Jakob Reichel

List of Publications by Year
in descending order

114 papers	7,760 citations	61857 43 h-index	51492 86 g-index
129 all docs	129 docs citations	129 times ranked	4896 citing authors

#	Article	IF	Citations
1	An optical elevator for precise delivery of cold atoms using an acousto-optical deflector. New Journal of Physics, 2022, 24, 043013.	1.2	5
2	Measuring High-Order Phonon Correlations in an Optomechanical Resonator. Physical Review Letters, 2022, 128, 183601.	2.9	4
3	Mapping the Cavity Optomechanical Interaction with Subwavelength-Sized Ultrasensitive Nanomechanical Force Sensors. Physical Review X, 2021, 11, .	2.8	21
4	Mapping optical standing-waves of an open-access Fabryâ€"Perot cavity with a tapered fiber. Review of Scientific Instruments, 2020, 91, 033104.	0.6	5
5	Overlapping two standing waves in a microcavity for a multi-atom photon interface. Optics Express, 2020, 28, 15515.	1.7	6
6	Atomic Qubits Protected from Decoherence by Strong Coupling to a Fiber-Based Optical Cavity. , 2019, , .		0
7	Quantum Optomechanics in a Liquid. Physical Review Letters, 2019, 122, 153601.	2.9	32
8	Quantum optomechanics experiments in superfluid helium. , 2019, , .		0
9	Towards a quantum-enhanced trapped-atom clock on a chip. , 2019, , .		0
10	Improving the lifetime in optical microtraps by using elliptically polarized dipole light. Physical Review A, 2018, 97, .	1.0	1
11	Towards a quantum-enhanced atomic clock on a chip. , 2018, , .		0
12	Spontaneous spin squeezing in a rubidium BEC. New Journal of Physics, 2018, 20, 073018.	1.2	15
13	Dual-wavelength fiber Fabry-Perot cavities with engineered birefringence. Optics Express, 2018, 26, 22249.	1.7	21
14	Optomechanics in superfluid helium coupled to a fiber-based cavity. Journal of Optics (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 222	1.0	16
15	Observation of thermal fluctuations in a superfluid optomechanical system. , 2017, , .		0
16	Exploiting One-Dimensional Excitonâ€"Phonon Coupling for Tunable and Efficient Single-Photon Generation with a Carbon Nanotube. Nano Letters, 2017, 17, 4184-4188.	4.5	24
17	Cavity-induced backaction in Purcell-enhanced photon emission of a single ion in an ultraviolet fiber cavity. Physical Review A, 2017, 95, .	1.0	26
18	Superfluid Brillouin optomechanics. Nature Physics, 2017, 13, 74-79.	6.5	40

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19	Towards a 1D Cold Atom Array in a Fiber Microcavity for Generation of Multiparticle Entanglement. , 2017, , .		0
20	Creating Spin Squeezing in a Compact Atomic Clock. , 2017, , .		0
21	Millimeter-long fiber Fabry-Perot cavities. Optics Express, 2016, 24, 9839.	1.7	41
22	Widely Tunable Single-Photon Source from a Carbon Nanotube in the Purcell Regime. Physical Review Letters, 2016, 116, 247402.	2.9	79
23	Limits of atomic entanglement by cavity feedback: From weak to strong coupling. Europhysics Letters, 2016, 113, 34005.	0.7	4
24	Symmetric microwave potentials for interferometry with thermal atoms on a chip. Physical Review A, 2015, 91, .	1.0	15
25	Stability of a trapped-atom clock on a chip. Physical Review A, 2015, 92, .	1.0	39
26	Microwave-dressed state-selective potentials for atom interferometry. New Journal of Physics, 2015, 17, 083022.	1.2	10
27	Fiber-Based Cavities for Ion-Trap Quantum Networks. , 2015, , .		0
28	An ion-cavity interface for quantum networks. , 2015, , .		0
29	Transverse-mode coupling and diffraction loss in tunable Fabryâ€"PÃ©rot microcavities. New Journal of Physics, 2015, 17, 053051.	1.2	57
30	A scanning cavity microscope. Nature Communications, 2015, 6, 7249.	5.8	69
31	Polariton Boxes in a Tunable Fiber Cavity. Physical Review Applied, 2015, 3, .	1.5	39
32	Direct Photonic Coupling of a Semiconductor Quantum Dot and a Trapped Ion. Physical Review Letters, 2015, 114, 123001.	2.9	58
33	Long high finesse ï¬ber Fabry-Perot resonators. Proceedings of SPIE, 2015, , .	0.8	0
34	Deterministic generation of multiparticle entanglement by quantum Zeno dynamics. Science, 2015, 349, 1317-1321.	6.0	93
35	Photon Emission and Absorption of a Single Ion Coupled to an Optical-Fiber Cavity. Physical Review Letters, 2014, 113, 263003.	2.9	17
36	Realisation of a photonic link between a trapped ion and a semiconductor quantum dot. , 2014, , .		0

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37	Alkali vapor pressure modulation on the 100Âms scale in a single-cell vacuum system for cold atom experiments. Review of Scientific Instruments, 2014, 85, 083112.	0.6	11
38	Entangled States of More Than 40 Atoms in an Optical Fiber Cavity. Science, 2014, 344, 180-183.	6.0	133
39	Narrow-band single photon emission at room temperature based on a single nitrogen-vacancy center coupled to an all-fiber-cavity. Applied Physics Letters, 2014, 105, 073113.	1.5	50
40	Optically Mediated Hybridization between Two Mechanical Modes. Physical Review Letters, 2014, 112, 013602.	2.9	157
41	Realisation of a photonic link between a trapped ion and a semiconductor quantum dot. , 2014, , .		0
42	Cavity quantum electrodynamics with charge-controlled quantum dots coupled to a fiber Fabryâ€"Perot cavity. New Journal of Physics, 2013, 15, 045002.	1.2	58
43	Splitting of trapped thermal atoms for atom-chip based interferometry. , 2013, , .		0
44	Interferometry with Bose-Einstein Condensates in Microgravity. Physical Review Letters, 2013, 110, 093602.	2.9	296
45	Single Ion Coupled to an Optical Fiber Cavity. Physical Review Letters, 2013, 110, 043003.	2.9	99
46	Cavity-enhanced optical detection of carbon nanotube Brownian motion. Applied Physics Letters, 2013, 102, .	1.5	58
47	Coupling of a Single Nitrogen-Vacancy Center in Diamond to a Fiber-Based Microcavity. Physical Review Letters, 2013, 110, 243602.	2.9	163
48	Integrated fiber-mirror ion trap for strong ion-cavity coupling. Review of Scientific Instruments, 2013, 84, 123104.	0.6	72
49	Coupling of a single N-V center in diamond to a fiber-based microcavity. , 2013, , .		0
50	Fiber-pigtailed optical tweezer for single-atom trapping and single-photon generation. Applied Physics Letters, 2013, 103, .	1.5	16
51	Scaling laws of the cavity enhancement for nitrogen-vacancy centers in diamond. Physical Review A, 2013, 88, .	1.0	55
52	Towards an interferometer with thermal atoms trapped on a chip. , 2013, , .		0
53	Atom chips for quantum sensing with cold thermal atoms. , 2013, , .		0
54	Experimental investigation of transparent silicon carbide for atom chips. Applied Physics Letters, 2012, 100, .	1.5	14

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55	Experimental Investigation of Transparent Silicon Carbide as a Promising Material for Atom Chips. , 2012, , .		0
56	Optomechanics in a Fiber Cavity. , 2012, , .		0
57	Spin Waves and Collisional Frequency Shifts of a Trapped-Atom Clock. Physical Review Letters, 2012, 109, 020407.	2.9	24
58	Laser micro-fabrication of concave, low-roughness features in silica. AIP Advances, 2012, 2, .	0.6	112
59	Fiber-cavity-based optomechanical device. Applied Physics Letters, 2012, 101, .	1.5	122
60	Cavity QED with Fiber Cavities: From Atoms to Quantum Well Excitons. , 2012, , .		0
61	Measurement of the internal state of a single atom without energy exchange. Nature, 2011, 475, 210-213.	13.7	93
62	Degenerate Quantum Gases in Microgravity. Microgravity Science and Technology, 2011, 23, 287-292.	0.7	22
63	Compact frequency standard using atoms trapped on a chip. Advances in Space Research, 2011, 47, 247-252.	1.2	11
64	Evidence of a fermionic collisional shift. , 2011, , .		0
65	Magneto-optical trapping and detection of atoms through a transparent atom chip. , 2011, , .		0
66	Resonant Coupling of a Bose-Einstein Condensate to a Micromechanical Oscillator. Physical Review Letters, 2010, 104, 143002.	2.9	120
67	Cavity-Based Single Atom Preparation and High-Fidelity Hyperfine State Readout. Physical Review Letters, 2010, 104, 203602.	2.9	102
68	Cavity nano-optomechanics: a nanomechanical system in a high finesse optical cavity. Proceedings of SPIE, 2010, , .	0.8	5
69	Spin Self-Rephasing and Very Long Coherence Times in a Trapped Atomic Ensemble. Physical Review Letters, 2010, 105, 020401.	2.9	143
70	Preliminary results of the trapped atom clock on a chip. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 106-110.	1.7	15
71	Low-phase-noise frequency synthesizer for the trapped atom clock on a chip. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 88-93.	1.7	12
72	Bose-Einstein Condensation in Microgravity. Science, 2010, 328, 1540-1543.	6.0	246

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73	Enhanced and Reduced Atom Number Fluctuations in a BEC Splitter. Physical Review Letters, 2010, 105, 080403.	2.9	73
74	A fiber Fabryâ€"Perot cavity with high finesse. New Journal of Physics, 2010, 12, 065038.	1.2	327
75	Ultracold atoms coupled to micro- and nanomechanical oscillators: Towards hybrid quantum systems. , 2009, , .		0
76	Preliminary results of the trapped atom clock on a chip. , 2009, , .		2
77	Coherent manipulation of Boseâ€"Einstein condensates with state-dependent microwave potentials on an atom chip. Nature Physics, 2009, 5, 592-597.	6.5	170
78	Spin squeezing in a bimodal condensate: spatial dynamics and particle losses. European Physical Journal B, 2009, 68, 365-381.	0.6	82
79	Fluctuating nanomechanical system in a high finesse optical microcavity. Optics Express, 2009, 17, 12813.	1.7	64
80	Low phase noise frequency synthesiser for the Trapped Atom Clock on a Chip. , 2009, , .		2
81	RUBIDIUM BOSEâ€"EINSTEIN CONDENSATE UNDER MICROGRAVITY. International Journal of Modern Physics D, 2007, 16, 2447-2454.	0.9	1
82	ATOMIC QUANTUM SENSORS IN SPACE. International Journal of Modern Physics D, 2007, 16, 2421-2429.	0.9	4
83	Bose-Einstein Condensate Coupled to a Nanomechanical Resonator on an Atom Chip. Physical Review Letters, 2007, 99, 140403.	2.9	185
84	Developments toward atomic quantum sensors. , 2007, , .		1
85	Atom interferometers and optical atomic clocks: New quantum sensors for fundamental physics experiments in space. Nuclear Physics, Section B, Proceedings Supplements, 2007, 166, 159-165.	0.5	38
86	Strong atomâ€"field coupling for Boseâ€"Einstein condensates in an optical cavity on a chip. Nature, 2007, 450, 272-276.	13.7	605
87	Stable fiber-based Fabry-PÃ©rot cavity. Applied Physics Letters, 2006, 89, 111110.	1.5	83
88	Miniature fluorescence detector for single atom observation on a microchip. Optics Express, 2006, 14, 10976.	1.7	10
89	Quantum information processing in optical lattices and magnetic microtraps. Fortschritte Der Physik, 2006, 54, 702-718.	1.5	89
90	Boseâ€"Einstein condensates in microgravity. Applied Physics B: Lasers and Optics, 2006, 84, 663-671.	1.1	40

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91	Microwave potentials and optimal control for robust quantum gates on an atom chip. Physical Review A, 2006, 74, .	1.0	108
92	Long distance magnetic conveyor for precise positioning of ultracold atoms. European Physical Journal D, 2005, 35, 125-133.	0.6	17
93	Atom Chips. Scientific American, 2005, 292, 46-53.	1.0	5
94	Transporting, splitting and merging of atomic ensembles in a chip trap. New Journal of Physics, 2005, 7, 3-3.	1.2	54
95	Using magnetic chip traps to study Tonks-Girardeau quantum gases. European Physical Journal Special Topics, 2004, 116, 265-274.	0.2	22
96	Coherence in Microchip Traps. Physical Review Letters, 2004, 92, 203005.	2.9	212
97	Atom-chip Bose-Einstein condensation in a portable vacuum cell. Physical Review A, 2004, 70, .	1.0	93
98	Atom chip Bose-Einstein condensation in a portable vacuum cell. , 2004, , .		0
99	Das ideale Quantenlabor: Bose-Einstein-Kondensation. Physik in Unserer Zeit, 2003, 34, 168-176.	0.0	5
100	Magnetic microchip traps and singleâ€“atom detection. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1375-1389.	1.6	37
101	Microchip traps and Boseâ€“Einstein condensation. Applied Physics B: Lasers and Optics, 2002, 74, 469-487.	1.1	230
102	Atomic Looping. , 2002, , 471-475.		1
103	Applications of integrated magnetic microtraps. Applied Physics B: Lasers and Optics, 2001, 72, 81-89.	1.1	85
104	Boseâ€“Einstein condensation on a microelectronic chip. Nature, 2001, 413, 498-501.	13.7	556
105	Trapped-atom interferometer in a magnetic microtrap. Physical Review A, 2001, 64, .	1.0	116
106	Magnetic Conveyor Belt for Transporting and Merging Trapped Atom Clouds. Physical Review Letters, 2001, 86, 608-611.	2.9	169
107	Bundâ€‹Länderâ€‹Kommission: Mehr Eigenverantwortung fÃ¼r die DFG/FÃ¤llt das Hochschullehrerprivileg?/Grundlagenforschung im All/Juniorprofessoren statt Habilitanden?/RÃ¼stungskontrolle: Technologisch fragwÃ¼rdig, politisch gefÃ¤hrlich/Wissenschaftspublikationen â€žfrisch vom Autorâ€œ/USA: Helle Zukunft fÃ¼r Advanced Light Source/Erleichterter Zugang fÃ¼r israelische Wissenschaftler/Aus fÃ¼r Gammastrahlenâ€• Satelliten/Gegen Dialog zwischen Wissenschaft und Religion/Raumfahrt ohne Nutzen fÃ¼r Kristallzuch	0.1	0
108	Atomic Micromanipulation with Magnetic Surface Traps. Physical Review Letters, 1999, 83, 3398-3401.	2.9	337

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109	Bloch Oscillations of Atoms in an Optical Potential. Physical Review Letters, 1996, 76, 4508-4511.	2.9	805
110	An Opto-electric Trap for Cold Atoms. Europhysics Letters, 1995, 32, 555-560.	0.7	19
111	Raman Cooling of Cesium below 3 nK: New Approach Inspired by LÃ©vy Flight Statistics. Physical Review Letters, 1995, 75, 4575-4578.	2.9	95
112	Subrecoil Raman Cooling of Cesium Atoms. Europhysics Letters, 1994, 28, 477-482.	0.7	31
113	Neutralization of Acceptors and Formation of Agglomerates in Silicon Wafers Due to Intrinsic Point Defects Created by Chemomechanical Polishing and by Quenching. Physica Status Solidi A, 1987, 103, 413-420.	1.7	18
114	Quantum Information Processing in Optical Lattices and Magnetic Microtraps. , 0, , 121-144.		0