

A Nihat Berker

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Scaling for first-order phase transitions in thermodynamic and finite systems. <i>Physical Review B</i> , 1982, 26, 2507-2513.	1.1	437
2	Renormalisation-group calculations of finite systems: order parameter and specific heat for epitaxial ordering. <i>Journal of Physics C: Solid State Physics</i> , 1979, 12, 4961-4975.	1.5	383
3	First- and Second-Order Phase Transitions in Potts Models: Renormalization-Group Solution. <i>Physical Review Letters</i> , 1979, 43, 737-740.	2.9	359
4	Blume-Emery-Griffiths-Potts model in two dimensions: Phase diagram and critical properties from a position-space renormalization group. <i>Physical Review B</i> , 1976, 14, 4946-4963.	1.1	334
5	Finite-temperature phase diagram of vicinal Si(100) surfaces. <i>Physical Review Letters</i> , 1990, 64, 2406-2409.	2.9	315
6	Random-field mechanism in random-bond multicritical systems. <i>Physical Review Letters</i> , 1989, 62, 2507-2510.	2.9	282
7	Multicritical phase diagrams of the Blume-Emery-Griffiths model with repulsive biquadratic coupling. <i>Physical Review Letters</i> , 1991, 67, 1027-1030.	2.9	215
8	Spin-Glass Behavior in Frustrated Ising Models with Chaotic Renormalization-Group Trajectories. <i>Physical Review Letters</i> , 1982, 48, 767-770.	2.9	209
9	Superfluidity and phase separation in helium films. <i>Physical Review B</i> , 1979, 19, 2488-2503.	1.1	184
10	Inverted Berezinskii-Kosterlitz-Thouless singularity and high-temperature algebraic order in an Ising model on a scale-free hierarchical-lattice small-world network. <i>Physical Review E</i> , 2006, 73, 066126.	0.8	141
11	Orderings of a stacked frustrated triangular system in three dimensions. <i>Physical Review B</i> , 1984, 29, 5250-5252.	1.1	132
12	Critical behavior induced by quenched disorder. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 194, 72-76.	1.2	124
13	Commensurate-Incommensurate Phase Diagrams for Overlayers from a Helical Potts Model. <i>Physical Review Letters</i> , 1982, 48, 1552-1555.	2.9	114
14	Scale-invariant quenched disorder and its stability criterion at random critical points. <i>Physical Review B</i> , 1984, 29, 2630-2635.	1.1	100
15	Frustrated Spin-Gas Model for Doubly Reentrant Liquid Crystals. <i>Physical Review Letters</i> , 1981, 47, 1469-1472.	2.9	98
16	Multicritical Phase Diagram of Gases Adsorbed on Graphite: Temperature Variation and Finite-Size Effects. <i>Physical Review Letters</i> , 1979, 42, 843-846.	2.9	94
17	Correlated Random-Chemical-Potential Model for the Phase Transitions of Helium Mixtures in Porous Media. <i>Physical Review Letters</i> , 1995, 74, 426-429.	2.9	94
18	Absence of temperature-driven first-order phase transitions in systems with random bonds (invited). <i>Journal of Applied Physics</i> , 1991, 70, 5941-5945.	1.1	92

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19	Monte Carlo mean-field theory and frustrated systems in two and three dimensions. Physical Review Letters, 1991, 66, 377-380.	2.9	91
20	Tricritical and Critical End-Point Phenomena under Random Bonds. Physical Review Letters, 1996, 76, 4380-4383.	2.9	78
21	Renormalization-group theory of the random-field Ising model in three dimensions. Physical Review B, 1995, 51, 8266-8269.	1.1	68
22	Quadruple reentrance (nematic-smectic-Ad-nematic-smectic-Ad-nematic-smectic-A1) from the frustrated spin-gas model of liquid crystals. Physical Review A, 1986, 33, 1158-1162.	1.0	67
23	Dimensionality effects on the multicritical phase diagrams of the Blume-Emery-Griffiths model with repulsive biquadratic coupling: Mean-field and renormalization-group studies. Journal of Applied Physics, 1991, 70, 6101-6103.	1.1	63
24	Strong violation of critical phenomena universality: Wang-Landau study of the two-dimensional Blume-Capel model under bond randomness. Physical Review E, 2009, 79, 011125.	0.8	58
25	Multicritical points and crossover mediating the strong violation of universality: Wang-Landau determinations in the random-bond d -Blume-Capel model. Physical Review E, 2010, 81, 041113.	0.8	56
26	Random-Field Mechanism in Random-Bond Multicritical Systems. Physical Review Letters, 1989, 63, 2433-2433.	2.9	55
27	Reentrant melting of krypton adsorbed on graphite and the helical Potts-lattice-gas model. Physical Review B, 1985, 31, 4527-4537.	1.1	54
28	Fully and partially frustrated simple-cubic Ising models: Landau-Ginzburg-Wilson theory. Physical Review B, 1984, 30, 1362-1365.	1.1	52
29	Molecular structure and reentrant phases in polar liquid crystals. Journal De Physique, 1988, 49, 353-362.	1.8	50
30	Amorphously packed, frustrated hierarchical models: Chaotic rescaling and spin-glass behavior. Journal of Applied Physics, 1982, 53, 7974-7976.	1.1	49
31	Global random-field spin-glass phase diagrams in two and three dimensions. Physical Review B, 1998, 57, 426-431.	1.1	48
32	Renormalization-group theory of an internal critical-end-point structure: The Blume-Emery-Griffiths model with biquadratic repulsion. Physical Review B, 1993, 47, 15019-15022.	1.1	47
33	Magnetic susceptibilities of cluster-hierarchical models. Physical Review B, 1984, 29, 1315-1320.	1.1	44
34	Ordering under random fields: Renormalization-group arguments. Physical Review B, 1984, 29, 5243-5245.	1.1	44
35	Reentrant transition enthalpies of liquid crystals: The frustrated spin-gas model and experiments. Physical Review A, 1987, 35, 1371-1375.	1.0	43
36	Hierarchical models and chaotic spin glasses. Journal of Statistical Physics, 1984, 36, 787-793.	0.5	41

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37	Orderings and renormalization-group flows of a stacked frustrated triangular system in three dimensions. <i>Journal of Applied Physics</i> , 1984, 55, 2416-2418.	1.1	39
38	Smectic-Corder, in-plane domains, and nematic reentrance in a microscopic model of liquid crystals. <i>Physical Review Letters</i> , 1992, 68, 333-336.	2.9	38
39	Multicritical points for spin-glass models on hierarchical lattices. <i>Physical Review E</i> , 2008, 77, 061116.	0.8	38
40	Theory and simulations of water flow through carbon nanotubes: prospects and pitfalls. <i>Journal of Physics Condensed Matter</i> , 2011, 23, 184110.	0.7	32
41	Oxygen chemisorbed on Ni(100): A renormalization-group study of the global phase diagram. <i>Physical Review B</i> , 1984, 29, 1279-1286.	1.1	30
42	Blume-Emery-Griffiths spin glass and inverted tricritical points. <i>Physical Review E</i> , 2008, 78, 031104.	0.8	30
43	Equimagnetization lines in the hybrid-order phase diagram of the $d=3$ random-field Ising model (invited). <i>Journal of Applied Physics</i> , 1988, 64, 5785-5786.	1.1	29
44	Universality aspects of the $d=3$ random-field Blume-Capel model. <i>Physical Review E</i> , 2012, 85, 061106.	0.8	29
45	Modified hyperscaling relation for phase transitions under random fields. <i>Physical Review B</i> , 1986, 33, 4712-4715.	1.1	28
46	High q -state clock spin glasses in three dimensions and the Lyapunov exponents of chaotic phases and chaotic phase boundaries. <i>Physical Review E</i> , 2013, 87, .	0.8	27
47	Critical interactions for the triangular spin-sing model by a spin-restructuring transformation. <i>Physical Review B</i> , 1975, 12, 2752-2758.	1.1	26
48	Critical exponents and marginality of the four-state Potts model: Monte Carlo renormalization group. <i>Physical Review B</i> , 1981, 24, 6732-6735.	1.1	26
49	Chaotic spin glasses: An upper critical dimension (invited). <i>Journal of Applied Physics</i> , 1984, 55, 1646-1648.	1.1	26
50	Hard-spin mean-field theory: Formulation for Ising, XY, and other models. <i>Journal of Applied Physics</i> , 1991, 70, 6074-6076.	1.1	26
51	Critical percolation phase and thermal Berezinskii-Kosterlitz-Thouless transition in a scale-free network with short-range and long-range random bonds. <i>Physical Review E</i> , 2009, 80, 041118.	0.8	26
52	Overfrustrated and underfrustrated spin glasses $d=3$ and $d=2$: Evolution of phase diagrams and chaos including spin-glass order $d=2$. <i>Physical Review E</i> , 2014, 89, 042139.	0.8	26
53	Random-field effects in metamagnet tricritical-point measurements. <i>Physical Review B</i> , 1982, 26, 3751-3757.	1.1	24
54	Biaxial order in liquid crystals and their mixtures: A Potts-Ising model. <i>Physical Review A</i> , 1984, 30, 2562-2567.	1.0	24

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55	Multiplicity of ordered phases in frustrated systems obtained from hard-spin mean-field theory. Physical Review E, 2000, 62, R1469-R1472.	0.8	24
56	Odd-q-state clock spin-glass models in three dimensions, asymmetric phase diagrams, and multiple algebraically ordered phases. Physical Review E, 2014, 90, 062112.	0.8	24
57	Alerhandet al. Reply. Physical Review Letters, 1991, 66, 962-962.	2.9	23
58	Multicritical point relations in three dual pairs of hierarchical-lattice Ising spin glasses. Physical Review B, 2005, 72, .	1.1	22
59	Reentrant and forward phase diagrams of the anisotropic three-dimensional Ising spin glass. Physical Review E, 2008, 77, 061110.	0.8	20
60	First- and second-order phase transitions in Potts models: Competing mechanisms (invited). Journal of Applied Physics, 1982, 53, 7923-7926.	1.1	19
61	Phase diagram of the Ising model on the square lattice with crossed diagonal bonds. Physical Review B, 1993, 48, 12393-12398.	1.1	19
62	Netz and Berker reply. Physical Review Letters, 1991, 67, 1808-1808.	2.9	18
63	Harris criterion for direct and orthogonal quenched randomness. Physical Review B, 1990, 42, 8640-8642.	1.1	16
64	Closed-form solutions and free energy of hard-spin mean-field theory of a fully frustrated system. Physical Review E, 1994, 49, 2680-2683.	0.8	16
65	Phase diagrams and crossover in spatially anisotropic d=3 Ising, XY magnetic, and percolation systems: Exact renormalization-group solutions of hierarchical models. Physical Review E, 2005, 72, 026129.	0.8	16
66	Chaotic spin correlations in frustrated Ising hierarchical lattices. Physical Review B, 2009, 79, .	1.1	16
67	Lower-critical spin-glass dimension from 23 sequenced hierarchical models. Physical Review E, 2015, 92, 022136.	0.8	15
68	Chiral Potts spin glass in $d=3$ dimensions. Physical Review E, 2016, 94, 032121.	0.8	15
69	Exact criticality condition for randomly layered Ising models with competing interactions on a square lattice. Physical Review B, 1982, 26, 219-225.	1.1	14
70	Finite-temperature phase diagram of the J-model: Renormalization-group theory. Physical Review B, 1995, 51, 12458-12463.	1.1	14
71	Quantum-Mechanically Induced Asymmetry in the Phase Diagrams of Spin-Glass Systems. Physical Review Letters, 2008, 100, 027204.	2.9	14
72	Infinitely robust order and local order-parameter tulips in Apollonian networks with quenched disorder. Physical Review E, 2009, 79, 061120.	0.8	14

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73	Pressure studies on phase transitions in 4-alkoxyphenyl-4-nitrobenzoyloxybenzoates. Physical Review A, 1989, 39, 4341-4344.	1.0	13
74	Renormalization-Group Calculation of Local Magnetizations and Correlations: Random-Bond, Random-Field, and Spin-Glass Systems. Physical Review Letters, 1997, 78, 1564-1567.	2.9	13
75	Scaling of thermal hysteresis at nematic-smectic-A phase transition in a binary mixture. Physical Review E, 2004, 69, 031705.	0.8	13
76	Finite-temperature phase diagram of nonmagnetic impurities in high-temperature superconductors using a $d=3$ with quenched disorder. Physical Review B, 2008, 78, .	1.1	13
77	Lower lower-critical spin-glass dimension from quenched mixed-spatial-dimensional spin glasses. Physical Review E, 2018, 98, .	0.8	13
78	Mixtures in the frustrated spin-gas theory of reentrant polar liquid crystals. Physical Review A, 1989, 39, 4201-4206.	1.0	12
79	High-precision thermodynamic and critical properties from tensor renormalization-group flows. Physical Review E, 2008, 77, 011104.	0.8	12
80	Quenched-vacancy induced spin-glass order. Physical Review E, 2009, 79, 021110.	0.8	12
81	Phase transitions between different spin-glass phases and between different chaos in quenched random chiral systems. Physical Review E, 2017, 96, 032103.	0.8	12
82	Complete density calculations of q -state Potts and clock models: Reentrance of interface densities under symmetry breaking. Physical Review E, 2020, 102, 062135.	0.8	11
83	Hyperscaling and crossover exponents near the percolation threshold. Journal of Physics C: Solid State Physics, 1982, 15, L801-L805.	1.5	10
84	Vicinal Si(100) surfaces under external strain. Physical Review B, 1996, 53, 1002-1005.	1.1	10
85	Smectic A-C-A Liquid Crystal Reentrance: A Photon Transmission Study. Phase Transitions, 2002, 75, 301-308.	0.6	10
86	Excitation spectrum gap and spin-wave velocity of XXZ Heisenberg chains: Global renormalization-group calculation. Physical Review B, 2008, 77, .	1.1	10
87	Devil's staircase continuum in the chiral clock spin glass with competing ferromagnetic-antiferromagnetic and left-right chiral interactions. Physical Review E, 2017, 95, 042125.	0.8	10
88	Spin-wave bound-state energies from an Ising model. Physical Review B, 1994, 49, 1073-1078.	1.1	8
89	Deep spin-glass hysteresis-area collapse and scaling in the three-dimensional \pm Ising model. Physical Review E, 2012, 86, 041107.	0.8	8
90	Stepwise positional-orientational order and the multicritical-multistructural global phase diagram of the $s=3$ model from renormalization-group theory. Physical Review E, 2016, 93, 062113.	0.8	8

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91	First-order to second-order phase transition changeover and latent heats of q -state Potts models in $d=2,3$ from a simple Migdal-Kadanoff adaptation. <i>Physical Review E</i> , 2022, 105, .	0.8	8
92	Quenched bond randomness: Superfluidity in porous media and the strong violation of universality. <i>Journal of Low Temperature Physics</i> , 1997, 107, 51-75.	0.6	7
93	Strongly Asymmetric Tricriticality of Quenched Random-Field Systems. <i>Physical Review Letters</i> , 1999, 82, 2572-2574.	2.9	7
94	THE A-C-A PHASE DIAGRAM OF MIXED LIQUID CRYSTALS: A PHOTON TRANSMISSION STUDY. <i>International Journal of Modern Physics B</i> , 2001, 15, 2161-2167.	1.0	7
95	Field-driven hysteresis of the $d=3$ Ising spin glass: Hard-spin mean-field theory. <i>Physical Review B</i> , 2007, 76, .	1.1	7
96	Critical behavior of the three-state Potts model: Monte Carlo renormalization group. <i>Physical Review B</i> , 1983, 28, 3897-3903.	1.1	6
97	Renormalization-group study of superfluidity and phase separation of helium mixtures immersed in a disordered porous medium. <i>Physical Review B</i> , 1997, 56, 11865-11871.	1.1	6
98	The Frustrated Spin-Gas Theory of Multiply Reentrant Liquid Crystals. <i>NATO ASI Series Series B: Physics</i> , 1987, , 205-213.	0.2	6
99	Renormalization-group study of superfluidity and phase separation of helium mixtures immersed in a nonrandom aerogel. <i>Physical Review B</i> , 1997, 55, 3798-3802.	1.1	5
100	Interface-roughening phase diagram of the three-dimensional Ising model for all interaction anisotropies from hard-spin mean-field theory. <i>Physical Review E</i> , 2011, 84, 051129.	0.8	5
101	Summary Abstract: Theory of reentrant melting of krypton adsorbed on graphite. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1985, 3, 1592-1593.	0.9	4
102	Comparative study of liquid-crystalline ordering in a monomer, linear polymer, and graft copolymer by the photon transmission technique. <i>Phase Transitions</i> , 2003, 76, 991-998.	0.6	4
103	Phase transitions of the variety of random-field Potts models. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2021, 583, 126339.	1.2	4
104	Asymmetric phase diagrams, algebraically ordered Berezinskii-Kosterlitz-Thouless phase, and peninsular Potts flow structure in long-range spin glasses. <i>Physical Review E</i> , 2022, 105, 024122.	0.8	4
105	Finite-temperature phase diagram of the Hubbard model. <i>European Physical Journal B</i> , 2000, 17, 3-6.	0.6	3
106	Tensor renormalization group: Local magnetizations, correlation functions, and phase diagrams of systems with quenched randomness. <i>Physical Review E</i> , 2010, 82, 051110.	0.8	3
107	Frustrated Potts model: Multiplicity eliminates chaos via reentrance. <i>Physical Review E</i> , 2020, 102, 022122.	0.8	3
108	The effect of weekend curfews on epidemics: a Monte Carlo simulation. <i>Turkish Journal of Biology</i> , 2021, 45, 436-441.	2.1	3

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109	Cratering due to surface defects in the Gaussian model. Journal of Chemical Physics, 1983, 78, 529-535.	1.2	2
110	Frustrated further-neighbor antiferromagnetic and electron-hopping interactions in the $d=3$ model: Finite-temperature global phase diagrams from renormalization group theory. Physical Review B, 2009, 80, .	1.1	2
111	Uncovering the secrets of the 2D random-bond Blume-Capel model. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 2930-2933.	1.2	2
112	Phase separation and charge-ordered phases of the $d=3$ Falicov-Kimball model at nonzero temperature: Temperature-density-chemical potential global phase diagram from renormalization-group theory. Physical Review B, 2011, 84, .	1.1	2
113	Successively thresholded domain boundary roughening driven by pinning centers and missing bonds: Hard-spin mean-field theory applied to $d=3$ Ising magnets. Physical Review E, 2015, 92, 062131.	0.8	2
114	Maximally random discrete-spin systems with symmetric and asymmetric interactions and maximally degenerate ordering. Physical Review E, 2018, 97, 052102.	0.8	2
115	Electric-field induced phase transitions in capillary electrophoretic systems. Physics of Fluids, 2021, 33, 107114.	1.6	2
116	Comment on "Spin-glass attractor on tridimensional hierarchical lattices in the presence of an external magnetic field": Physical Review E, 2010, 81, 043101.	0.8	1
117	Across dimensions: Two- and three-dimensional phase transitions from the iterative renormalization-group theory of chains. Physical Review E, 2020, 102, 032134.	0.8	1
118	Metastable reverse-phase droplets within ordered phases: Renormalization-group calculation of field and temperature dependence of limiting size. Physical Review E, 2020, 101, 042127.	0.8	1
119	Spin- s spin-glass phases in the $d=3$ Ising model. Physical Review E, 2021, 104, 044131.	0.8	1
120	A binding site model of membrane transport: Binary and cooperative flows. Journal of Membrane Biology, 1979, 50, 205-224.	1.0	0
121	Random-field mechanism in random-bond multicritical systems (abstract). Journal of Applied Physics, 1990, 67, 5991-5991.	1.1	0
122	Statistical Mechanics of Phase Transitions with a Hierarchy of Structures. Materials Research Society Symposia Proceedings, 1991, 255, 309.	0.1	0
123	Wang's Landau study of the 2d random-bond Blume-Capel model. Physics Procedia, 2010, 3, 1443-1446.	1.2	0
124	Metastable Potts droplets. Physical Review E, 2021, 103, 032102.	0.8	0
125	Absence of Temperature-Driven First-Order Phase Transitions in Systems with Random Bonds. NATO ASI Series Series B: Physics, 1991, , 411-417.	0.2	0