

Simon A Haine

List of Publications by Year in descending order

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40
papers

1,061
citations

304368

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414034

32
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all docs

42
docs citations

42
times ranked

718
citing authors

#	ARTICLE	IF	CITATIONS
1	Spin squeezing of a Bose-Einstein condensate via a quantum nondemolition measurement for quantum-enhanced atom interferometry. <i>Physical Review A</i> , 2021, 103, .	1.0	6
2	Searching for signatures of quantum gravity in quantum gases. <i>New Journal of Physics</i> , 2021, 23, 033020.	1.2	22
3	Improving cold-atom sensors with quantum entanglement: Prospects and challenges. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	24
4	High-Precision Quantum-Enhanced Gravimetry with a Bose-Einstein Condensate. <i>Physical Review Letters</i> , 2020, 125, 100402.	2.9	41
5	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
6	Optimized fast gates for quantum computing with trapped ions. <i>Physical Review A</i> , 2020, 101, .	1.0	16
7	Using interaction-based readouts to approach the ultimate limit of detection noise robustness for quantum-enhanced metrology in collective spin systems. , 2019, , .		0
8	Quantum noise in bright soliton matterwave interferometry. <i>New Journal of Physics</i> , 2018, 20, 033009.	1.2	25
9	Generating macroscopic superpositions with interacting Bose-Einstein condensates: Multimode speedups and speed limits. <i>Physical Review A</i> , 2018, 98, .	1.0	7
10	Using interaction-based readouts to approach the ultimate limit of detection-noise robustness for quantum-enhanced metrology in collective spin systems. <i>Physical Review A</i> , 2018, 98, .	1.0	30
11	Robustifying twist-and-turn entanglement with interaction-based readout. <i>Physical Review A</i> , 2018, 97, .	1.0	27
12	Optimal matter-wave gravimetry. <i>Physical Review A</i> , 2018, 98, .	1.0	18
13	Pumped-Up SU(1,1) Interferometry. <i>Physical Review Letters</i> , 2017, 118, 150401.	2.9	93
14	Optimal and Robust Quantum Metrology Using Interaction-Based Readouts. <i>Physical Review Letters</i> , 2017, 119, 193601.	2.9	79
15	Quantum Fisher information as a predictor of decoherence in the preparation of spin-cat states for quantum metrology. <i>Physical Review A</i> , 2017, 95, .	1.0	17
16	Bose-Einstein condensation in large time-averaged optical ring potentials. <i>New Journal of Physics</i> , 2016, 18, 035003.	1.2	67
17	Quantum enhanced measurement of rotations with a spin-1 Bose-Einstein condensate in a ring trap. <i>Physical Review A</i> , 2016, 93, .	1.0	28
18	Mean-Field Dynamics and Fisher Information in Matter Wave Interferometry. <i>Physical Review Letters</i> , 2016, 116, 230404.	2.9	29

#	ARTICLE	IF	CITATIONS
19	Generation of atom-light entanglement in an optical cavity for quantum enhanced atom interferometry. <i>Physical Review A</i> , 2016, 93, .	1.0	17
20	Quantum metrology with mixed states: When recovering lost information is better than never losing it. <i>Physical Review A</i> , 2015, 92, .	1.0	28
21	Coherence and linewidth of a continuously pumped atom laser at finite temperature. <i>Physical Review A</i> , 2015, 92, .	1.0	4
22	Heisenberg-limited metrology with a squeezed vacuum state, three-mode mixing, and information recycling. <i>Physical Review A</i> , 2015, 91, .	1.0	13
23	Heisenberg-limited metrology with information recycling. <i>Physical Review A</i> , 2015, 91, .	1.0	26
24	Squeezed-light-enhanced atom interferometry below the standard quantum limit. <i>Physical Review A</i> , 2014, 90, .	1.0	38
25	Self-induced spatial dynamics to enhance spin squeezing via one-axis twisting in a two-component Bose-Einstein condensate. <i>Physical Review A</i> , 2014, 90, .	1.0	23
26	Information-Recycling Beam Splitters for Quantum Enhanced Atom Interferometry. <i>Physical Review Letters</i> , 2013, 110, 053002.	2.9	29
27	Optically trapped atom interferometry using the clock transition of large ⁸⁷ Rb Bose-Einstein condensates. <i>New Journal of Physics</i> , 2011, 13, 065020.	1.2	21
28	Surpassing the standard quantum limit in an atom interferometer with four-mode entanglement produced from four-wave mixing. <i>Physical Review A</i> , 2011, 84, .	1.0	15
29	Dynamic scheme for generating number squeezing in Bose-Einstein condensates through nonlinear interactions. <i>Physical Review A</i> , 2009, 80, .	1.0	32
30	Observation of shock waves in a large Bose-Einstein condensate. <i>Physical Review A</i> , 2009, 80, .	1.0	48
31	From squeezed atom lasers to teleportation of massive particles. <i>European Physical Journal: Special Topics</i> , 2008, 160, 331-342.	1.2	6
32	Semiclassical limits to the linewidth of an atom laser. <i>Physical Review A</i> , 2007, 75, .	1.0	18
33	Generating Quadrature Squeezing in an Atom Laser through Self-Interaction. <i>Physical Review Letters</i> , 2007, 99, 010401.	2.9	40
34	Achieving Peak Brightness in an Atom Laser. <i>Physical Review Letters</i> , 2006, 96, 140403.	2.9	47
35	Generating Controllable Atom-Light Entanglement with a Raman Atom Laser System. <i>Physical Review Letters</i> , 2006, 96, 133601.	2.9	48
36	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

#	ARTICLE	IF	CITATIONS
37	Stabilizing an atom laser using spatially selective pumping and feedback. Physical Review A, 2005, 72, .	1.0	9
38	Classical noise and flux: The limits of multi-state atom lasers. , 2004, , .		0
39	DYNAMICAL EFFECTS OF BACK-COUPPLING ON AN ATOM LASER. , 2004, , .		0
40	Stability of Continuously Pumped Atom Lasers. Physical Review Letters, 2002, 88, 170403.	2.9	26