

# Joseph Hope

## List of Publications by Year in descending order

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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	XMDS2: Fast, scalable simulation of coupled stochastic partial differential equations. Computer Physics Communications, 2013, 184, 201-208.	3.0	167
2	Fast machine-learning online optimization of ultra-cold-atom experiments. Scientific Reports, 2016, 6, 25890.	1.6	149
3	Stabilizing entanglement by quantum-jump-based feedback. Physical Review A, 2007, 76, .	1.0	131
4	Controlling entanglement by direct quantum feedback. Physical Review A, 2008, 78, .	1.0	111
5	Quantum Superchemistry: Dynamical Quantum Effects in Coupled Atomic and Molecular Bose-Einstein Condensates. Physical Review Letters, 2001, 86, 3220-3223.	2.9	104
6	Why momentum width matters for atom interferometry with Bragg pulses. New Journal of Physics, 2012, 14, 023009.	1.2	99
7	Atom laser based on Raman transitions. Physical Review A, 1997, 55, 3631-3638.	1.0	80
8	Theory of input and output of atoms from an atomic trap. Physical Review A, 1997, 55, R2531-R2534.	1.0	68
9	Born and Markov approximations for atom lasers. Physical Review A, 1999, 59, 667-675.	1.0	67
10	Squeezing and entanglement delay using slow light. Physical Review A, 2005, 71, .	1.0	64
11	Outcoupling from a Bose-Einstein condensate with squeezed light to produce entangled-atom laser beams. Physical Review A, 2005, 72, .	1.0	56
12	Bose-Einstein condensate collapse: A comparison between theory and experiment. Physical Review A, 2003, 67, .	1.0	53
13	Characterization of electromagnetically-induced-transparency-based continuous-variable quantum memories. Physical Review A, 2008, 77, .	1.0	52
14	Steady-state quantum statistics of a non-Markovian atom laser. Physical Review A, 2000, 61, .	1.0	51
15	Generating Controllable Atom-Light Entanglement with a Raman Atom Laser System. Physical Review Letters, 2006, 96, 133601.	2.9	48
16	Achieving Peak Brightness in an Atom Laser. Physical Review Letters, 2006, 96, 140403.	2.9	47
17	Continuous measurement feedback control of a Bose-Einstein condensate using phase-contrast imaging. Physical Review A, 2009, 80, .	1.0	44
18	Multimode model of the formation of molecular Bose-Einstein condensates by Bose-stimulated Raman adiabatic passage. Physical Review A, 2001, 63, .	1.0	43

#	ARTICLE	IF	CITATIONS
19	Nondestructive dynamic detectors for Bose-Einstein condensates. <i>Physical Review A</i> , 2003, 67, .	1.0	41
20	Quantum depletion of collapsing Bose-Einstein condensates. <i>Physical Review A</i> , 2007, 75, .	1.0	41
21	Paired-atom laser beams created via four-wave mixing. <i>Physical Review A</i> , 2009, 79, .	1.0	39
22	Scattering-Free Optical Levitation of a Cavity Mirror. <i>Physical Review Letters</i> , 2013, 111, 183001.	2.9	39
23	Feedback control of an interacting Bose-Einstein condensate using phase-contrast imaging. <i>Physical Review A</i> , 2010, 82, .	1.0	36
24	Controlling spontaneous-emission noise in measurement-based feedback cooling of a Bose-Einstein condensate. <i>New Journal of Physics</i> , 2013, 15, 113060.	1.2	35
25	Limits to the flux of a continuous atom laser. <i>Physical Review A</i> , 2005, 72, .	1.0	34
26	Engineering steady states using jump-based feedback for multipartite entanglement generation. <i>Physical Review A</i> , 2011, 84, .	1.0	34
27	Collapsing Bose-Einstein condensates beyond the Gross-Pitaevskii approximation. <i>Physical Review A</i> , 2005, 71, .	1.0	31
28	Limit to Minimally Destructive Optical Detection of Atoms. <i>Physical Review Letters</i> , 2004, 93, 180402.	2.9	28
29	Effect of atomic noise on optical squeezing via polarization self-rotation in a thermal vapor cell. <i>Physical Review A</i> , 2006, 73, .	1.0	28
30	Fluctuations and flux: The limits of multistate atom lasers. <i>Physical Review A</i> , 2004, 69, .	1.0	27
31	Stability of Continuously Pumped Atom Lasers. <i>Physical Review Letters</i> , 2002, 88, 170403.	2.9	26
32	Machine-Designed Sensor to Make Optimal Use of Entanglement-Generating Dynamics for Quantum Sensing. <i>Physical Review Letters</i> , 2020, 124, 060402.	2.9	25
33	Tuning quantum measurements to control chaos. <i>Scientific Reports</i> , 2017, 7, 44684.	1.6	24
34	Photothermally induced transparency. <i>Science Advances</i> , 2020, 6, eaax8256.	4.7	24
35	Resonance fluorescence in a band-gap material: Direct numerical simulation of non-Markovian evolution. <i>Physical Review A</i> , 2001, 63, .	1.0	21
36	Quantum field effects in coupled atomic and molecular Bose-Einstein condensates. <i>Physical Review A</i> , 2001, 64, .	1.0	20

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37	General limit to nondestructive optical detection of atoms. <i>Physical Review A</i> , 2005, 71, .	1.0	19
38	Fast gates for ion traps by splitting laser pulses. <i>New Journal of Physics</i> , 2013, 15, 043006.	1.2	19
39	Trapped ion scaling with pulsed fast gates. <i>New Journal of Physics</i> , 2015, 17, 103025.	1.2	19
40	Scaling Trapped Ion Quantum Computers Using Fast Gates and Microtraps. <i>Physical Review Letters</i> , 2018, 120, 220501.	2.9	19
41	Semiclassical limits to the linewidth of an atom laser. <i>Physical Review A</i> , 2007, 75, .	1.0	18
42	Detection-Enhanced Steady State Entanglement with Ions. <i>Physical Review Letters</i> , 2014, 113, 040501.	2.9	18
43	A multi-mode model of a non-classical atom laser produced by outcoupling from a Bose-Einstein condensate with squeezed light. <i>Laser Physics Letters</i> , 2005, 2, 597-602.	0.6	17
44	Effects of measurement backaction in the stabilization of a Bose-Einstein condensate through feedback. <i>Physical Review A</i> , 2007, 76, .	1.0	17
45	Robustness of system-filter separation for the feedback control of a quantum harmonic oscillator undergoing continuous position measurement. <i>Physical Review A</i> , 2013, 87, .	1.0	17
46	Observation of transverse interference fringes on an atom laser beam. <i>Optics Express</i> , 2007, 15, 17673.	1.7	16
47	Optimized fast gates for quantum computing with trapped ions. <i>Physical Review A</i> , 2020, 101, .	1.0	16
48	Control of an atom laser using feedback. <i>Physical Review A</i> , 2004, 69, .	1.0	15
49	A Study on Fast Gates for Large-Scale Quantum Simulation with Trapped Ions. <i>Scientific Reports</i> , 2017, 7, 46197.	1.6	14
50	Stimulated enhancement of cross section by a Bose-Einstein condensate. <i>Physical Review A</i> , 1996, 54, 3177-3181.	1.0	13
51	Number-phase Wigner representation for efficient stochastic simulations. <i>Physical Review A</i> , 2010, 81, .	1.0	13
52	Production of entanglement in Raman three-level systems using feedback. <i>European Physical Journal D</i> , 2011, 61, 523-529.	0.6	13
53	Ultrafast, high repetition rate, ultraviolet, fiber-laser-based source: application towards $\text{Yb}^+$ fast quantum-logic. <i>Optics Express</i> , 2016, 24, 16638.	1.7	13
54	Pulsed pumping of a Bose-Einstein condensate. <i>Physical Review A</i> , 2009, 79, .	1.0	12

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55	Mechanical potentials due to Raman transitions. <i>Physical Review A</i> , 1996, 53, 1697-1701.	1.0	11
56	Scalable quantum field simulations of conditioned systems. <i>Physical Review A</i> , 2009, 80, .	1.0	11
57	Squeezing in Bose-Einstein condensates with large numbers of atoms. <i>New Journal of Physics</i> , 2013, 15, 123024.	1.2	11
58	Controlling chaos in the quantum regime using adaptive measurements. <i>Physical Review A</i> , 2019, 99, .	1.0	11
59	Mode selectivity and stability of continuously pumped atom lasers. <i>Physical Review A</i> , 2003, 68, .	1.0	10
60	Multimode quantum limits to the linewidth of an atom laser. <i>Physical Review A</i> , 2007, 75, .	1.0	10
61	Investigation and comparison of multistate and two-state atom laser-output couplers. <i>Physical Review A</i> , 2007, 75, .	1.0	10
62	Stabilizing an atom laser using spatially selective pumping and feedback. <i>Physical Review A</i> , 2005, 72, .	1.0	9
63	Raman scheme to measure the quantum statistics of an atom laser beam. <i>Physical Review A</i> , 2007, 76, .	1.0	9
64	Number-phase Wigner representation for scalable stochastic simulations of controlled quantum systems. <i>Physical Review A</i> , 2012, 85, .	1.0	9
65	Single photon production by rephased amplified spontaneous emission. <i>New Journal of Physics</i> , 2014, 16, 033042.	1.2	8
66	Stability thresholds and calculation techniques for fast entangling gates on trapped ions. <i>Physical Review A</i> , 2016, 93, .	1.0	8
67	Steady-state quantum statistics of a non-Markovian atom laser. II. <i>Physical Review A</i> , 2003, 68, .	1.0	7
68	Rapid real-time detection of cold atoms with minimal destruction. <i>Physical Review A</i> , 2004, 69, .	1.0	7
69	Superflow decay in a toroidal Bose gas: The effect of quantum and thermal fluctuations. <i>SciPost Physics</i> , 2021, 11, .	1.5	7
70	From squeezed atom lasers to teleportation of massive articles. <i>European Physical Journal: Special Topics</i> , 2008, 160, 331-342.	1.2	6
71	Dynamics and stability of an optically levitated mirror. <i>Physical Review A</i> , 2020, 101, .	1.0	6
72	Micromotion-enhanced fast entangling gates for trapped-ion quantum computing. <i>Physical Review A</i> , 2020, 101, .	1.0	6

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73	Band gaps for atoms in light-based waveguides. <i>Physical Review A</i> , 1996, 53, 3449-3455.	1.0	4
74	Quantum kinetic theory model of a continuous atom laser. <i>Physical Review A</i> , 2012, 86, .	1.0	4
75	Diffusion effects in gradient echo memory. <i>Physical Review A</i> , 2013, 87, .	1.0	4
76	Fast entangling gates in long ion chains. <i>Physical Review Research</i> , 2021, 3, .	1.3	4
77	The linewidth of a non-Markovian atom laser. <i>Optics Communications</i> , 2000, 179, 571-576.	1.0	3
78	Precise wave-function engineering with magnetic resonance. <i>Physical Review A</i> , 2017, 96, .	1.0	3
79	Scalable quantum computation with fast gates in two-dimensional microtrap arrays of trapped ions. <i>Physical Review A</i> , 2020, 102, .	1.0	3
80	Stimulation of beta decay due to a Bose-Einstein condensate. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 222, 87-90.	0.9	2
81	Self-consistent input-output formulation of quantum feedback. <i>Physical Review A</i> , 2010, 82, .	1.0	2
82	Pulse retrieval and soliton formation in a nonstandard scheme for dynamic electromagnetically induced transparency. <i>Physical Review A</i> , 2005, 71, .	1.0	1
83	Quantum statistical measurements of an atom laser beam. <i>Nuclear Physics A</i> , 2007, 790, 733c-736c.	0.6	1
84	Hollow Optical Fiber Atom Waveguides. , 1996, , 551-552.		0
85	Using interaction-based readouts to approach the ultimate limit of detection noise robustness for quantum-enhanced metrology in collective spin systems. , 2019, , .		0