Robert M Ziff

List of Publications by Year
in descending order

144 papers	7,910 citations	57758 44 h-index	51608 86 g-index
146 all docs	146 docs citations	146 times ranked	3898 citing authors

#	Article	IF	Citations
1	Site and bond percolation thresholds on regular lattices with compact extended-range neighborhoods in two and three dimensions. Physical Review E, 2022, 105, 024105.	2.1	12
2	Site and bond percolation on four-dimensional simple hypercubic lattices with extended neighborhoods. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 033202.	2.3	3
3	The elastic and directed percolation backbone. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 244002.	2.1	1
4	Critical percolation on the kagome hypergraph. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 055006.	2.1	3
5	Site percolation on square and simple cubic lattices with extended neighborhoods and their continuum limit. Physical Review E, 2021, 103, 022126.	2.1	19
6	Percolation and the pandemic. Physica A: Statistical Mechanics and Its Applications, 2021, 568, 125723.	2.6	29
7	Critical pore radius and transport properties of disordered hard- and overlapping-sphere models. Physical Review E, 2021, 104, 014127.	2.1	9
8	Improving Dissolution Behavior and Oral Absorption of Drugs with pH-Dependent Solubility Using pH Modifiers: A Physiologically Realistic Mass Transport Analysis. Molecular Pharmaceutics, 2021, 18, 3326-3341.	4.6	13
9	Renormalization group theory of percolation on pseudofractal simplicial and cell complexes. Physical Review E, 2020, 102, 012308.	2.1	8
10	Universal correlations in percolation. Frontiers of Physics, 2020, 15, 1.	5.0	1
11	Hierarchical Mass Transfer Analysis of Drug Particle Dissolution, Highlighting the Hydrodynamics, pH, Particle Size, and Buffer Effects for the Dissolution of Ionizable and Nonionizable Drugs in a Compendial Dissolution Vessel. Molecular Pharmaceutics, 2020, 17, 3870-3884.	4.6	19
12	Bond percolation between <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>k</mml:mi></mml:math> separated points on a square lattice. Physical Review E, 2020, 101, 062143.	2.1	5
13	Bond percolation on simple cubic lattices with extended neighborhoods. Physical Review E, 2020, 102, 012102.	2.1	14
14	Precise bond percolation thresholds on several four-dimensional lattices. Physical Review Research, 2020, 2, .	3.6	16
15	Jamming and percolation of dimers in restricted-valence random sequential adsorption. Physical Review Research, 2020, 2, .	3.6	8
16	Renormalization group for link percolation on planar hyperbolic manifolds. Physical Review E, 2019, 100, 022306.	2.1	15
17	Exact finite-size corrections in the dimer model on a planar square lattice. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 335001.	2.1	5
18	Elucidating structureâ€“performance relationships in whole-cell cooperative enzyme catalysis. Nature Catalysis, 2019, 2, 809-819.	34.4	18

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19	Mass Transport Analysis of Bicarbonate Buffer: Effect of the CO₂â€“H₂CO₃ Hydrationâ€“Dehydration Kinetics in the Fluid Boundary Layer and the Apparent Effective pK_a Controlling Dissolution of Acids and Bases. Molecular Pharmaceutics, 2019, 16, 2626-2635.	4.6	34
20	Random sequential adsorption of particles with tetrahedral symmetry. Physical Review E, 2019, 100, 052903.	2.1	6
21	Percolation on branching simplicial and cell complexes and its relation to interdependent percolation. Physical Review E, 2019, 100, 062311.	2.1	20
22	Kinetic Monte-Carlo Simulation of Methane Steam Reforming over a Nickel Surface. Catalysts, 2019, 9, 946.	3.5	3
23	Boundary conditions in random sequential adsorption. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 043302.	2.3	33
24	Critical percolation clusters in seven dimensions and on a complete graph. Physical Review E, 2018, 97, 022107.	2.1	17
25	Topological percolation on hyperbolic simplicial complexes. Physical Review E, 2018, 98, .	2.1	40
26	Influence of surface nano-patterning on the placement of InAs quantum dots. Journal of Applied Physics, 2018, 124, 115307.	2.5	3
27	Formulation predictive dissolution (fPD) testing to advance oral drug product development: An introduction to the US FDA funded â€˜21st Century BA/BEâ€™ project. International Journal of Pharmaceutics, 2018, 548, 120-127.	5.2	41
28	Summary of the In Vivo Predictive Dissolution (iPD) - Oral Drug Delivery (ODD) Conference 2018. Dissolution Technologies, 2018, 25, 50-53.	0.6	2
29	Percolation of disordered jammed sphere packings. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 085001.	2.1	43
30	Universal features of cluster numbers in percolation. Physical Review E, 2017, 96, 052119.	2.1	7
31	A formula for crossing probabilities of critical systems inside polygons. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 064005.	2.1	14
32	Percolation in finite matching lattices. Physical Review E, 2016, 94, 062152.	2.1	19
33	In a search for a shape maximizing packing fraction for two-dimensional random sequential adsorption. Journal of Chemical Physics, 2016, 145, 044708.	3.0	39
34	Partial oxidation of methane on a nickel catalyst: Kinetic Monte-Carlo simulation study. Chemical Engineering Science, 2016, 147, 128-136.	3.8	11
35	Honeycomb lattices with defects. Physical Review E, 2016, 93, 042132.	2.1	7
36	No-Enclave Percolation Corresponds to Holes in the Cluster Backbone. Physical Review Letters, 2016, 117, 185701.	7.8	10

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37	Dimer covering and percolation frustration. Physical Review E, 2015, 92, 032134.	2.1	8
38	Percolation on hypergraphs with four-edges. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 405004.	2.1	5
39	Shapes for maximal coverage for two-dimensional random sequential adsorption. Physical Chemistry Chemical Physics, 2015, 17, 24376-24381.	2.8	28
40	Percolation crossing probabilities in hexagons: a numerical study. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 025001.	2.1	4
41	Recent advances and open challenges in percolation. European Physical Journal: Special Topics, 2014, 223, 2307-2321.	2.6	107
42	Retention capacity of correlated surfaces. Physical Review E, 2014, 89, 062141.	2.1	4
43	Short-range correlations in percolation at criticality. Physical Review E, 2014, 90, 042106.	2.1	20
44	Getting the Jump on Explosive Percolation. Science, 2013, 339, 1159-1160.	12.6	9
45	The critical manifolds of inhomogeneous bond percolation on bow-tie and checkerboard lattices. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 494005.	2.1	18
46	Cluster pinch-point densities in polygons. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 505002.	2.1	6
47	Crossing on hyperbolic lattices. Physical Review E, 2012, 85, 051141.	2.1	14
48	Crossover from isotropic to directed percolation. Physical Review E, 2012, 86, 021102.	2.1	15
49	Retention Capacity of Random Surfaces. Physical Review Letters, 2012, 108, 045703.	7.8	20
50	Shortest-path fractal dimension for percolation in two and three dimensions. Physical Review E, 2012, 86, 061101.	2.1	30
51	Ordinary percolation with discontinuous transitions. Nature Communications, 2012, 3, 787.	12.8	90
52	Factorization of correlations in two-dimensional percolation on the plane and torus. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 065002.	2.1	11
53	Cluster densities at 2D critical points in rectangular geometries. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 385002.	2.1	7
54	Results for a critical threshold, the correction-to-scaling exponent and susceptibility amplitude ratio for 2d percolation. Physics Procedia, 2011, 15, 106-112.	1.2	11

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55	A new scale-invariant ratio and finite-size scaling for the stochastic susceptibleâ€“infectedâ€“recovered model. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P03006.	2.3	17
56	Correction-to-scaling exponent for two-dimensional percolation. Physical Review E, 2011, 83, 020107.	2.1	30
57	Tricritical Point in Explosive Percolation. Physical Review Letters, 2011, 106, 095703.	7.8	78
58	Self-dual Planar Hypergraphs and Exact Bond Percolation Thresholds. Electronic Journal of Combinatorics, 2011, 18, .	0.4	9
59	Fractal dimensions of theQ-state Potts model for complete and external hulls. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P03004.	2.3	6
60	The barrier method: A technique for calculating very long transition times. Journal of Chemical Physics, 2010, 133, 124103.	3.0	11
61	Computation of nucleation at a nonequilibrium first-order phase transition using a rare-event algorithm. Journal of Chemical Physics, 2010, 133, 174107.	3.0	14
62	Critical surfaces for general inhomogeneous bond percolation problems. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P03021.	2.3	22
63	Scaling behavior of explosive percolation on the square lattice. Physical Review E, 2010, 82, 051105.	2.1	96
64	Critical behavior of the susceptible-infected-recovered model on a square lattice. Physical Review E, 2010, 82, 051921.	2.1	56
65	Universal condition for critical percolation thresholds of kagomÃ©-like lattices. Physical Review E, 2009, 79, 020102.	2.1	29
66	Patchy percolation on a hierarchical network with small-world bonds. Physical Review E, 2009, 80, 041115.	2.1	50
67	Factorization of percolation density correlation functions for clusters touching the sides of a rectangle. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02067.	2.3	11
68	The harmonic measure of diffusion-limited aggregates including rare events. Europhysics Letters, 2009, 87, 20001.	2.0	11
69	Explosive Growth in Biased Dynamic Percolation on Two-Dimensional Regular Lattice Networks. Physical Review Letters, 2009, 103, 045701.	7.8	162
70	Percolation in networks with voids and bottlenecks. Physical Review E, 2009, 79, 021118.	2.1	17
71	Harmonic measure for critical Potts clusters. Physical Review E, 2009, 80, 031141.	2.1	2
72	Percolation thresholds on two-dimensional Voronoi networks and Delaunay triangulations. Physical Review E, 2009, 80, 041101.	2.1	42

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73	Capture of particles undergoing discrete random walks. Journal of Chemical Physics, 2009, 130, 204104.	3.0	28
74	Efficient Simulation of Percolation Lattices. , 2009, , 25-47.		0
75	Universal Record Statistics of Random Walks and LÃ©vy Flights. Physical Review Letters, 2008, 101, 050601.	7.8	98
76	Harmonic Measure for Percolation and Ising Clusters Including Rare Events. Physical Review Letters, 2008, 101, 144102.	7.8	12
77	Critical Surfaces for General Bond Percolation Problems. Physical Review Letters, 2008, 100, 185701.	7.8	32
78	The density of critical percolation clusters touching the boundaries of strips and squares. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P06012-P06012.	2.3	4
79	General flux to a trap in one and three dimensions. Journal of Physics Condensed Matter, 2007, 19, 065102.	1.8	11
80	Exact factorization of correlation functions in two-dimensional critical percolation. Physical Review E, 2007, 76, 041106.	2.1	13
81	Asymmetry in the percolation thresholds of fully penetrable disks with two different radii. Physical Review E, 2007, 76, 051115.	2.1	88
82	Percolation crossing formulae and conformal field theory. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F771-F784.	2.1	36
83	Unified Solution of the Expected Maximum of a Discrete Time Random Walk and the Discrete Flux to a Spherical Trap. Journal of Statistical Physics, 2006, 122, 833-856.	1.2	30
84	A Stochastic Model for Wound Healing. Journal of Statistical Physics, 2006, 122, 909-924.	1.2	60
85	Exact bond percolation thresholds in two dimensions. Journal of Physics A, 2006, 39, 15083-15090.	1.6	56
86	Universal amplitude ratioÎ“â^'â^•Î“+for two-dimensional percolation. Physical Review E, 2006, 74, 020101.	2.1	9
87	Anchored Critical Percolation Clusters and 2D Electrostatics. Physical Review Letters, 2006, 97, 115702.	7.8	18
88	Generalized cellâ€“dual-cell transformation and exact thresholds for percolation. Physical Review E, 2006, 73, 016134.	2.1	65
89	Predictions of bond percolation thresholds for the kagomÃ© and Archimedean(3,122)lattices. Physical Review E, 2006, 73, 045102.	2.1	32
90	Response of a catalytic reaction to periodic variation of the CO pressure: IncreasedCO2production and dynamic phase transition. Physical Review E, 2005, 71, 016120.	2.1	39

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91	Simple algorithm to test for linking to Wilson loops in percolation. Physical Review E, 2005, 72, 017104.	2.1	1
92	Nanoscale Adhesion Ligand Organization Regulates Osteoblast Proliferation and Differentiation. Nano Letters, 2004, 4, 1501-1506.	9.1	164
93	Title is missing!. Journal of Statistical Physics, 2003, 110, 1-33.	1.2	66
94	Convergence of threshold estimates for two-dimensional percolation. Physical Review E, 2002, 66, 016129.	2.1	66
95	The effects of surface defects in a catalysis model. Surface Science, 2002, 517, 75-86.	1.9	15
96	Fast Monte Carlo algorithm for site or bond percolation. Physical Review E, 2001, 64, 016706.	2.1	404
97	Excess number of percolation clusters on the surface of a sphere. Physica A: Statistical Mechanics and Its Applications, 2001, 296, 1-8.	2.6	3
98	Precise determination of the critical percolation threshold for the three-dimensional â€œSwiss cheeseâ€• model using a growth algorithm. Journal of Chemical Physics, 2001, 114, 3659-3661.	3.0	182
99	Percolation threshold, Fisher exponent, and shortest path exponent for four and five dimensions. Physical Review E, 2001, 64, 026115.	2.1	51
100	Similarity of Percolation Thresholds on the HCP and FCC Lattices. Journal of Statistical Physics, 2000, 98, 961-970.	1.2	60
101	REEXAMINATION OF SEVEN-DIMENSIONAL SITE PERCOLATION THRESHOLD. International Journal of Modern Physics C, 2000, 11, 205-209.	1.7	10
102	Efficient measurement of the percolation threshold for fully penetrable discs. Journal of Physics A, 2000, 33, L399-L407.	1.6	177
103	Efficient Monte Carlo Algorithm and High-Precision Results for Percolation. Physical Review Letters, 2000, 85, 4104-4107.	7.8	418
104	Exact critical exponent for the shortest-path scaling function in percolation. Journal of Physics A, 1999, 32, L457-L459.	1.6	23
105	Shape-dependent universality in percolation. Physica A: Statistical Mechanics and Its Applications, 1999, 266, 17-26.	2.6	45
106	Site percolation on the Penrose rhomb lattice. Physica A: Statistical Mechanics and Its Applications, 1999, 269, 201-210.	2.6	9
107	Site percolation thresholds for Archimedean lattices. Physical Review E, 1999, 60, 275-283.	2.1	132
108	Exact results at the two-dimensional percolation point. Physical Review B, 1998, 57, R8075-R8078.	3.2	30

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109	Precise determination of the bond percolation thresholds and finite-size scaling corrections for the sc, fcc, and bcc lattices. Physical Review E, 1998, 57, 230-236.	2.1	291
110	Universality of the excess number of clusters and the crossing probability function in three-dimensional percolation. Journal of Physics A, 1998, 31, 8147-8157.	1.6	91
111	Four-tap shift-register-sequence random-number generators. Computers in Physics, 1998, 12, 385.	0.5	86
112	Dynamic behavior of the monomerâ€“monomer surface reaction model with adsorbate interactions. Journal of Chemical Physics, 1997, 107, 7397-7401.	3.0	6
113	Epidemic analysis of the second-order transition in the Ziff-Gulari-Barshad surface-reaction model. Physical Review E, 1997, 56, R6241-R6244.	2.1	102
114	Determination of the bond percolation threshold for the KagomÃ© lattice. Journal of Physics A, 1997, 30, 5351-5359.	1.6	55
115	Universality of Finite-Size Corrections to the Number of Critical Percolation Clusters. Physical Review Letters, 1997, 79, 3447-3450.	7.8	66
116	Fugacity coefficients for free radicals in dense fluids: HO2 in supercritical water. AICHE Journal, 1997, 43, 1287-1299.	3.6	17
117	Comparison of rigid and flexible simple point charge water models at supercritical conditions. Journal of Computational Chemistry, 1996, 17, 1757-1770.	3.3	59
118	Temperature Dependence of Hydrogen Bonding in Supercritical Water. The Journal of Physical Chemistry, 1996, 100, 403-408.	2.9	152
119	Effective boundary extrapolation length to account for finite-size effects in the percolation crossing function. Physical Review E, 1996, 54, 2547-2554.	2.1	25
120	Comparison of rigid and flexible simple point charge water models at supercritical conditions. , 1996, 17, 1757.		2
121	Comparison of rigid and flexible simple point charge water models at supercritical conditions. Journal of Computational Chemistry, 1996, 17, 1757-1770.	3.3	1
122	A Molecular Dynamics Investigation of Hydrogen Bonding in Supercritical Water. ACS Symposium Series, 1995, , 47-64.	0.5	12
123	Proof of crossing formula for 2D percolation. Journal of Physics A, 1995, 28, 6479-6480.	1.6	14
124	On Cardy's formula for the critical crossing probability in 2D percolation. Journal of Physics A, 1995, 28, 1249-1255.	1.6	16
125	Boundary effects in a surface reaction model for CO oxidation. Journal of Chemical Physics, 1993, 98, 674-677.	3.0	18
126	Investigation of the first-order phase transition in theA-B2reaction model using a constant-coverage kinetic ensemble. Physical Review A, 1992, 46, 4630-4633.	2.5	104

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127	Effects ofAdesorption on the first-order transition in theA-B2reaction model. Physical Review A, 1992, 46, 4534-4538.	2.5	60
128	Spanning probability in 2D percolation. Physical Review Letters, 1992, 69, 2670-2673.	7.8	237
129	Flux to a trap. Journal of Statistical Physics, 1991, 65, 1217-1233.	1.2	17
130	Permeation of Selected Organic Compounds Through Untreated and Barrier-Treated High-Density Polyethylene. Materials Research Society Symposia Proceedings, 1990, 215, 145.	0.1	1
131	Kinetics of random sequential adsorption of rectangles and line segments. Journal of Chemical Physics, 1990, 93, 8270-8272.	3.0	54
132	Random sequential adsorption of unoriented rectangles onto a plane. Journal of Chemical Physics, 1989, 91, 2599-2602.	3.0	166
133	Self-sustained oscillations in a heterrogeneous catalytic reaction: a monte carlo simulation. Chemical Engineering Science, 1989, 44, 1403-1411.	3.8	51
134	Hull-generating walks. Physica D: Nonlinear Phenomena, 1989, 38, 377-383.	2.8	19
135	Analytical solutions to fragmentation equations with flow. AICHE Journal, 1988, 34, 2073-2076.	3.6	31
136	Kinetic Phase Transitions in an Irreversible Surface-Reaction Model. Physical Review Letters, 1986, 56, 2553-2556.	7.8	950
137	Test of scaling exponents for percolation-cluster perimeters. Physical Review Letters, 1986, 56, 545-548.	7.8	123
138	The efficient determination of the percolation threshold by a frontier-generating walk in a gradient. Journal of Physics A, 1986, 19, L1169-L1172.	1.6	139
139	Generation of percolation cluster perimeters by a random walk. Journal of Physics A, 1984, 17, 3009-3017.	1.6	107
140	Coagulation equations with gelation. Journal of Statistical Physics, 1983, 31, 519-563.	1.2	212
141	Kinetics of polymerization. Journal of Statistical Physics, 1980, 23, 241-263.	1.2	258
142	Kinetics of polymer gelation. Journal of Chemical Physics, 1980, 73, 3492-3499.	3.0	198
143	Tricritical Point in Explosive Percolation. SSRN Electronic Journal, 0, , .	0.4	0
144	Effect of poreâ€scale heterogeneity on scaleâ€dependent permeability: Poreâ€network simulation and finiteâ€size scaling analysis. Water Resources Research, 0, , e2021WR030664.	4.2	7