

Jacek Dziarmaga

List of Publications by Year in descending order

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80
papers

3,071
citations

201674

27
h-index

155660

55
g-index

80
all docs

80
docs citations

80
times ranked

1501
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamics of a quantum phase transition and relaxation to a steady state. <i>Advances in Physics</i> , 2010, 59, 1063-1189.	14.4	543
2	Dynamics of a Quantum Phase Transition: Exact Solution of the Quantum Ising Model. <i>Physical Review Letters</i> , 2005, 95, 245701.	7.8	501
3	Entropy of entanglement and correlations induced by a quench: Dynamics of a quantum phase transition in the quantum Ising model. <i>Physical Review A</i> , 2007, 75, .	2.5	144
4	Symmetry Breaking with a Slant: Topological Defects after an Inhomogeneous Quench. <i>Physical Review Letters</i> , 1999, 82, 4749-4752.	7.8	116
5	Winding Up of the Wave-Function Phase by an Insulator-to-Superfluid Transition in a Ring of Coupled Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2008, 101, 115701.	7.8	114
6	Dynamics of the Bose-Hubbard model: Transition from a Mott insulator to a superfluid. <i>Physical Review A</i> , 2007, 75, .	2.5	99
7	Multiscale Entanglement Renormalization Ansatz in Two Dimensions: Quantum Ising Model. <i>Physical Review Letters</i> , 2008, 100, 240603.	7.8	89
8	Dynamics of a quantum phase transition in the random Ising model: Logarithmic dependence of the defect density on the transition rate. <i>Physical Review B</i> , 2006, 74, .	3.2	86
9	Projected entangled pair states at finite temperature: Imaginary time evolution with ancillas. <i>Physical Review B</i> , 2012, 86, .	3.2	69
10	Time evolution of an infinite projected entangled pair state: An efficient algorithm. <i>Physical Review B</i> , 2019, 99, .	3.2	66
11	Defects in Quantum Computers. <i>Scientific Reports</i> , 2018, 8, 4539.	3.3	65
12	Space and time renormalization in phase transition dynamics. <i>Physical Review B</i> , 2016, 93, .	3.2	61
13	Images of the dark soliton in a depleted condensate. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2003, 36, 1217-1229.	1.5	60
14	Variational approach to projected entangled pair states at finite temperature. <i>Physical Review B</i> , 2015, 92, .	3.2	60
15	Dynamics of an inhomogeneous quantum phase transition. <i>New Journal of Physics</i> , 2010, 12, 055007.	2.9	48
16	Variational tensor network renormalization in imaginary time: Benchmark results in the Hubbard model at finite temperature. <i>Physical Review B</i> , 2016, 94, .	3.2	46
17	Noncollinear Magnetic Order Stabilized by Entangled Spin-Orbital Fluctuations. <i>Physical Review Letters</i> , 2012, 109, 237201.	7.8	39
18	Spontaneous symmetry breaking in a generalized orbital compass model. <i>Physical Review B</i> , 2010, 82, .	3.2	37

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19	Kibble-Zurek mechanism with a single particle: Dynamics of the localization-delocalization transition in the Aubry-Andr� model. <i>Physical Review B</i> , 2019, 99, .	3.2	36
20	Symmetry Breaking Bias and the Dynamics of a Quantum Phase Transition. <i>Physical Review Letters</i> , 2019, 123, 130603.	7.8	34
21	Non-local quantum superpositions of topological defects. <i>Nature Physics</i> , 2012, 8, 49-53.	16.7	33
22	Low energy dynamics of $U(1)$ Chern-Simons solitons. <i>Physical Review D</i> , 1994, 49, 5469-5479.	4.7	32
23	Double Universality of a Quantum Phase Transition in Spinor Condensates: Modification of the Kibble-Zurek Mechanism by a Conservation Law. <i>Physical Review Letters</i> , 2013, 110, 045303.	7.8	31
24	Variational tensor network renormalization in imaginary time: Two-dimensional quantum compass model at finite temperature. <i>Physical Review B</i> , 2016, 93, .	3.2	31
25	Projected entangled pair states at finite temperature: Iterative self-consistent bond renormalization for exact imaginary time evolution. <i>Physical Review B</i> , 2015, 92, .	3.2	30
26	Unconditional Pointer States from Conditional Master Equations. <i>Physical Review Letters</i> , 2001, 86, 373-376.	7.8	28
27	Exotic spin orders driven by orbital fluctuations in the Kugel-Khomskii model. <i>Physical Review B</i> , 2013, 87, .	3.2	28
28	Sonic horizons and causality in phase transition dynamics. <i>Physical Review B</i> , 2020, 101, .	3.2	27
29	Tensor-network approach for quantum metrology in many-body quantum systems. <i>Nature Communications</i> , 2020, 11, 250.	12.8	26
30	Fermionic projected entangled pair states at finite temperature. <i>Physical Review B</i> , 2014, 90, .	3.2	25
31	Images of a Bose-Einstein condensate: diagonal dynamical Bogoliubov vacuum. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2006, 39, 57-68.	1.5	24
32	Dynamics of the quantum phase transition in the one-dimensional Bose-Hubbard model: Excitations and correlations induced by a quench. <i>Physical Review B</i> , 2017, 95, .	3.2	24
33	Overcoming the sign problem at finite temperature: Quantum tensor network for the orbital $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle e \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle g \langle \text{mml:mi} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle$ model on an infinite square lattice. <i>Physical Review B</i> , 2017, 96, .	3.2	24
34	Quench from Mott insulator to superfluid. <i>Physical Review B</i> , 2012, 86, .	3.2	22
35	Topological Order in an Entangled $SU(2)$ Spin-Orbital Ring. <i>Physical Review Letters</i> , 2014, 112, 117204.	7.8	22
36	Quench in the 1D Bose-Hubbard model: Topological defects and excitations from the Kosterlitz-Thouless phase transition dynamics. <i>Scientific Reports</i> , 2014, 4, 5950.	3.3	22

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37	Quantum neural networks to simulate many-body quantum systems. <i>Physical Review B</i> , 2018, 98, .	3.2	22
38	Adiabatic dynamics of an inhomogeneous quantum phase transition: the case of $az > 1$ dynamical exponent. <i>New Journal of Physics</i> , 2010, 12, 103002.	2.9	20
39	Dynamics of a quantum phase transition with decoherence: Quantum Ising chain in a static spin environment. <i>Physical Review B</i> , 2009, 79, .	3.2	18
40	Kibble-Zurek dynamics in a trapped ultracold Bose gas. <i>Physical Review Research</i> , 2020, 2, .	3.6	18
41	Dynamics of the modified Kibble-Zurek mechanism in antiferromagnetic spin-1 condensates. <i>Physical Review B</i> , 2013, 88, .	3.2	17
42	Tensor network simulation of the Kitaev-Heisenberg model at finite temperature. <i>Physical Review B</i> , 2019, 100, .	3.2	15
43	Excitation energy after a smooth quench in a Luttinger liquid. <i>Physical Review B</i> , 2011, 84, .	3.2	14
44	Time evolution of an infinite projected entangled pair state: Neighborhood tensor update. <i>Physical Review B</i> , 2021, 104, .	3.2	14
45	More on scattering of Chern-Simons vortices. <i>Physical Review D</i> , 1995, 51, 7052-7059.	4.7	12
46	Density of Bloch Waves after a Quench. <i>Physical Review Letters</i> , 1998, 81, 5485-5488.	7.8	12
47	Time evolution of an infinite projected entangled pair state: An algorithm from first principles. <i>Physical Review B</i> , 2018, 98, .	3.2	12
48	Tensor network study of the magnetization plateau in the Shastry-Sutherland model at finite temperature. <i>Physical Review B</i> , 2021, 103, .	3.2	12
49	Density of Kinks Just after a Quench in an Underdamped System. <i>Physical Review Letters</i> , 1998, 81, 1551-1553.	7.8	11
50	Nonadiabatic dynamics across a first-order quantum phase transition: Quantized bubble nucleation. <i>Physical Review B</i> , 2021, 103, .	3.2	11
51	Frustration, Area Law, and Interference in Quantum Spin Models. <i>Physical Review Letters</i> , 2008, 101, 187202.	7.8	10
52	Quantum Kibble-Zurek mechanism: Kink correlations after a quench in the quantum Ising chain. <i>Physical Review B</i> , 2021, 104, .	3.2	10
53	Universal shift of the fidelity susceptibility peak away from the critical point of the Berezinskii-Kosterlitz-Thouless quantum phase transition. <i>Physical Review B</i> , 2019, 100, .	3.2	9
54	Head-on collision of vortices. <i>Physical Review D</i> , 1994, 49, 5609-5612.	4.7	7

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55	Antibaryon Density in the Central Rapidity Region of Heavy-Ion Collisions. Physical Review Letters, 1999, 82, 4192-4195.	7.8	7
56	Ring of BEC pools as a trap for persistent flow. Physical Review B, 2011, 84, .	3.2	7
57	Determining topological order from infinite projected entangled pair states. Physical Review B, 2020, 101, .	3.2	7
58	Time evolution of an infinite projected entangled pair state: A gradient tensor update in the tangent space. Physical Review B, 2022, 106, .	3.2	7
59	Intercommutation of Z-boson string loops violates baryon number. Physical Review D, 1995, 52, R569-R572.	4.7	6
60	Diffusion of overdamped classical solitons. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 251, 193-198.	2.1	6
61	Inhomogeneity induced shortcut to adiabaticity in Ising chains with long-range interactions. Physical Review B, 2020, 102, .	3.2	6
62	Simulation of many-body localization and time crystals in two dimensions with the neighborhood tensor update. Physical Review B, 2022, 105, .	3.2	6
63	Vortices in superconducting films: Statistics and fractional quantum Hall effect. Physical Review B, 1996, 53, 6572-6578.	3.2	5
64	Only hybrid anyons can exist in the broken symmetry phase of nonrelativistic $U(1)$ Chern-Simons theory. Physical Review D, 1994, 50, R2376-R2380.	4.7	4
65	What happens with an initially kicked soliton?. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 242, 227-232.	2.1	4
66	Dissipative Dynamics of Solitons in Planar Ferromagnets. Physical Review Letters, 1997, 79, 2129-2132.	7.8	3
67	Domain wall formation in the Cahn-Hilliard-Cook equation. Physical Review E, 2001, 63, 036112.	2.1	3
68	Quantum fluctuations of a vortex in a dilute Bose-Einstein condensate. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, 4211-4219.	1.5	3
69	Second-order Peierls transition in the spin-orbital Kumar-Heisenberg model. Physical Review B, 2015, 91, .	3.2	3
70	Statistics of skyrmions in quantum Hall systems. Physical Review B, 1996, 53, 12973-12978.	3.2	2
71	Statistics of Skyrmions and the $\hat{1}/2=5/2$ puzzle. Physical Review B, 1997, 55, 10654-10660.	3.2	2
72	Statistical interactions of vortices in superconducting films. Physical Review B, 1996, 53, 8231-8233.	3.2	1

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73	Unpolarized quasielectrons and the spin polarization at filling fractions between $\hat{\nu}=1/3$ and $\hat{\nu}=2/5$. Physical Review B, 1997, 56, 12116-12119.	3.2	1
74	Images of a Bose-Einstein condensate in position and momentum space. Laser Physics, 2006, 16, 1710-1713.	1.2	1
75	Dynamics of the Mott Insulator to Superfluid quantum phase transition in the truncated Wigner approximation. Journal of Physics: Conference Series, 2013, 414, 012029.	0.4	1
76	Einstein-Infeld-Hoffman method and soliton dynamics in a parity noninvariant system. Physical Review D, 1996, 53, 7260-7264.	4.7	0
77	N-particle Bogoliubov vacuum state. Laser Physics, 2006, 16, 1134-1139.	1.2	0
78	Images of a Bose-Einstein condensate at finite temperature. Journal of Modern Optics, 2007, 54, 639-645.	1.3	0
79	Controlling the Phase Transition in Superfluid Helium-3. Physics Magazine, 0, 14, .	0.1	0
80	Variational methods for characterizing matrix product operator symmetries. Physical Review B, 2021, 104, .	3.2	0