Joseph Hope

List of Publications by Year
in descending order

85 papers	2,469 citations	201385 27 h-index	214527 47 g-index
87 all docs	87 docs citations	87 times ranked	1636 citing authors

#	Article	IF	Citations
1	Fast entangling gates in long ion chains. Physical Review Research, 2021, 3, .	1.3	4
2	Superflow decay in a toroidal Bose gas: The effect of quantum and thermal fluctuations. SciPost Physics, 2021, 11, .	1.5	7
3	Scalable quantum computation with fast gates in two-dimensional microtrap arrays of trapped ions. Physical Review A, 2020, 102, .	1.0	3
4	Dynamics and stability of an optically levitated mirror. Physical Review A, 2020, 101, .	1.0	6
5	Micromotion-enhanced fast entangling gates for trapped-ion quantum computing. Physical Review A, 2020, 101, .	1.0	6
6	Photothermally induced transparency. Science Advances, 2020, 6, eaax8256.	4.7	24
7	Machine-Designed Sensor to Make Optimal Use of Entanglement-Generating Dynamics for Quantum Sensing. Physical Review Letters, 2020, 124, 060402.	2.9	25
8	Optimized fast gates for quantum computing with trapped ions. Physical Review A, 2020, 101, .	1.0	16
9	Controlling chaos in the quantum regime using adaptive measurements. Physical Review A, 2019, 99, .	1.0	11
10	Using interaction-based readouts to approach the ultimate limit of detection noise robustness for quantum-enhanced metrology in collective spin systems. , 2019, , .		0
11	Scaling Trapped Ion Quantum Computers Using Fast Gates and Microtraps. Physical Review Letters, 2018, 120, 220501.	2.9	19
12	A Study on Fast Gates for Large-Scale Quantum Simulation with Trapped Ions. Scientific Reports, 2017, 7, 46197.	1.6	14
13	Tuning quantum measurements to control chaos. Scientific Reports, 2017, 7, 44684.	1.6	24
14	Precise wave-function engineering with magnetic resonance. Physical Review A, 2017, 96, .	1.0	3
15	Ultrafast, high repetition rate, ultraviolet, fiber-laser-based source: application towards Yb^+ fast quantum-logic. Optics Express, 2016, 24, 16638.	1.7	13
16	Stability thresholds and calculation techniques for fast entangling gates on trapped ions. Physical Review A, 2016, 93, .	1.0	8
17	Fast machine-learning online optimization of ultra-cold-atom experiments. Scientific Reports, 2016, 6, 25890.	1.6	149
18	Trapped ion scaling with pulsed fast gates. New Journal of Physics, 2015, 17, 103025.	1.2	19

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19	Single photon production by rephased amplified spontaneous emission. New Journal of Physics, 2014, 16, 033042.	1.2	8
20	Detection-Enhanced Steady State Entanglement with Ions. Physical Review Letters, 2014, 113, 040501.	2.9	18
21	Scattering-Free Optical Levitation of a Cavity Mirror. Physical Review Letters, 2013, 111, 183001.	2.9	39
22	XMDS2: Fast, scalable simulation of coupled stochastic partial differential equations. Computer Physics Communications, 2013, 184, 201-208.	3.0	167
23	Controlling spontaneous-emission noise in measurement-based feedback cooling of a Boseâ€“Einstein condensate. New Journal of Physics, 2013, 15, 113060.	1.2	35
24	Squeezing in Boseâ€“Einstein condensates with large numbers of atoms. New Journal of Physics, 2013, 15, 123024.	1.2	11
25	Fast gates for ion traps by splitting laser pulses. New Journal of Physics, 2013, 15, 043006.	1.2	19
26	Robustness of system-filter separation for the feedback control of a quantum harmonic oscillator undergoing continuous position measurement. Physical Review A, 2013, 87, .	1.0	17
27	Diffusion effects in gradient echo memory. Physical Review A, 2013, 87, .	1.0	4
28	Why momentum width matters for atom interferometry with Bragg pulses. New Journal of Physics, 2012, 14, 023009.	1.2	99
29	Number-phase Wigner representation for scalable stochastic simulations of controlled quantum systems. Physical Review A, 2012, 85, .	1.0	9
30	Quantum kinetic theory model of a continuous atom laser. Physical Review A, 2012, 86, .	1.0	4
31	Production of entanglement in Raman three-level systems using feedback. European Physical Journal D, 2011, 61, 523-529.	0.6	13
32	Engineering steady states using jump-based feedback for multipartite entanglement generation. Physical Review A, 2011, 84, .	1.0	34
33	Feedback control of an interacting Bose-Einstein condensate using phase-contrast imaging. Physical Review A, 2010, 82, .	1.0	36
34	Number-phase Wigner representation for efficient stochastic simulations. Physical Review A, 2010, 81, .	1.0	13
35	Self-consistent input-output formulation of quantum feedback. Physical Review A, 2010, 82, .	1.0	2
36	Pulsed pumping of a Bose-Einstein condensate. Physical Review A, 2009, 79, .	1.0	12

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37	Paired-atom laser beams created via four-wave mixing. Physical Review A, 2009, 79, .	1.0	39
38	Scalable quantum field simulations of conditioned systems. Physical Review A, 2009, 80, .	1.0	11
39	Continuous measurement feedback control of a Bose-Einstein condensate using phase-contrast imaging. Physical Review A, 2009, 80, .	1.0	44
40	From squeezed atom lasers to teleportation of massive articles. European Physical Journal: Special Topics, 2008, 160, 331-342.	1.2	6
41	Controlling entanglement by direct quantum feedback. Physical Review A, 2008, 78, .	1.0	111
42	Characterization of electromagnetically-induced-transparency-based continuous-variable quantum memories. Physical Review A, 2008, 77, .	1.0	52
43	Quantum depletion of collapsing Bose-Einstein condensates. Physical Review A, 2007, 75, .	1.0	41
44	Effects of measurement backaction in the stabilization of a Bose-Einstein condensate through feedback. Physical Review A, 2007, 76, .	1.0	17
45	Raman scheme to measure the quantum statistics of an atom laser beam. Physical Review A, 2007, 76, .	1.0	9
46	Semiclassical limits to the linewidth of an atom laser. Physical Review A, 2007, 75, .	1.0	18
47	Multimode quantum limits to the linewidth of an atom laser. Physical Review A, 2007, 75, .	1.0	10
48	Investigation and comparison of multistate and two-state atom laser-output couplers. Physical Review A, 2007, 75, .	1.0	10
49	Observation of transverse interference fringes on an atom laser beam. Optics Express, 2007, 15, 17673.	1.7	16
50	Stabilizing entanglement by quantum-jump-based feedback. Physical Review A, 2007, 76, .	1.0	131
51	Quantum statistical measurements of an atom laser beam. Nuclear Physics A, 2007, 790, 733c-736c.	0.6	1
52	Effect of atomic noise on optical squeezing via polarization self-rotation in a thermal vapor cell. Physical Review A, 2006, 73, .	1.0	28
53	Achieving Peak Brightness in an Atom Laser. Physical Review Letters, 2006, 96, 140403.	2.9	47
54	Generating Controllable Atom-Light Entanglement with a Raman Atom Laser System. Physical Review Letters, 2006, 96, 133601.	2.9	48

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55	A multi-mode model of a non-classical atom laser produced by outcoupling from a Bose-Einstein condensate with squeezed light. Laser Physics Letters, 2005, 2, 597-602.	0.6	17
56	Collapsing Bose-Einstein condensates beyond the Gross-Pitaevskii approximation. Physical Review A, 2005, 71, .	1.0	31
57	Outcoupling from a Bose-Einstein condensate with squeezed light to produce entangled-atom laser beams. Physical Review A, 2005, 72, .	1.0	56
58	Stabilizing an atom laser using spatially selective pumping and feedback. Physical Review A, 2005, 72, .	1.0	9
59	Limits to the flux of a continuous atom laser. Physical Review A, 2005, 72, .	1.0	34
60	General limit to nondestructive optical detection of atoms. Physical Review A, 2005, 71, .	1.0	19
61	Squeezing and entanglement delay using slow light. Physical Review A, 2005, 71, .	1.0	64
62	Pulse retrieval and soliton formation in a nonstandard scheme for dynamic electromagnetically induced transparency. Physical Review A, 2005, 71, .	1.0	1
63	Control of an atom laser using feedback. Physical Review A, 2004, 69, .	1.0	15
64	Rapid real-time detection of cold atoms with minimal destruction. Physical Review A, 2004, 69, .	1.0	7
65	Limit to Minimally Destructive Optical Detection of Atoms. Physical Review Letters, 2004, 93, 180402.	2.9	28
66	Fluctuations and flux: The limits of multistate atom lasers. Physical Review A, 2004, 69, .	1.0	27
67	Mode selectivity and stability of continuously pumped atom lasers. Physical Review A, 2003, 68, .	1.0	10
68	Steady-state quantum statistics of a non-Markovian atom laser. II. Physical Review A, 2003, 68, .	1.0	7
69	Nondestructive dynamic detectors for Bose-Einstein condensates. Physical Review A, 2003, 67, .	1.0	41
70	Bose-Einstein condensate collapse: A comparison between theory and experiment. Physical Review A, 2003, 67, .	1.0	53
71	Stability of Continuously Pumped Atom Lasers. Physical Review Letters, 2002, 88, 170403.	2.9	26
72	Quantum Superchemistry: Dynamical Quantum Effects in Coupled Atomic and Molecular Bose-Einstein Condensates. Physical Review Letters, 2001, 86, 3220-3223.	2.9	104

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73	Multimode model of the formation of molecular Bose-Einstein condensates by Bose-stimulated Raman adiabatic passage. Physical Review A, 2001, 63, .	1.0	43
74	Resonance fluorescence in a band-gap material: Direct numerical simulation of non-Markovian evolution. Physical Review A, 2001, 63, .	1.0	21
75	Quantum field effects in coupled atomic and molecular Bose-Einstein condensates. Physical Review A, 2001, 64, .	1.0	20
76	The linewidth of a non-Markovian atom laser. Optics Communications, 2000, 179, 571-576.	1.0	3
77	Steady-state quantum statistics of a non-Markovian atom laser. Physical Review A, 2000, 61, .	1.0	51
78	Born and Markov approximations for atom lasers. Physical Review A, 1999, 59, 667-675.	1.0	67
79	Theory of input and output of atoms from an atomic trap. Physical Review A, 1997, 55, R2531-R2534.	1.0	68
80	Atom laser based on Raman transitions. Physical Review A, 1997, 55, 3631-3638.	1.0	80
81	Stimulation of beta decay due to a Bose-Einstein condensate. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 222, 87-90.	0.9	2
82	Mechanical potentials due to Raman transitions. Physical Review A, 1996, 53, 1697-1701.	1.0	11
83	Stimulated enhancement of cross section by a Bose-Einstein condensate. Physical Review A, 1996, 54, 3177-3181.	1.0	13
84	Band gaps for atoms in light-based waveguides. Physical Review A, 1996, 53, 3449-3455.	1.0	4
85	Hollow Optical Fiber Atom Waveguides. , 1996, , 551-552.		0