Philipp Treutlein

List of Publications by Year
in descending order

79	5,651	109321	123424
papers	citations	35 h-index	61 g-index

81	81	81	3767
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Quantum metrology with nonclassical states of atomic ensembles. Reviews of Modern Physics, 2018, 90, .	45.6	852
2	Atom-chip-based generation of entanglement for quantum metrology. Nature, 2010, 464, 1170-1173.	27.8	690
3	Bright Bose-Einstein Gap Solitons of Atoms with Repulsive Interaction. Physical Review Letters, 2004, 92, 230401.	7.8	614
4	Coherence in Microchip Traps. Physical Review Letters, 2004, 92, 203005.	7.8	212
5	Strong Coupling of a Mechanical Oscillator and a Single Atom. Physical Review Letters, 2009, 103, 063005.	7.8	192
6	Spatial entanglement patterns and Einstein-Podolsky-Rosen steering in Bose-Einstein condensates. Science, 2018, 360, 409-413.	12.6	191
7	Bose-Einstein Condensate Coupled to a Nanomechanical Resonator on an Atom Chip. Physical Review Letters, 2007, 99, 140403.	7.8	185
8	Coherent manipulation of Boseâ€“Einstein condensates with state-dependent microwave potentials on an atom chip. Nature Physics, 2009, 5, 592-597.	16.7	170
9	Realization of an Optomechanical Interface Between Ultracold Atoms and a Membrane. Physical Review Letters, 2011, 107, 223001.	7.8	156
10	Quantum Metrology with a Scanning Probe Atom Interferometer. Physical Review Letters, 2013, 111, 143001.	7.8	148
11	Bell correlations in a Bose-Einstein condensate. Science, 2016, 352, 441-444.	12.6	141
12	Resonant Coupling of a Bose-Einstein Condensate to a Micromechanical Oscillator. Physical Review Letters, 2010, 104, 143002.	7.8	120
13	Dispersion Management for Atomic Matter Waves. Physical Review Letters, 2003, 91, 060402.	7.8	119
14	Microwave potentials and optimal control for robust quantum gates on an atom chip. Physical Review A, 2006, 74, .	2.5	108
15	Sympathetic cooling of a membrane oscillator in a hybrid mechanicalâ€“atomic system. Nature Nanotechnology, 2015, 10, 55-59.	31.5	105
16	Single-atom cavity QED and optomicromechanics. Physical Review A, 2010, 81, .	2.5	101
17	Quantum information processing in optical lattices and magnetic microtraps. Fortschritte Der Physik, 2006, 54, 702-718.	4.4	89
18	Spin squeezing in a bimodal condensate: spatial dynamics and particle losses. European Physical Journal B, 2009, 68, 365-381.	1.5	82

#	Article	IF	Citations
19	Simple Atomic Quantum Memory Suitable for Semiconductor Quantum Dot Single Photons. Physical Review Letters, 2017, 119, 060502.	7.8	77
20	Enhanced and Reduced Atom Number Fluctuations in a BEC Splitter. Physical Review Letters, 2010, 105, 080403.	7.8	73
21	High-brightness atom source for atomic fountains. Physical Review A, 2001, 63, .	2.5	67
22	Microwave Device Characterization Using a Widefield Diamond Microscope. Physical Review Applied, 2018, 10, .	3.8	64
23	Cavity-enhanced long-distance coupling of an atomic ensemble to a micromechanical membrane. Physical Review A, 2013, 87, .	2.5	60
24	Imaging of microwave fields using ultracold atoms. Applied Physics Letters, 2010, 97, .	3.3	58
25	Optical lattices with micromechanical mirrors. Physical Review A, 2010, 82, .	2.5	57
26	Coupling ultracold atoms to mechanical oscillators. Comptes Rendus Physique, 2011, 12, 871-887.	0.9	57
27	An artificial Rb atom in a semiconductor with lifetime-limited linewidth. Physical Review B, 2015, 92, .	3.2	54
28	Quantum computing implementations with neutral particles. Quantum Information Processing, 2011, 10, 721-753.	2.2	53
29	Imaging of relaxation times and microwave field strength in a microfabricated vapor cell. Physical Review A, 2013, 88, .	2.5	53
30	Hybrid Mechanical Systems. , 2014, , 327-351.		53
31	Widefield microwave imaging in alkali vapor cells with sub-100Î¼m resolution. New Journal of Physics, 2015, 17, 112002.	2.9	48
32	Frequency-tunable microwave field detection in an atomic vapor cell. Applied Physics Letters, 2016, 108, .	3.3	48
33	Light-mediated strong coupling between a mechanical oscillator and atomic spins 1 meter apart. Science, 2020, 369, 174-179.	12.6	48
34	Simple microwave field imaging technique using hot atomic vapor cells. Applied Physics Letters, 2012, 101, .	3.3	47
35	Spectroscopy of mechanical dissipation in micro-mechanical membranes. Applied Physics Letters, 2011, 99, .	3.3	43
36	Entanglement between Identical Particles Is a Useful and Consistent Resource. Physical Review X, 2020, 10, .	8.9	39

#	Article	IF	Citations
37	Imaging Microwave and DC Magnetic Fields in a Vapor-Cell Rb Atomic Clock. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 3629-3637.	4.7	35
38	Tomographic reconstruction of the Wigner function on the Bloch sphere. New Journal of Physics, 2011, 13, 065019.	2.9	28
39	Long distance coupling of a quantum mechanical oscillator to the internal states of an atomic ensemble. New Journal of Physics, 2015, 17, 043044.	2.9	26
40	Mesoscopic quantum superpositions in bimodal Bose-Einstein condensates: Decoherence and strategies to counteract it. Physical Review A, 2017, 95, .	2.5	26
41	Spin squeezing and Einstein-Podolsky-Rosen entanglement of two bimodal condensates in state-dependent potentials. Physical Review A, 2013, 88, .	2.5	23
42	Single-Photon Storage in a Ground-State Vapor Cell Quantum Memory. PRX Quantum, 2022, 3, .	9.2	23
43	Light-Mediated Collective Atomic Motion in an Optical Lattice Coupled to a Membrane. Physical Review Letters, 2018, 120, 073602.	7.8	22
44	Remote Hamiltonian interactions mediated by light. Physical Review A, 2019, 99, .	2.5	19
45	Prospects for storage and retrieval of a quantum-dot single photon in an ultracold<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>87</mml:mn></mml:msup></mml:math>Rb ensemble. Physical Review A, 2013, 88, .	2.5	18
46	Bell Correlations in a Many-Body System with Finite Statistics. Physical Review Letters, 2017, 119, 170403.	7.8	18
47	Does large quantum Fisher information imply Bell correlations?. Physical Review A, 2019, 99, .	2.5	18
48	On-demand semiconductor source of 780-nm single photons with controlled temporal wave packets. Physical Review B, 2018, 97, .	3.2	17
49	Nuclear Spin Squeezing in Helium-3 by Continuous Quantum Nondemolition Measurement. Physical Review Letters, 2021, 127, 013601.	7.8	15
50	Large-range frequency tuning of a narrow-linewidth quantum emitter. Applied Physics Letters, 2020, 117, .	3.3	12
51	An efficient, tunable, and robust source of narrow-band photon pairs at the ⁸⁷Rb D1 line. Optics Express, 2020, 28, 3159.	3.4	12
52	Coherent Feedback Cooling of a Nanomechanical Membrane with Atomic Spins. Physical Review X, 2022, 12, .	8.9	10
53	A strained couple. Nature Nanotechnology, 2014, 9, 99-100.	31.5	9
54	Optimal entanglement witnesses in a split spin-squeezed Bose-Einstein condensate. Physical Review A, 2017, 95, .	2.5	7

#	Article	IF	Citations
55	A Single Spin Feels the Vibrations. Science, 2012, 335, 1584-1585.	12.6	6
56	Experimental and numerical study of the microwave field distribution in a compact magnetron-type microwave cavity. , 2014, , .		5
57	Photon Qubit is Made of Two Colors. Physics Magazine, 2016, 9, .	0.1	5
58	Sideband Rabi spectroscopy of finite-temperature trapped Bose gases. Physical Review A, 2016, 93, .	2.5	4
59	Ã‰tude thÃ©orique de la compression de spin nuclÃ©aire par mesure quantique non destructive en continu. Comptes Rendus Physique, 2021, 22, 1-35.	0.9	4
60	Sequential quantum-enhanced measurement with an atomic ensemble. Physical Review A, 2014, 89, .	2.5	3
61	Fundamental Limit of Phase Coherence in Two-Component Bose-Einstein Condensates. Physical Review Letters, 2020, 125, 123402.	7.8	3
62	Hybrid atom-membrane optomechanics. EPJ Web of Conferences, 2013, 57, 03006.	0.3	2
63	Spatially resolved measurement of relaxation times in a microfabricated vapor cell. , 2013, , .		1
64	Nanomechanical answer to Einstein. Nature Nanotechnology, 2015, 10, 832-833.	31.5	1
65	An atomic memory suitable for semiconductor quantum dot single photons. , 2017, , .		1
66	Observation of coherent internal-state superpositions near a chip surface. , 2003, , .		0
67	Magnetic coupling of a Bose-Einstein condensate to a nanomchanical resonator. , 2007, , .		0
68	Strong atom-cavity coupling observed for trapped single atoms and Bose-Einstein condensates on an atom chip. , 2007, , .		0
69	Microwave near-fields on atom chips. , 2007, , .		0
70	Ultracold atoms coupled to micro- and nanomechanical oscillators: Towards hybrid quantum systems. , 2009, , .		0
71	State selective microwave nearfield potentials on atom chips. , 2009, , .		0
72	Optomechanics with Ultracold Atoms and SiN Membranes. , 2012, , .		0

#	Article	IF	Citations
73	Imaging the static magnetic field distribution in a vapor cell atomic clock. , 2015, , .		0
74	Widefield microwave imaging using NV centres. , 2017, , .		0
75	Rb Vapor Cell Quantum Memory for Single Photons. , 2019, , .		0
76	DISPERSION MANAGEMENT AND BRIGHT GAP SOLITONS FOR ATOMIC MATTER WAVES. , 2004, , .		0
77	COHERENT ATOMIC STATES IN MICROTRAPS. , 2004, , .		0
78	Spatial entanglement patterns and Einstein-Podolsky-Rosen steering in a Bose-Einstein condensate. , 2019, , .		0
79	Spatial entanglement and Einstein-Podolsky-Rosen steering in a Bose-Einstein condensate. , 2019, , .		0