

Dieter Jaksch

List of Publications by Year in descending order

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95
papers

12,821
citations

66336

42
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45310

90
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99
all docs

99
docs citations

99
times ranked

6729
citing authors

#	ARTICLE	IF	CITATIONS
1	Cold Bosonic Atoms in Optical Lattices. <i>Physical Review Letters</i> , 1998, 81, 3108-3111.	7.8	3,154
2	Dipole Blockade and Quantum Information Processing in Mesoscopic Atomic Ensembles. <i>Physical Review Letters</i> , 2001, 87, 037901.	7.8	1,290
3	Fast Quantum Gates for Neutral Atoms. <i>Physical Review Letters</i> , 2000, 85, 2208-2211.	7.8	1,197
4	The cold atom Hubbard toolbox. <i>Annals of Physics</i> , 2005, 315, 52-79.	2.8	839
5	Entanglement of Atoms via Cold Controlled Collisions. <i>Physical Review Letters</i> , 1999, 82, 1975-1978.	7.8	712
6	Creation of effective magnetic fields in optical lattices: the Hofstadter butterfly for cold neutral atoms. <i>New Journal of Physics</i> , 2003, 5, 56-56.	2.9	661
7	Possible light-induced superconductivity in K3C60 at high temperature. <i>Nature</i> , 2016, 530, 461-464.	27.8	572
8	Numerical solution of the Gross-Pitaevskii equation for Bose-Einstein condensation. <i>Journal of Computational Physics</i> , 2003, 187, 318-342.	3.8	465
9	Many-particle entanglement in two-component Bose-Einstein condensates. <i>Physical Review A</i> , 2003, 67, .	2.5	212
10	Creation of a Molecular Condensate by Dynamically Melting a Mott Insulator. <i>Physical Review Letters</i> , 2002, 89, 040402.	7.8	177
11	Non-stationary coherent quantum many-body dynamics through dissipation. <i>Nature Communications</i> , 2019, 10, 1730.	12.8	175
12	Cavity-Mediated Electron-Photon Superconductivity. <i>Physical Review Letters</i> , 2019, 122, 133602.	7.8	149
13	Quantum interference between charge excitation paths in a solid-state Mott insulator. <i>Nature Physics</i> , 2011, 7, 114-118.	16.7	134
14	Variational quantum algorithms for nonlinear problems. <i>Physical Review A</i> , 2020, 101, .	2.5	130
15	Polaron physics in optical lattices. <i>Physical Review A</i> , 2007, 76, .	2.5	128
16	High-Field Fractional Quantum Hall Effect in Optical Lattices. <i>Physical Review Letters</i> , 2006, 96, 180407.	7.8	126
17	Spatially resolved ultrafast magnetic dynamics initiated at a complex oxide heterointerface. <i>Nature Materials</i> , 2015, 14, 883-888.	27.5	109
18	Single Atom Transistor in a 1D Optical Lattice. <i>Physical Review Letters</i> , 2004, 93, 140408.	7.8	106

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19	Ultracold molecules for quantum simulation: rotational coherences in CaF and RbCs. Quantum Science and Technology, 2019, 4, 014010.	5.8	96
20	What is a quantum simulator?. EPJ Quantum Technology, 2014, 1, .	6.3	89
21	Efficient generation of graph states for quantum computation. New Journal of Physics, 2005, 7, 124-124.	2.9	85
22	Ultracold polar molecules as qudits. New Journal of Physics, 2020, 22, 013027.	2.9	84
23	Evidence for metastable photo-induced superconductivity in K3C60. Nature Physics, 2021, 17, 611-618.	16.7	80
24	Dynamics of the superfluid to Mott-insulator transition in one dimension. Physical Review A, 2004, 70, .	2.5	73
25	Entangling Strings of Neutral Atoms in 1D Atomic Pipeline Structures. Physical Review Letters, 2003, 91, 073601.	7.8	71
26	THz-Frequency Modulation of the Hubbard U in an Organic Mott Insulator. Physical Review Letters, 2015, 115, 187401.	7.8	69
27	Dark-State Cooling of Atoms by Superfluid Immersion. Physical Review Letters, 2006, 97, 220403.	7.8	68
28	Proposed Parametric Cooling of Bilayer Cuprate Superconductors by Terahertz Excitation. Physical Review Letters, 2015, 114, 137001.	7.8	67
29	Optical lattice quantum Hall effect. Physical Review A, 2008, 78, .	2.5	66
30	Beyond mean-field bistability in driven-dissipative lattices: Bunching-antibunching transition and quantum simulation. Physical Review A, 2016, 93, .	2.5	63
31	Heating-Induced Long-Range \hat{I} Pairing in the Hubbard Model. Physical Review Letters, 2019, 123, 030603.	7.8	63
32	Dissipation Induced Nonstationarity in a Quantum Gas. Physical Review Letters, 2019, 123, 260401.	7.8	60
33	Dynamics, dephasing and clustering of impurity atoms in Bose-Einstein condensates. New Journal of Physics, 2007, 9, 411-411.	2.9	59
34	Transport of strong-coupling polarons in optical lattices. New Journal of Physics, 2008, 10, 033015.	2.9	59
35	Parametric amplification of a superconducting plasma wave. Nature Physics, 2016, 12, 1012-1016.	16.7	59
36	Photomolecular High-Temperature Superconductivity. Physical Review X, 2020, 10, .	8.9	59

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37	Pressure-Dependent Relaxation in the Photoexcited Mott Insulator $F \propto \frac{1}{T^2}$ Influence of Hopping and Correlations on Quasiparticle Recombination Rates. Physical Review Letters, 2014, 112, 117801.	7.8	58
38	Isolated Heisenberg magnet as a quantum time crystal. Physical Review B, 2020, 102, .	3.2	56
39	Uniting Bose-Einstein Condensates in Optical Resonators. Physical Review Letters, 2001, 86, 4733-4736.	7.8	47
40	Enhancement of superexchange pairing in the periodically driven Hubbard model. Physical Review B, 2017, 96, .	3.2	47
41	Robust entangling gate for polar molecules using magnetic and microwave fields. Physical Review A, 2020, 101, .	2.5	47
42	Manipulating quantum materials with quantum light. Physical Review B, 2019, 99, .	3.2	46
43	The tensor network theory library. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 093102.	2.3	43
44	Quantum synchronisation enabled by dynamical symmetries and dissipation. New Journal of Physics, 2020, 22, 013026.	2.9	43
45	Thermometry of ultracold atoms via nonequilibrium work distributions. Physical Review A, 2016, 93, .	2.5	41
46	Optical Properties of a Vibrationally Modulated Solid State Mott Insulator. Scientific Reports, 2014, 4, 3823.	3.3	40
47	Numerical analysis of coherent many-body currents in a single atom transistor. Physical Review A, 2005, 72, .	2.5	39
48	Measuring correlations of cold-atom systems using multiple quantum probes. Physical Review A, 2016, 94, .	2.5	37
49	Photoinduced Electron Pairing in a Driven Cavity. Physical Review Letters, 2020, 125, 053602.	7.8	37
50	Symmetries and conservation laws in quantum trajectories: Dissipative freezing. Physical Review A, 2019, 100, .	2.5	35
51	Algebraic theory of quantum synchronization and limit cycles under dissipation. SciPost Physics, 2022, 12, .	4.9	32
52	Non-stationarity and dissipative time crystals: spectral properties and finite-size effects. New Journal of Physics, 2020, 22, 085007.	2.9	31
53	Signatures of the superfluid to Mott-insulator transition in the excitation spectrum of ultracold atoms. New Journal of Physics, 2006, 8, 160-160.	2.9	29
54	Dissipative dynamics of atomic Hubbard models coupled to a phonon bath: dark state cooling of atoms within a Bloch band of an optical lattice. New Journal of Physics, 2007, 9, 44-44.	2.9	29

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55	Coexistence of energy diffusion and local thermalization in nonequilibriumXXZspin chains with integrability breaking. Physical Review E, 2015, 91, 042129.	2.1	29
56	Dynamical Order and Superconductivity in a Frustrated Many-Body System. Physical Review Letters, 2020, 125, 137001.	7.8	29
57	Cavity-Mediated Unconventional Pairing in Ultracold Fermionic Atoms. Physical Review Letters, 2019, 123, 133601.	7.8	27
58	A quantum-inspired approach to exploit turbulence structures. Nature Computational Science, 2022, 2, 30-37.	8.0	25
59	An exact formulation of the time-ordered exponential using path-sums. Journal of Mathematical Physics, 2015, 56, .	1.1	23
60	Multigrid renormalization. Journal of Computational Physics, 2018, 372, 587-602.	3.8	20
61	Parallel time-dependent variational principle algorithm for matrix product states. Physical Review B, 2020, 101, .	3.2	20
62	Stationary state degeneracy of open quantum systems with non-abelian symmetries. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 215304.	2.1	20
63	Mott polaritons in cavity-coupled quantum materials. New Journal of Physics, 2019, 21, 073066.	2.9	19
64	Revealing missing charges with generalised quantum fluctuation relations. Nature Communications, 2018, 9, 2006.	12.8	18
65	Tensor network states in time-bin quantum optics. Physical Review A, 2018, 97, .	2.5	18
66	Detection and characterization of multipartite entanglement in optical lattices. Physical Review A, 2005, 72, .	2.5	17
67	Capturing long range correlations in two-dimensional quantum lattice systems using correlator product states. Physical Review B, 2011, 84, .	3.2	17
68	Fault-tolerant dissipative preparation of atomic quantum registers with fermions. Physical Review A, 2005, 72, .	2.5	16
69	Simulating high-temperature superconductivity model Hamiltonians with atoms in optical lattices. Physical Review A, 2006, 73, .	2.5	15
70	Convergence rate of dimension reduction in Bose-Einstein condensates. Computer Physics Communications, 2007, 177, 832-850.	7.5	15
71	Ultrafast Creation of Overlapping Rydberg Electrons in an Atomic BEC and Mott-Insulator Lattice. Physical Review Letters, 2020, 124, 253201.	7.8	14
72	Robust implementations of quantum repeaters. Physical Review A, 2006, 73, .	2.5	13

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73	Quantum mechanical calculation of Rydberg autoionization rates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 204004.	1.5	12
74	Fast initialization of a high-fidelity quantum register using optical superlattices. New Journal of Physics, 2007, 9, 221-221.	2.9	10
75	Ultralarge Rydberg dimers in optical lattices. Physical Review A, 2008, 78, .	2.5	10
76	Bell inequality for pairs of particle-number-superselection-rule restricted states. Physical Review A, 2010, 82, .	2.5	10
77	Higgs mode stabilization by photoinduced long-range interactions in a superconductor. Physical Review B, 2021, 104, .	3.2	10
78	Ground-state phase diagram of the one-dimensional $t\hat{J}$ model with pair hopping terms. Physical Review B, 2018, 98, .	3.2	9
79	Analytical solution for the steady states of the driven Hubbard model. Physical Review B, 2021, 103, .	3.2	9
80	Simulating and detecting artificial magnetic fields in trapped atoms. Physical Review A, 2010, 81, .	2.5	7
81	Characterizing the phase diagram of finite-size dipolar Bose-Hubbard systems. Physical Review A, 2020, 101, .	2.5	7
82	Anomalous Spin-Charge Separation in a Driven Hubbard System. Physical Review Letters, 2020, 125, 195301.	7.8	6
83	Lieb's Theorem and Maximum Entropy Condensates. Quantum - the Open Journal for Quantum Science, 0, 5, 610.	0.0	6
84	Supersolid simulations. Nature, 2006, 442, 147-149.	27.8	4
85	Fluctuations of work in realistic equilibrium states of quantum systems with conserved quantities. SciPost Physics Proceedings, 2020, , .	0.4	3
86	Coarse-grained intermolecular interactions on quantum processors. Physical Review A, 2022, 105, .	2.5	3
87	A peek and a poke. Nature Physics, 2008, 4, 906-908.	16.7	2
88	Crystallization via cavity-assisted infinite-range interactions. Physical Review A, 2022, 106, .	2.5	2
89	Applications of Raman Scattering in Quantum Technologies. , 2010, , .		1
90	Optical control of the current-voltage relation in stacked superconductors. Physical Review B, 2019, 100, .	3.2	1

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91	Controlling magnetic correlations in a driven Hubbard system far from half-filling. Physical Review A, 2020, 101, .	2.5	1
92	Quantum Information Processing with Quantum Optics. Annales Henri Poincare, 2003, 4, 759-781.	1.7	0
93	Possible light-induced superconductivity in metallic K3C60. , 2016, , .		0
94	A polynomial Ansatz for norm-conserving pseudopotentials. Journal of Physics Condensed Matter, 2018, 30, 275501.	1.8	0
95	Quantum computing and quantum communication with atoms. , 2003, , .		0