. <i>Journal of Statistical Physics</i> , 2002 , 107, 1143-1166	1.5	32
98	Sweeny and Gliozzi dynamics for simulations of Potts models in the Fortuin-Kasteleyn representation. <i>Physical Review E</i> , 2002 , 66, 057101	2.4	14
97	Inverse Monte Carlo renormalization group transformations for critical phenomena. <i>Physical Review Letters</i> , 2002 , 89, 275701	7.4	17
96	Importance of multispin couplings in renormalized Hamiltonians. <i>Physical Review E</i> , 2002 , 66, 056106	2.4	4
95	Evaluation of experimental parameters for growth of homogeneous solid solutions. <i>Journal of Crystal Growth</i> , 2001 , 233, 609-617	1.6	8
94	Crystalline ground states of an entropically stabilized quasicrystal model. <i>Physical Review B</i> , 2001 , 64,	3.3	12
93	Calculation of effective Hamiltonians for renormalized or non-Hamiltonian systems. <i>Physical Review E</i> , 2001 , 63, 066128	2.4	6
92	TRANSITION MATRIX MONTE CARLO. <i>International Journal of Modern Physics C</i> , 1999 , 10, 1563-1569	1.1	15
91	Transition Matrix Monte Carlo Reweighting and Dynamics. <i>Physical Review Letters</i> , 1999 , 82, 476-479	7.4	113

90	Intermediate-temperature ordering in a three-state antiferromagnetic Potts model. <i>Physical Review B</i> , 1998 , 58, 9125-9130	3.3	5
89	Rotationally symmetric ordered phase in the three-state antiferromagnetic Potts model. <i>Physical Review B</i> , 1996 , 53, 2210-2212	3.3	16
88	HISTOGRAM ANALYSIS OF MONTE CARLO SIMULATION. <i>International Journal of Modern Physics C</i> , 1996 , 07, 281-285	1.1	1
87	Statistical errors in histogram reweighting. <i>Physical Review E</i> , 1995 , 51, 5092-5100	2.4	70
86	Multidimensional free-energy calculations using the weighted histogram analysis method. <i>Journal of Computational Chemistry</i> , 1995 , 16, 1339-1350	3.5	628
85	Improved variational wave function for the two-dimensional spin-1/2 Heisenberg antiferromagnet. <i>Physical Review B</i> , 1994 , 49, 3303-3307	3.3	5
84	Modern methods of analyzing Monte Carlo computer simulations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993 , 194, 53-62	3.3	55
83	Efficient Monte Carlo methods for the computer simulation of biological molecules. <i>Physical Review A</i> , 1992 , 45, 8894-8901	2.6	98
82	New monte carlo methods for improved efficiency of computer simulations in statistical mechanics. <i>Topics in Applied Physics</i> , 1992 , 75-91	0.5	18
81	THE weighted histogram analysis method for free-energy calculations on biomolecules. I. The method. <i>Journal of Computational Chemistry</i> , 1992 , 13, 1011-1021	3.5	4722
80	New Monte Carlo Methods for Improved Efficiency of Computer Simulations in Statistical Mechanics. <i>Topics in Applied Physics</i> , 1992 , 75-91	0.5	
79	Acceleration methods for Monte Carlo computer simulations. <i>Computer Physics Communications</i> , 1991 , 65, 281-288	4.2	2
78	Acceleration Algorithms in Monte Carlo Simulations in Statistical Physics. <i>International Journal of Modern Physics C</i> , 1991 , 02, 201-208	1.1	
77	Cluster Monte Carlo algorithms. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1990 , 167, 565-579	3.3	213
76	Three-state antiferromagnetic Potts models: A Monte Carlo study. <i>Physical Review B</i> , 1990 , 42, 2465-2474	3.3	96
75	Antiferromagnetic Potts models. <i>Physical Review Letters</i> , 1989 , 63, 109-112	7.4	102
74	Optimized Monte Carlo data analysis. <i>Physical Review Letters</i> , 1989 , 63, 1195-1198	7.4	2176
73	Optimized Monte Carlo Data Analysis. <i>Computers in Physics</i> , 1989 , 3, 101		56

72	New Monte Carlo technique for studying phase transitions. <i>Physical Review Letters</i> , 1988 , 61, 2635-2638	7.4	2223
71	Monte Carlo and high-temperature-expansion calculations of a spin-glass effective Hamiltonian. <i>Physical Review B</i> , 1988 , 38, 9086-9092	3.3	8
70	Anisotropic renormalization-group transformations. <i>Physical Review B</i> , 1988 , 37, 3531-3533	3.3	2
69	Monte Carlo renormalization-group study of Ising spin glasses. <i>Physical Review B</i> , 1988 , 37, 7745-7750	3.3	30
68	Low-temperature properties of the. <i>Physical Review B</i> , 1988 , 38, 4840-4844	3.3	74
67	Quasicrystal equilibrium state. <i>Physical Review Letters</i> , 1987 , 58, 706-709	7.4	152
66	Nonuniversal critical dynamics in Monte Carlo simulations. <i>Physical Review Letters</i> , 1987 , 58, 86-88	7.4	2002
65	Why the Brazil nuts are on top: Size segregation of particulate matter by shaking. <i>Physical Review Letters</i> , 1987 , 58, 1038-1040	7.4	703
64	Replica Monte Carlo simulation of spin glasses. <i>Physical Review Letters</i> , 1986 , 57, 2607-2609	7.4	1288
63	Swendsen responds. <i>Physical Review Letters</i> , 1986 , 56, 2333	7.4	8
62	Monte Carlo renormalization-group study of tricritical behavior in two dimensions. <i>Physical Review B</i> , 1986 , 33, 7700-7707	3.3	51
61	Monte Carlo simulation of particulate matter segregation. <i>Powder Technology</i> , 1986 , 49, 59-69	5.2	132
60	Statistical mechanics and disordered systems. <i>Communications of the ACM</i> , 1985 , 28, 363-373	2.5	21
59	Monte Carlo calculation of renormalized coupling parameters. II. d=3 Ising model. <i>Physical Review B</i> , 1984 , 30, 3875-3881	3.3	26
58	Monte Carlo calculation of renormalized coupling parameters. I. d=2 Ising model. <i>Physical Review B</i> , 1984 , 30, 3866-3874	3.3	42
57	First-Order Transition in an xy Model with Nearest-Neighbor Interactions. <i>Physical Review Letters</i> , 1984 , 52, 1535-1538	7.4	117
56	Optimization of Real-Space Renormalization-Group Transformations. <i>Physical Review Letters</i> , 1984 , 52, 2321-2323	7.4	45
55	Monte Carlo renormalization-group study of the rectangular Ising ferromagnet: Universality and a fixed line. <i>Physical Review B</i> , 1984 , 30, 2787-2794	3.3	13

54	New Universal Behavior for the Impure Baxter Model. <i>Physical Review Letters</i> , 1984 , 53, 679-682	7.4	25
53	Monte Carlo Calculation of Renormalized Coupling Parameters. <i>Physical Review Letters</i> , 1984 , 52, 1165-1168	7.4	89
52	Monte Carlo renormalization-group calculations of critical behavior in the simple-cubic Ising model. <i>Physical Review B</i> , 1984 , 29, 4030-4040	3.3	277
51	Monte Carlo renormalization group. <i>Journal of Statistical Physics</i> , 1984 , 34, 963-973	1.5	7
50	A helium diffraction study of the reconstructed Au(100) surface. <i>Surface Science</i> , 1983 , 127, 223-242	1.8	91
49	Monte Carlo renormalization-group studies of two-dimensional models. <i>Surface Science</i> , 1983 , 125, 104-115	1.5	1
48	Monte Carlo renormalization-group study of the d=3 planar model. <i>Physical Review B</i> , 1983 , 27, 391-400	3.3	24
47	Critical behavior of the three-state Potts model: Monte Carlo renormalization group. <i>Physical Review B</i> , 1983 , 28, 3897-3903	3.3	5
46	First- and Second-Order Phase Transitions in the d=2 XY Model. <i>Physical Review Letters</i> , 1982 , 49, 1302-1305	7.4	51
45	Monte Carlo renormalization-group studies of critical phenomena. <i>Journal of Applied Physics</i> , 1982 , 53, 1920-1924	2.5	8
44	Monte Carlo renormalization-group study of the Baxter-Wu model. <i>Physical Review B</i> , 1982 , 26, 330-336	3.3	21
43	Comment on a Monte Carlo test of theories for the planar model, the F model, and related systems. <i>Physical Review B</i> , 1982 , 25, 2019-2021	3.3	18
42	An iterative method for calculating hard-wall diffraction intensities. <i>Surface Science</i> , 1982 , 114, 405-413	1.8	20
41	Monte Carlo Renormalization Group 1982 , 395-422		3
40	Tricritical Universality in Two Dimensions. <i>Physical Review Letters</i> , 1981 , 46, 1437-1440	7.4	127
39	Dynamics of random sequential adsorption. <i>Physical Review A</i> , 1981 , 24, 504-508	2.6	235
38	Gauge-Invariant Renormalization-Group Transformation without Gauge Fixing. <i>Physical Review Letters</i> , 1981 , 47, 1775-1777	7.4	67
37	Duality relations for models with quenched random interactions. <i>Physical Review B</i> , 1981 , 24, 313-318	3.3	6

36	Critical exponents and marginality of the four-state Potts model: Monte Carlo renormalization group. <i>Physical Review B</i> , 1981 , 24, 6732-6735	3.3	24
35	Monte Carlo Renormalization-Group Transformations in Momentum Space. <i>Physical Review Letters</i> , 1981 , 47, 1159-1162	7.4	13
34	Monte Carlo renormalization-group studies of q-state Potts models in two dimensions. <i>Physical Review B</i> , 1980 , 21, 4094-4107	3.3	68
33	Critical behavior of the four-dimensional Ising model. <i>Physical Review B</i> , 1980 , 22, 4481-4483	3.3	33
32	First order phase transitions and the three-state potts model. <i>Journal of Magnetism and Magnetic Materials</i> , 1980 , 15-18, 399-400	2.8	3
31	The surprising effectiveness of the Migdal-Kadanoff renormalization scheme. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1979 , 69, 382-384	2.3	10
30	Monte Carlo Renormalization Group. <i>Physical Review Letters</i> , 1979 , 42, 859-861	7.4	271
29	First-Order Phase Transitions and the Three-State Potts Model. <i>Physical Review Letters</i> , 1979 , 43, 799-807	7.4	155
28	Monte Carlo Renormalization Group and Ising Models with $n \gg 2$. <i>Physical Review Letters</i> , 1979 , 43, 177-180	7.4	123
27	Monte Carlo renormalization-group studies of the d=2 Ising model. <i>Physical Review B</i> , 1979 , 20, 2080-2087	3.3	64
26	Critical behavior of the three-dimensional Ising model. <i>Physical Review B</i> , 1979 , 20, 2077-2079	3.3	38
25	The influence of impurities on interstitial diffusion. <i>Journal of Physics F: Metal Physics</i> , 1978 , 8, 433-446		38
24	Correlation functions in XY models and step free energies in roughening models. <i>Physical Review B</i> , 1978 , 17, 3710-3713	3.3	51
23	Monte Carlo study of the Coulomb gas and the Villain XY model in the discrete Gaussian roughening representation. <i>Physical Review B</i> , 1978 , 18, 492-502	3.3	30
22	Roughening transition in the solid-on-solid model. <i>Physical Review B</i> , 1977 , 15, 689-692	3.3	27
21	Exponent Inequalities at the Roughening Transition. <i>Physical Review Letters</i> , 1977 , 38, 615-617	7.4	11
20	Tricritical Transitions, Interface Roughening, and the Classical XY Model. <i>Physical Review Letters</i> , 1977 , 39, 1414-1417	7.4	32
19	Monte Carlo studies of the interface roughening transition. <i>Physical Review B</i> , 1977 , 15, 5421-5431	3.3	115

18	Space renormalization group approach to arbitrary spin Ising models. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1977 , 64, 325-326	2.3	22
17	Calculation of the correlation time for motional narrowing of the ^{181}Ta Mössbauer line. <i>Solid State Communications</i> , 1976 , 18, 541-543	1.6	7
16	Thermodynamic properties of surface steps. <i>Journal of Crystal Growth</i> , 1976 , 36, 11-14	1.6	8
15	Spiral growth of crystals: Simulations on a stochastic model. <i>Journal of Crystal Growth</i> , 1976 , 35, 73-78	1.6	50
14	Solution of a truncated Kirkwood-Salsburg equation for the hard-sphere gas. <i>Physical Review A</i> , 1976 , 13, 872-877	2.6	3
13	Critical temperatures of the spin-Ising model. <i>Physical Review B</i> , 1976 , 13, 3071-3073	3.3	34
12	Type-II order in face-centered-cubic Heisenberg antiferromagnets. <i>Physical Review B</i> , 1976 , 13, 3912-3915	3.3	7
11	"Critical" Slowing Down at the Roughening Transition. <i>Physical Review Letters</i> , 1976 , 37, 1478-1481	7.4	12
10	Comment on the linewidth of the nuclear acoustic resonance in bcc metals with hydrogen interstitials. <i>Physical Review B</i> , 1976 , 13, 5096-5098	3.3	4
9	Modified Callen decoupling in the Green's-function theory of Heisenberg antiferromagnets. <i>Physical Review B</i> , 1975 , 11, 1935-1942	3.3	10
8	Magnetic Order in the Heisenberg Model. <i>Physical Review Letters</i> , 1974 , 32, 1439-1442	7.4	11
7	The interpretation of a theorem by Lebowitz. <i>Journal of Statistical Physics</i> , 1973 , 8, 293-294	1.5	
6	Does the face-centered-cubic, nearest-neighbor Heisenberg antiferromagnet have a non-zero Néel temperature?. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1973 , 46, 63-64	2.3	3
5	Antiferromagnetic order in cubic crystals. <i>Journal of Physics C: Solid State Physics</i> , 1973 , 6, 3763-3773		12
4	Nonmagnetic Impurity in a Heisenberg Ferromagnet with First- and Second-Neighbor Exchange. <i>Physical Review B</i> , 1972 , 6, 1903-1907	3.3	3
3	Modified Callen Decoupling in the Green's-Function Theory of the Heisenberg Ferromagnet with Application to the Europium Chalcogenides. <i>Physical Review B</i> , 1972 , 5, 116-123	3.3	52
2	Green's Functions of the Face-Centered-Cubic Heisenberg Ferromagnet with Second-Neighbor Interactions. <i>Physical Review B</i> , 1972 , 6, 2860-2875	3.3	10
1	Zero-frequency behavior of thermodynamic green's functions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1967 , 25, 505-506	2.3	23

