

# Peter Rabl

## List of Publications by Year in descending order

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Version: 2024-02-01

81  
papers

9,104  
citations

53794

45  
h-index

66911

78  
g-index

83  
all docs

83  
docs citations

83  
times ranked

5918  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamically encircling an exceptional point for asymmetric mode switching. <i>Nature</i> , 2016, 537, 76-79.	27.8	684
2	Photon Blockade Effect in Optomechanical Systems. <i>Physical Review Letters</i> , 2011, 107, 063601.	7.8	590
3	Quantum technologies with hybrid systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 3866-3873.	7.1	568
4	Optomechanical Transducers for Long-Distance Quantum Communication. <i>Physical Review Letters</i> , 2010, 105, 220501.	7.8	391
5	Optomechanical Quantum Information Processing with Photons and Phonons. <i>Physical Review Letters</i> , 2012, 109, 013603.	7.8	374
6	A coherent all-electrical interface between polar molecules and mesoscopic superconducting resonators. <i>Nature Physics</i> , 2006, 2, 636-642.	16.7	372
7	Hybrid Quantum Processors: Molecular Ensembles as Quantum Memory for Solid State Circuits. <i>Physical Review Letters</i> , 2006, 97, 033003.	7.8	348
8	A quantum spin transducer based on nanoelectromechanical resonator arrays. <i>Nature Physics</i> , 2010, 6, 602-608.	16.7	346
9	Strong magnetic coupling between an electronic spin qubit and a mechanical resonator. <i>Physical Review B</i> , 2009, 79, .	3.2	329
10	Coherent Sensing of a Mechanical Resonator with a Single-Spin Qubit. <i>Science</i> , 2012, 335, 1603-1606.	12.6	326
11	Ion-trap measurements of electric-field noise near surfaces. <i>Reviews of Modern Physics</i> , 2015, 87, 1419-1482.	45.6	265
12	Hybrid quantum devices and quantum engineering. <i>Physica Scripta</i> , 2009, T137, 014001.	2.5	243
13	Optomechanically induced non-reciprocity in microring resonators. <i>Optics Express</i> , 2012, 20, 7672.	3.4	226
14	Phonon-Induced Spin-Spin Interactions in Diamond Nanostructures: Application to Spin Squeezing. <i>Physical Review Letters</i> , 2013, 110, 156402.	7.8	226
15	Feedback Cooling of a Single Trapped Ion. <i>Physical Review Letters</i> , 2006, 96, 043003.	7.8	158
16	General description of quadiabatic dynamical phenomena near exceptional points. <i>Physical Review A</i> , 2015, 92, .	2.5	156
17	Driven-dissipative preparation of entangled states in cascaded quantum-optical networks. <i>New Journal of Physics</i> , 2012, 14, 063014.	2.9	147
18	Single-photon nonlinearities in two-mode optomechanics. <i>Physical Review A</i> , 2013, 87, .	2.5	146

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19	Continuous mode cooling and phonon routers for phononic quantum networks. <i>New Journal of Physics</i> , 2012, 14, 115004.	2.9	143
20	Atom-field dressed states in slow-light waveguide QED. <i>Physical Review A</i> , 2016, 93, .	2.5	137
21	Generation of squeezed states of nanomechanical resonators by reservoir engineering. <i>Physical Review B</i> , 2004, 70, .	3.2	127
22	Hybrid Quantum Device with Nitrogen-Vacancy Centers in Diamond Coupled to Carbon Nanotubes. <i>Physical Review Letters</i> , 2016, 117, 015502.	7.8	127
23	Phonon Networks with Silicon-Vacancy Centers in Diamond Waveguides. <i>Physical Review Letters</i> , 2018, 120, 213603.	7.8	125
24	Interfacing Quantum-Optical and Solid-State Qubits. <i>Physical Review Letters</i> , 2004, 92, 247902.	7.8	123
25	Breakdown of gauge invariance in ultrastrong-coupling cavity QED. <i>Physical Review A</i> , 2018, 98, .	2.5	122
26	Optomechanical transducers for quantum-information processing. <i>Physical Review A</i> , 2011, 84, .	2.5	119
27	Phonon cooling and lasing with nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , 2013, 88, .	3.2	115
28	Ultrastrong-coupling phenomena beyond the Dicke model. <i>Physical Review A</i> , 2016, 94, .	2.5	110
29	Cavity quantum electrodynamics in the nonperturbative regime. <i>Physical Review A</i> , 2018, 97, .	2.5	105
30	Defect-Suppressed Atomic Crystals in an Optical Lattice. <i>Physical Review Letters</i> , 2003, 91, 110403.	7.8	102
31	Superconducting Circuits for Quantum Simulation of Dynamical Gauge Fields. <i>Physical Review Letters</i> , 2013, 111, 110504.	7.8	93
32	Two-dimensional lattice gauge theories with superconducting quantum circuits. <i>Annals of Physics</i> , 2014, 351, 634-654.	2.8	93
33	Implementation of the Dicke Lattice Model in Hybrid Quantum System Arrays. <i>Physical Review Letters</i> , 2014, 113, 023603.	7.8	89
34	Suppression of Inelastic Collisions Between Polar Molecules With a Repulsive Shield. <i>Physical Review Letters</i> , 2008, 101, 073201.	7.8	84
35	Phase-noise induced limitations on cooling and coherent evolution in optomechanical systems. <i>Physical Review A</i> , 2009, 80, .	2.5	84
36	Molecular dipolar crystals as high-fidelity quantum memory for hybrid quantum computing. <i>Physical Review A</i> , 2007, 76, .	2.5	81

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37	Reservoir engineering and dynamical phase transitions in optomechanical arrays. Physical Review A, 2012, 86, .	2.5	81
38	Dissipative phase transition in the open quantum Rabi model. Physical Review A, 2018, 97, .	2.5	79
39	Microscopic model of electric-field-noise heating in ion traps. Physical Review A, 2011, 84, .	2.5	71
40	Hybrid Quantum Device Based on $N$ $V$ Centers in Diamond Nanomechanical Resonators Plus Superconducting Waveguide Cavities. Physical Review Applied, 2015, 4, .	3.8	71
41	Probing Macroscopic Realism via Ramsey Correlation Measurements. Physical Review Letters, 2014, 112, 190402.	7.8	70
42	$\mathcal{P}$ $\mathcal{T}$ -symmetry breaking in the steady state of microscopic gain-loss systems. New Journal of Physics, 2016, 18, 095003.	2.9	63
43	Intracavity Quantum Communication via Thermal Microwave Networks. Physical Review X, 2017, 7, .	8.9	58
44	Hybrid Mechanical Systems. , 2014, , 327-351.		53
45	Cooling of mechanical motion with a two-level system: The high-temperature regime. Physical Review B, 2010, 82, .	3.2	51
46	Photon condensation in circuit quantum electrodynamics by engineered dissipation. New Journal of Physics, 2012, 14, 055005.	2.9	45
47	Emergence of PT-symmetry breaking in open quantum systems. SciPost Physics, 2020, 9, .	4.9	35
48	Measuring mechanical motion with a single spin. New Journal of Physics, 2012, 14, 125004.	2.9	31
49	Harvesting Multiqubit Entanglement from Ultrastrong Interactions in Circuit Quantum Electrodynamics. Physical Review Letters, 2017, 119, 183602.	7.8	31
50	Light-Matter Interactions in Synthetic Magnetic Fields: Landau-Photon Polaritons. Physical Review Letters, 2021, 126, 103603.	7.8	31
51	Thermodynamics of ultrastrongly coupled light-matter systems. Quantum - the Open Journal for Quantum Science, 0, 4, 335.	0.0	31
52	Electric-field noise above a thin dielectric layer on metal electrodes. New Journal of Physics, 2016, 18, 023020.	2.9	30
53	Quantum state transfer via acoustic edge states in a 2D optomechanical array. New Journal of Physics, 2019, 21, 113030.	2.9	29
54	Supercorrelated Radiance in Nonlinear Photonic Waveguides. Physical Review Letters, 2020, 124, 213601.	7.8	29

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55	Influence of monolayer contamination on electric-field-noise heating in ion traps. <i>Physical Review A</i> , 2013, 87, .	2.5	27
56	Quantum feedback cooling of a single trapped ion in front of a mirror. <i>Physical Review A</i> , 2005, 72, .	2.5	26
57	Cooling phonons with phonons: Acoustic reservoir engineering with silicon-vacancy centers in diamond. <i>Physical Review B</i> , 2016, 94, .	3.2	24
58	Strong coupling between moving atoms and slow-light Cherenkov photons. <i>Physical Review A</i> , 2017, 95, .	2.5	24
59	The vacua of dipolar cavity quantum electrodynamics. <i>SciPost Physics</i> , 2020, 9, .	4.9	24
60	Contextuality in Phase Space. <i>Physical Review Letters</i> , 2015, 114, 250403.	7.8	22
61	Quantum acousto-optic control of light-matter interactions in nanophotonic networks. <i>Physical Review A</i> , 2019, 99, .	2.5	20
62	Nonequilibrium magnetic phases in spin lattices with gain and loss. <i>Physical Review A</i> , 2020, 102, .	2.5	20
63	Long-range and frustrated spin-spin interactions in crystals of cold polar molecules. <i>Physical Review A</i> , 2011, 84, .	2.5	19
64	Generation of hyper-entangled photon pairs in coupled microcavities. <i>New Journal of Physics</i> , 2014, 16, 063030.	2.9	16
65	Phase-space methods for simulating the dissipative many-body dynamics of collective spin systems. <i>SciPost Physics</i> , 2021, 10, .	4.9	16
66	Quantum-limited velocity readout and quantum feedback cooling of a trapped ion via electromagnetically induced transparency. <i>Physical Review A</i> , 2005, 72, .	2.5	13
67	Theory of cavity-assisted microwave cooling of polar molecules. <i>New Journal of Physics</i> , 2008, 10, 063005.	2.9	12
68	Realistic simulations of spin squeezing and cooperative coupling effects in large ensembles of interacting two-level systems. <i>Physical Review A</i> , 2022, 105, .	2.5	12
69	Quantum information processing in self-assembled crystals of cold polar molecules. <i>Quantum Information Processing</i> , 2011, 10, 793-819.	2.2	10
70	Active energy transport and the role of symmetry breaking in microscopic power grids. <i>Physical Review A</i> , 2019, 100, .	2.5	9
71	Quantum Computing with Superconducting Circuits in the Picosecond Regime. <i>Physical Review Applied</i> , 2021, 16, .	3.8	8
72	Quantifying phonon-induced non-Markovianity in color centers in diamond. <i>Physical Review A</i> , 2020, 101, .	2.5	7

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73	Long-distance distribution of qubit-qubit entanglement using Gaussian-correlated photonic beams. Physical Review A, 2022, 105, .	2.5	7
74	Ultrastrong-coupling circuit QED in the radio-frequency regime. Physical Review A, 2019, 100, .	2.5	5
75	Nonclassicality tests and entanglement witnesses for macroscopic mechanical superposition states. Physical Review A, 2015, 91, .	2.5	4
76	Universal Deterministic Quantum Operations in Microwave Quantum Links. Physical Review Applied, 2022, 17, .	3.8	4
77	Quantum Simulation of Nonâ€Perturbative Cavity QED with Trapped Ions. Advanced Quantum Technologies, 2020, 3, 1900125.	3.9	3
78	â€Quantumâ€Mechanical Systems: bridging foundations and applications. Annalen Der Physik, 2015, 527, A13-A14.	2.4	1
79	Controlling photons with phonons: optomechanically induced non-reciprocity. National Science Review, 2017, 4, 3-3.	9.5	1
80	Interaction of Topological States of Sounds and Light with Solid-State Emitters as a Quantum Hybrid Platform. , 2019, , .		0
81	SPECTROSCOPY OF STRONGLY CORRELATED COLD ATOMS. , 2004, , .		0