

# Bertrand Berche

## List of Publications by Citations

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127  
papers

1,742  
citations

20  
h-index

34  
g-index

136  
ext. papers

1,967  
ext. citations

2.5  
avg, IF

4.8  
L-index

#	Paper	IF	Citations
127	Resilience of public transport networks against attacks. <i>European Physical Journal B</i> , <b>2009</b> , 71, 125-137	1.2	150
126	Finite-Size Scaling Study of the Surface and Bulk Critical Behavior in the Random-Bond Eight-State Potts Model. <i>Physical Review Letters</i> , <b>1998</b> , 80, 1670-1673	7.4	81
125	Continuum model for chiral induced spin selectivity in helical molecules. <i>Journal of Chemical Physics</i> , <b>2015</b> , 142, 194308	3.9	67
124	Bond dilution in the 3D Ising model: a Monte Carlo study. <i>European Physical Journal B</i> , <b>2004</b> , 38, 463-474	1.2	52
123	Softening of first-order transition in three-dimensions by quenched disorder. <i>Physical Review E</i> , <b>2001</b> , 64, 036120	2.4	51
122	Influence of quenched dilution on the quasi-long-range ordered phase of the $(\mathbb{Z}_2)^d$ model. <i>European Physical Journal B</i> , <b>2003</b> , 36, 91-98	1.2	42
121	A tale of two cities. <i>Journal of Transportation Security</i> , <b>2012</b> , 5, 199-216	1.3	40
120	Critical mass and the dependency of research quality on group size. <i>Scientometrics</i> , <b>2011</b> , 86, 527-540	3	40
119	Monte Carlo study of phase transitions in the bond-diluted 3D 4-state Potts model. <i>Nuclear Physics B</i> , <b>2005</b> , 719, 275-311	2.8	39
118	Magnetic critical behavior of two-dimensional random-bond Potts ferromagnets in confined geometries. <i>Physical Review E</i> , <b>1999</b> , 60, 3853-65	2.4	35
117	Mesoscopic rings with spin-orbit interactions. <i>European Journal of Physics</i> , <b>2010</b> , 31, 1267-1286	0.8	34
116	Hyperscaling above the upper critical dimension. <i>Nuclear Physics B</i> , <b>2012</b> , 865, 115-132	2.8	32
115	Universality and multifractal behaviour of spin-spin correlation functions in disordered Potts models. <i>Nuclear Physics B</i> , <b>2000</b> , 572, 626-650	2.8	32
114	Tests of conformal invariance in randomness-induced second-order phase transitions. <i>Physical Review E</i> , <b>1998</b> , 58, R6899-R6902	2.4	31
113	Surface magnetization and critical behavior of aperiodic Ising quantum chains. <i>Physical Review B</i> , <b>1994</b> , 49, 12695-12702	3.3	31
112	TRANSPORTATION NETWORK STABILITY: A CASE STUDY OF CITY TRANSIT. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , <b>2012</b> , 15, 1250063	0.8	27
111	Persistent charge and spin currents in the long-wavelength regime for graphene rings. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	26

110	Aperiodicity-Induced Second-Order Phase Transition in the 8-State Potts Model. <i>Physical Review Letters</i> , <b>1998</b> , 80, 297-300	7.4	25
109	Critical behavior near a smooth inhomogeneity in the planar Ising model and conformal invariance. <i>Physical Review Letters</i> , <b>1990</b> , 65, 1773-1776	7.4	25
108	Bulk and surface properties in the critical phase of the two-dimensional XY model. <i>Journal of Physics A</i> , <b>2003</b> , 36, 585-607		21
107	Predicting results of the Research Excellence Framework using departmental h-index. <i>Scientometrics</i> , <b>2015</b> , 102, 2165-2180	3	20
106	Comparison of a citation-based indicator and peer review for absolute and specific measures of research-group excellence. <i>Scientometrics</i> , <b>2013</b> , 97, 767-777	3	20
105	Quantifying the evolution of a scientific topic: reaction of the academic community to the Chernobyl disaster. <i>Scientometrics</i> , <b>2016</b> , 106, 1151-1166	3	19
104	Geometric effects in the electronic transport of deformed nanotubes. <i>Nanotechnology</i> , <b>2016</b> , 27, 135302	3.4	19
103	Violation of Lee-Yang circle theorem for Ising phase transitions on complex networks. <i>Europhysics Letters</i> , <b>2015</b> , 111, 60009	1.6	18
102	Gauge symmetry breaking and topological quantization for the Pauli Hamiltonian. <i>Europhysics Letters</i> , <b>2008</b> , 83, 47005	1.6	18
101	Correlations in the low-temperature phase of the two-dimensional XY model. <i>Europhysics Letters</i> , <b>2002</b> , 60, 539-545	1.6	18
100	Absolute and specific measures of research group excellence. <i>Scientometrics</i> , <b>2013</b> , 95, 115-127	3	17
99	Size effect on magnetism of Fe thin films in Fe/Ir superlattices. <i>Physical Review Letters</i> , <b>2001</b> , 86, 3883-6	7.4	17
98	Critical behaviour near multiple junctions and dirty surfaces in the two-dimensional Ising model. <i>Journal of Physics A</i> , <b>1991</b> , 24, L1031-L1036		17
97	Inhomogeneous Ising chain in a transverse field: finite-size scaling and asymptotic conformal spectrum. <i>Journal of Physics A</i> , <b>1990</b> , 23, 3029-3041		17
96	Role of Fourier Modes in Finite-Size Scaling above the Upper Critical Dimension. <i>Physical Review Letters</i> , <b>2016</b> , 116, 115701	7.4	16
95	Fisher's scaling relation above the upper critical dimension. <i>Europhysics Letters</i> , <b>2014</b> , 105, 26005	1.6	16
94	Symmetry relations for multifractal spectra at random critical points. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2009</b> , 2009, P12002	1.9	16
93	Anisotropic scaling in layered aperiodic Ising systems. <i>Journal of Physics A</i> , <b>1995</b> , 28, L165-L171		16

92	Surface magnetization of aperiodic Ising systems: a comparative study of the bond and site problems. <i>Journal of Physics A</i> , <b>1994</b> , 27, 6349-6366		16
91	Managing research quality: critical mass and optimal academic research group size. <i>IMA Journal of Management Mathematics</i> , <b>2012</b> , 23, 195-207	1.4	15
90	Marginal Anisotropy in Layered Aperiodic Ising Systems. <i>Journal De Physique, I</i> , <b>1996</b> , 6, 621-640		15
89	Optics near a hyperbolic defect. <i>Physical Review A</i> , <b>2015</b> , 92,	2.6	14
88	Classical Yang-Mills theory in condensed matter physics. <i>European Journal of Physics</i> , <b>2013</b> , 34, 161-180	0.8	14
87	A new critical exponent 'coppa' and its logarithmic counterpart 'hat coppa'. <i>Condensed Matter Physics</i> , <b>2013</b> , 16, 23601	1.3	14
86	Evidence for a topological transition in nematic-to-isotropic phase transition in two dimensions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2003</b> , 308, 461-466	2.3	14
85	Topological transition in a two-dimensional model of liquid crystal. <i>Physical Review E</i> , <b>2005</b> , 72, 031711	2.4	14
84	Partition function zeros for the Ising model on complete graphs and on annealed scale-free networks. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2016</b> , 49, 135001	2	14
83	Extended scaling in high dimensions. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2008</b> , 2008, P11010	1.9	13
82	High-precision determination of universal amplitude ratios for the q=3 Potts model in two dimensions. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	13
81	Local and cluster critical dynamics of the 3d random-site Ising model. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>2006</b> , 370, 163-178	3.3	13
80	Quenched bond dilution in two-dimensional Potts models. <i>Journal of Physics A</i> , <b>2001</b> , 34, 9593-9614		13
79	Finite-size scaling above the upper critical dimension in Ising models with long-range interactions. <i>European Physical Journal B</i> , <b>2015</b> , 88, 1	1.2	12
78	Critical-off-critical interface in the Ising quantum chain and conformal invariance. <i>Journal of Physics A</i> , <b>1991</b> , 24, 245-256		12
77	Geometrical optics limit of phonon transport in a channel of disclinations. <i>European Physical Journal B</i> , <b>2017</b> , 90, 1	1.2	11
76	Intrinsic Rashba coupling due to hydrogen bonding in DNA. <i>Journal of Chemical Physics</i> , <b>2019</b> , 151, 125102	0.9	11
75	Predicting results of the research excellence framework using departmental h-index: revisited. <i>Scientometrics</i> , <b>2015</b> , 104, 1013-1017	3	11

74	Laser-induced modulation of the Landau level structure in single-layer graphene. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	11
73	The 2D XY model on a finite lattice with structural disorder: quasi-long-range ordering under realistic conditions. <i>European Physical Journal B</i> , <b>2007</b> , 56, 93-105	1.2	11
72	Susceptibility amplitude ratio in the two-dimensional three-state Potts model. <i>Nuclear Physics B</i> , <b>2002</b> , 620, 579-587	2.8	11
71	Numerical revision of the universal amplitude ratios for the two-dimensional 4-state Potts model. <i>Nuclear Physics B</i> , <b>2009</b> , 811, 491-518	2.8	10
70	Crossover effects in the bond-diluted Ising model in three dimensions. <i>Computer Physics Communications</i> , <b>2002</b> , 147, 427-430	4.2	10
69	Surface magnetization of aperiodic Ising quantum chains. <i>European Physical Journal B</i> , <b>1993</b> , 92, 307-312	1.2	10
68	Criticality of the random-site Ising model: Metropolis, Swendsen-Wang and Wolff Monte Carlo algorithms. <i>Condensed Matter Physics</i> , <b>2005</b> , 8, 149-162	1.3	10
67	Spin-orbit interaction and spin selectivity for tunneling electron transfer in DNA. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	9
66	Spin superfluidity and spin-orbit gauge symmetry fixing. <i>Europhysics Letters</i> , <b>2012</b> , 97, 67007	1.6	9
65	Normalization of peer-evaluation measures of group research quality across academic disciplines. <i>Research Evaluation</i> , <b>2011</b> , 20, 107-116	1.7	9
64	A study of logarithmic corrections and universal amplitude ratios in the two-dimensional 4-state Potts model. <i>Europhysics Letters</i> , <b>2008</b> , 81, 30008	1.6	9
63	The McCoy-Wu model in the mean-field approximation. <i>Journal of Physics A</i> , <b>1998</b> , 31, 5193-5202		9
62	Second-order phase transition induced by deterministic fluctuations in aperiodic eight-state Potts models. <i>European Physical Journal B</i> , <b>1999</b> , 7, 439-449	1.2	9
61	Critical masses for academic research groups and consequences for higher education research policy and management. <i>Higher Education Management and Policy</i> , <b>2011</b> , 23, 1-21		9
60	The fate of Ernst Ising and the fate of his model. <i>Journal of Physical Studies</i> , <b>2017</b> , 21,	0.6	9
59	Quantum oscillations and wave packet revival in conical graphene structure. <i>European Physical Journal B</i> , <b>2016</b> , 89, 1	1.2	9
58	Monte Carlo study of anisotropic scaling generated by disorder. <i>Physical Review E</i> , <b>2015</b> , 92, 042118	2.4	8
57	Universal finite-size scaling for percolation theory in high dimensions. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2017</b> , 50, 235001	2	7

56	The extensive nature of group quality. <i>Europhysics Letters</i> , <b>2010</b> , 90, 58002	1.6	7
55	Aperiodic spin chain in the mean field approximation. <i>Journal of Physics A</i> , <b>1997</b> , 30, 1347-1362		7
54	Fenômenos críticos: 150 anos desde Cagniard de la Tour. <i>Revista Brasileira De Ensino De Fisica</i> , <b>2009</b> , 31, 2602.1-2602.4	0.4	7
53	On the universality class of the 3d Ising model with long-range-correlated disorder. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>2008</b> , 387, 4497-4512	3.3	7
52	Quasi-long-range ordering in a finite-size 2D classical Heisenberg model. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2007</b> , 40, 3741-3748	2	7
51	Random Ising model in three dimensions: theory, experiment and simulation - a difficult coexistence. <i>Condensed Matter Physics</i> , <b>2005</b> , 8, 47-58	1.3	7
50	Ferromagnetic order induced on graphene by Ni/Co proximity effects. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	7
49	Cluster Monte Carlo and dynamical scaling for long-range interactions. <i>European Physical Journal: Special Topics</i> , <b>2017</b> , 226, 581-594	2.3	6
48	Cosmology in the laboratory: An analogy between hyperbolic metamaterials and the Milne universe. <i>Physical Review D</i> , <b>2017</b> , 96,	4.9	6
47	Numerical investigation of logarithmic corrections in two-dimensional spin models. <i>JETP Letters</i> , <b>2004</b> , 79, 213-217	1.2	6
46	Influence of dilution on the strong first-order phase transition of the 3D 4-state Potts model. <i>Computer Physics Communications</i> , <b>2002</b> , 147, 431-434	4.2	6
45	3D bond-diluted 4-state Potts model: a Monte Carlo study. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , <b>2002</b> , 106-107, 899-901		6
44	Critical behavior of the random Potts chain. <i>Physical Review B</i> , <b>1999</b> , 60, 12974-12981	3.3	6
43	Marginal extended perturbations in two dimensions and gap-exponent relations. <i>Journal of Physics A</i> , <b>1993</b> , 26, 3131-3141		6
42	Gauge transformations and conserved quantities in classical and quantum mechanics. <i>American Journal of Physics</i> , <b>2016</b> , 84, 616-625	0.7	6
41	Charge- and spin-polarized currents in mesoscopic rings with Rashba spin-orbit interactions coupled to an electron reservoir. <i>Physical Review B</i> , <b>2014</b> , 90,	3.3	5
40	Interplay of topological and structural defects in the two-dimensional XY model. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2008</b> , 372, 5716-5721	2.3	5
39	Gauge transformations of spin-orbit interactions in graphene. <i>European Physical Journal B</i> , <b>2015</b> , 88, 1	1.2	4

38	Modeling Kleinian cosmology with electronic metamaterials. <i>Physical Review D</i> , <b>2016</b> , 94,	4.9	4
37	The two-dimensional 4-state Potts model in a magnetic field. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2013</b> , 46, 095001	2	4
36	A perfect spin filtering device through Mach-Zehnder interferometry in a GaAs/AlGaAs electron gas. <i>Journal of Physics Condensed Matter</i> , <b>2010</b> , 22, 115303	1.8	4
35	Universal ratios of critical amplitudes in the Potts model universality class. <i>Computer Physics Communications</i> , <b>2009</b> , 180, 493-496	4.2	4
34	Surface shape and local critical behavior: The percolation problem in two dimensions. <i>Physical Review E</i> , <b>1994</b> , 50, 4542-4550	2.4	4
33	PHASE TRANSITIONS IN TWO-DIMENSIONAL RANDOM POTTS MODELS <b>2004</b> , 147-199		4
32	Surface geometry and local critical behaviour : the self-avoiding-walk. <i>Journal De Physique, I</i> , <b>1993</b> , 3, 925-934		4
31	Ising model with variable spin/agent strengths. <i>Journal of Physics Complexity</i> , <b>2020</b> , 1, 035008	1.8	4
30	Crossover between aperiodic and homogeneous surface critical behaviors in multilayered two-dimensional Ising models. <i>Physical Review B</i> , <b>1997</b> , 56, 5276-5285	3.3	3
29	Surface properties at the Kosterlitz-Thouless transition. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2002</b> , 302, 336-340	2.3	3
28	Conformal invariance and perturbations in the two-dimensional Ising model: Surface defects. <i>Journal of Statistical Physics</i> , <b>1989</b> , 56, 589-607	1.5	3
27	Mach-Zehnder interferometric device for spin filtering in a GaAs/AlGaAs electron gas. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 114523	2.5	2
26	Perturbation expansion for the diluted two-dimensional XY model. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2007</b> , 366, 150-154	2.3	2
25	Static and dynamic critical behaviour of 3d random-site Ising model: Different Monte Carlo algorithms. <i>Journal of Molecular Liquids</i> , <b>2006</b> , 127, 69-70	6	2
24	Realization of supersymmetric quantum mechanics in inhomogeneous Ising models. <i>Journal of Physics A</i> , <b>1995</b> , 28, 3579-3590		2
23	Equilibrium currents in a Corbino graphene ring. <i>Condensed Matter Physics</i> , <b>2014</b> , 17, 33803	1.3	2
22	Marginal dimensions of the Potts model with invisible states. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2016</b> , 49, 255001	2	2
21	Optical concentrator from a hyperbolic liquid-crystal metamaterial. <i>Europhysics Letters</i> , <b>2018</b> , 124, 34006.6		2

20	Using torsion to manipulate spin currents. <i>Europhysics Letters</i> , <b>2017</b> , 117, 47007	1.6	1
19	Tayloring energy levels with curvature ? An illustration of Da Costa formalism. <i>Journal of Physics: Conference Series</i> , <b>2017</b> , 785, 012003	0.3	1
18	Spin polarization of entangled and mixed electron states in a beam splitter geometry coupled to an electron reservoir. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	1
17	STATISTICS OF STATISTICIANS: CRITICAL MASS OF STATISTICS AND OPERATIONAL RESEARCH GROUPS. <i>International Journal of Modern Physics Conference Series</i> , <b>2012</b> , 16, 29-40	0.7	1
16	Logarithmic corrections and universal amplitude ratios in the 4-state Potts model. <i>Physics Procedia</i> , <b>2010</b> , 7, 7-18		1
15	Introduction to thermodynamics of spin models in the Hamiltonian limit. <i>European Journal of Physics</i> , <b>2006</b> , 27, 11-28	0.8	1
14	Monte Carlo Studies of Three-Dimensional Bond-Diluted Ferromagnets <b>2003</b> , 227-238		1
13	Academic research groups: evaluation of their quality and quality of their evaluation. <i>Journal of Physics: Conference Series</i> , <b>2016</b> , 681, 012004	0.3	1
12	Magnetic and geometric effects on the electronic transport of metallic nanotubes. <i>Journal of Applied Physics</i> , <b>2021</b> , 129, 044301	2.5	1
11	Scaling and Finite-Size Scaling above the Upper Critical Dimension <b>2015</b> , 1-54		0
10	Spin current generation and control in carbon nanotubes by combining rotation and magnetic field. <i>Journal of Physics Condensed Matter</i> , <b>2020</b> , 32, 185301	1.8	0
9	Quenched Disorder Distributions in Three-Dimensional Diluted Ferromagnets. <i>Springer Proceedings in Physics</i> , <b>2004</b> , 89-94	0.2	0
8	Improving student understanding of electrodynamics: The case for differential forms. <i>American Journal of Physics</i> , <b>2020</b> , 88, 1083-1093	0.7	0
7	Photoinduced polarization enhancement on biased bilayer graphene in the Landau level regime. <i>Journal of Physics Condensed Matter</i> , <b>2019</b> , 31, 495703	1.8	
6	Statistics of statisticians: Critical masses for research groups. <i>Significance</i> , <b>2012</b> , 9, 22-25	0.5	
5	Conformal invariance and surface defects in the two-dimensional Ising model. Exact results. <i>Journal of Statistical Physics</i> , <b>1990</b> , 60, 167-180	1.5	
4	Complex-Network Approach for Visualizing and Quantifying the Evolution of a Scientific Topic. <i>Advances in Human and Social Aspects of Technology Book Series</i> , <b>2018</b> , 106-120	0.2	
3	La constante cosmologique et le d'ploiement de l'espace. <i>Philosophia Scientiae</i> , <b>2011</b> , 123-135	0.1	



2 Masse critique d'un groupe de recherche **2011**, 21-23 0.1

1 On the comparison of extensive and intensive measures of the efficiency of scientific groups.  
*Reports National Academy of Science of Ukraine*, **2014**, 75-81 0.2