

# Ashton Bradley

## List of Publications by Year in descending order

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83  
papers

3,259  
citations

159358

30  
h-index

143772

57  
g-index

84  
all docs

84  
docs citations

84  
times ranked

1549  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamics and statistical mechanics of ultra-cold Bose gases using c-field techniques. <i>Advances in Physics</i> , 2008, 57, 363-455.	35.9	457
2	Spontaneous vortices in the formation of Bose-Einstein condensates. <i>Nature</i> , 2008, 455, 948-951.	13.7	440
3	Observation of Vortex Dipoles in an Oblate Bose-Einstein Condensate. <i>Physical Review Letters</i> , 2010, 104, 160401.	2.9	326
4	Characteristics of Two-Dimensional Quantum Turbulence in a Compressible Superfluid. <i>Physical Review Letters</i> , 2013, 111, 235301.	2.9	141
5	Giant vortex clusters in a two-dimensional quantum fluid. <i>Science</i> , 2019, 364, 1264-1267.	6.0	133
6	Inverse Energy Cascade in Forced Two-Dimensional Quantum Turbulence. <i>Physical Review Letters</i> , 2013, 110, 104501.	2.9	101
7	Energy Spectra of Vortex Distributions in Two-Dimensional Quantum Turbulence. <i>Physical Review X</i> , 2012, 2, .	2.8	89
8	Onsager-Kraichnan Condensation in Decaying Two-Dimensional Quantum Turbulence. <i>Physical Review Letters</i> , 2014, 112, 145301.	2.9	86
9	Bose-Einstein condensation from a rotating thermal cloud: Vortex nucleation and lattice formation. <i>Physical Review A</i> , 2008, 77, .	1.0	79
10	Bright tripartite entanglement in triply concurrent parametric oscillation. <i>Physical Review A</i> , 2005, 72, .	1.0	73
11	Numerical representation of quantum states in the positive-P and Wigner representations. <i>Optics Communications</i> , 2009, 282, 3924-3929.	1.0	65
12	Classical and quantum regimes of two-dimensional turbulence in trapped Bose-Einstein condensates. <i>Physical Review A</i> , 2012, 86, .	1.0	62
13	Decay of a quantum vortex: Test of nonequilibrium theories for warm Bose-Einstein condensates. <i>Physical Review A</i> , 2010, 81, .	1.0	59
14	Asymmetric polychromatic tripartite entanglement from interlinked $\mathbb{Z}(2)$ parametric interactions. <i>Physical Review A</i> , 2006, 74, .	1.0	58
15	Identifying a Superfluid Reynolds Number via Dynamical Similarity. <i>Physical Review Letters</i> , 2015, 114, 155302.	2.9	58
16	Suppression of Kelvin-induced decay of quantized vortices in oblate Bose-Einstein condensates. <i>Physical Review A</i> , 2011, 84, .	1.0	52
17	Kibble-Zurek Scaling and its Breakdown for Spontaneous Generation of Josephson Vortices in Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2013, 110, 215302.	2.9	52
18	Spectral energy transport in two-dimensional quantum vortex dynamics. <i>Physical Review A</i> , 2015, 91, .	1.0	46

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19	Tripartite entanglement and threshold properties of coupled intracavity down-conversion and sum-frequency generation. <i>Physical Review A</i> , 2007, 76, .	1.0	44
20	Quantum depletion of collapsing Bose-Einstein condensates. <i>Physical Review A</i> , 2007, 75, .	1.0	41
21	Continuous variable tripartite entanglement from twin nonlinearities. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2006, 39, 127-143.	0.6	39
22	Quantum de Laval nozzle: Stability and quantum dynamics of sonic horizons in a toroidally trapped Bose gas containing a superflow. <i>Physical Review A</i> , 2007, 76, .	1.0	39
23	Quadripartite continuous-variable entanglement via quadruply concurrent down-conversion. <i>Physical Review A</i> , 2010, 81, .	1.0	38
24	Bright bichromatic entanglement and quantum dynamics of sum frequency generation. <i>Physical Review A</i> , 2008, 77, .	1.0	37
25	Stochastic projected Gross-Pitaevskii equation. <i>Physical Review A</i> , 2012, 86, .	1.0	36
26	Properties of the stochastic Gross-Pitaevskii equation: finite temperature Ehrenfest relations and the optimal plane wave representation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, 4259-4280.	0.6	35
27	Three-body recombination of ultracold Bose gases using the truncated Wigner method. <i>Physical Review A</i> , 2006, 73, .	1.0	35
28	Signatures of coherent vortex structures in a disordered two-dimensional quantum fluid. <i>Physical Review A</i> , 2014, 89, .	1.0	33
29	Coherent vortex dynamics in a strongly interacting superfluid on a silicon chip. <i>Science</i> , 2019, 366, 1480-1485.	6.0	33
30	Persistent-current formation in a high-temperature Bose-Einstein condensate: An experimental test for classical-field theory. <i>Physical Review A</i> , 2013, 88, .	1.0	31
31	Theory of the vortex-clustering transition in a confined two-dimensional quantum fluid. <i>Physical Review A</i> , 2016, 94, .	1.0	27
32	Stochastic projected Gross-Pitaevskii equation for spinor and multicomponent condensates. <i>Physical Review A</i> , 2014, 90, .	1.0	26
33	Continuous variable tripartite entanglement and Einstein-Podolsky-Rosen correlations from triple nonlinearities. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2006, 39, 2515-2533.	0.6	24
34	Dynamical thermalization and vortex formation in stirred two-dimensional Bose-Einstein condensates. <i>Physical Review A</i> , 2008, 78, .	1.0	24
35	Emergent Non-Eulerian Hydrodynamics of Quantum Vortices in Two Dimensions. <i>Physical Review Letters</i> , 2017, 119, 185301.	2.9	24
36	Enstrophy Cascade in Decaying Two-Dimensional Quantum Turbulence. <i>Physical Review Letters</i> , 2017, 119, 184502.	2.9	21

#	ARTICLE	IF	CITATIONS
37	Numerical method for evolving the dipolar projected Gross-Pitaevskii equation. <i>Physical Review E</i> , 2009, 80, 016703.	0.8	18
38	Finite-temperature dynamics of a single vortex in a Bose-Einstein condensate: Equilibrium precession and rotational symmetry breaking. <i>Physical Review A</i> , 2009, 80, .	1.0	18
39	Oscillons in coupled Bose-Einstein condensates. <i>Physical Review A</i> , 2015, 91, .	1.0	17
40	Fock-state dynamics in Raman photoassociation of Bose-Einstein condensates. <i>Physical Review A</i> , 2004, 70, .	1.0	16
41	Numerical method for the stochastic projected Gross-Pitaevskii equation. <i>Physical Review E</i> , 2014, 89, 013302.	0.8	14
42	Quantum ultracold atomtronics. <i>Physical Review A</i> , 2015, 91, .	1.0	14
43	Thermally robust spin correlations between two <sup>85</sup> Rb atoms in an optical microtrap. <i>Nature Communications</i> , 2019, 10, 1889.	5.8	13
44	Theory of Ramsey spectroscopy and anomalous segregation in ultracold rubidium. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2002, 35, 4299-4323.	0.6	12
45	Quantum Tunneling of a Vortex between Two Pinning Potentials. <i>Physical Review Letters</i> , 2012, 108, 015301.	2.9	11
46	Low-dimensional stochastic projected Gross-Pitaevskii equation. <i>Physical Review A</i> , 2015, 92, .	1.0	11
47	Nonequilibrium dynamics of vortex arrest in a finite-temperature Bose-Einstein condensate. <i>Physical Review A</i> , 2010, 81, .	1.0	10
48	Analysis of a continuous-variable quadripartite cluster state from a single optical parametric oscillator. <i>Physical Review A</i> , 2010, 82, .	1.0	10
49	Dynamic and energetic stabilization of persistent currents in Bose-Einstein condensates. <i>Physical Review A</i> , 2014, 89, .	1.0	10
50	Phase-space analysis of bosonic spontaneous emission. <i>Optics Communications</i> , 2005, 254, 271-281.	1.0	9
51	Raman scheme to measure the quantum statistics of an atom laser beam. <i>Physical Review A</i> , 2007, 76, .	1.0	9
52	Reservoir interactions during Bose-Einstein condensation: Modified critical scaling in the Kibble-Zurek mechanism of defect formation. <i>Physical Review A</i> , 2015, 92, .	1.0	9
53	Reservoir interactions of a vortex in a trapped three-dimensional Bose-Einstein condensate. <i>Physical Review A</i> , 2016, 93, .	1.0	9
54	Brownian motion of a matter-wave bright soliton moving through a thermal cloud of distinct atoms. <i>Physical Review A</i> , 2016, 93, .	1.0	9

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55	Turbulent Relaxation to Equilibrium in a Two-Dimensional Quantum Vortex Gas. <i>Physical Review X</i> , 2022, 12, .	2.8	9
56	Snell's Law for a vortex dipole in a Bose-Einstein condensate. <i>SciPost Physics</i> , 2019, 6, .	1.5	8
57	Steady-state quantum statistics of a non-Markovian atom laser. II. <i>Physical Review A</i> , 2003, 68, .	1.0	7
58	Quantum-correlated twin-atom laser from a Bose-Hubbard system. <i>Physical Review A</i> , 2017, 95, .	1.0	7
59	Superflow decay in a toroidal Bose gas: The effect of quantum and thermal fluctuations. <i>SciPost Physics</i> , 2021, 11, .	1.5	7
60	Analysis of $g_2$ for the cold collision frequency shift in the hydrogen condensate experiments. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001, 34, 4663-4672.	0.6	6
61	From squeezed atom lasers to teleportation of massive particles. <i>European Physical Journal: Special Topics</i> , 2008, 160, 331-342.	1.2	6
62	Scale-invariant thermodynamics of a toroidally trapped Bose gas. <i>Physical Review A</i> , 2009, 79, .	1.0	4
63	Coherence and linewidth of a continuously pumped atom laser at finite temperature. <i>Physical Review A</i> , 2015, 92, .	1.0	4
64	Neutral Vortex Necklace in a Trapped Planar Superfluid. <i>Journal of Low Temperature Physics</i> , 2021, 202, 310-328.	0.6	4
65	Geometric scale invariance as a route to macroscopic degeneracy: Loading a toroidal trap with a Bose or Fermi gas. <i>Physical Review A</i> , 2010, 82, .	1.0	3
66	Mesoscopic Dynamical Differences from Quantum State Preparation in a Bose-Hubbard Trimer. <i>Physical Review Letters</i> , 2018, 120, 230406.	2.9	3
67	Theory of the cold collision frequency shift in 1S-2S spectroscopy of Bose-Einstein-condensed and non-condensed hydrogen. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001, 34, 4673-4687.	0.6	2
68	Dynamics of hot Bose-Einstein condensates: stochastic Ehrenfest relations for number and energy damping. <i>SciPost Physics</i> , 2020, 8, .	1.5	2
69	Quantum statistical measurements of an atom laser beam. <i>Nuclear Physics A</i> , 2007, 790, 733c-736c.	0.6	1
70	C-Field Methods for Non-Equilibrium Bose Gases. <i>Cold Atoms</i> , 2013, , 163-175.	0.3	1
71	Steady states, squeezing, and entanglement in intracavity triplet down conversion. <i>Optics Communications</i> , 2021, 484, 126699.	1.0	1
72	Multimode Squeezing and Entanglement with Concurrent Nonlinearities. , 2005, , .		1

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73	GROWTH AND STABILIZATION OF VORTEX LATTICES IN A BOSE-EINSTEIN CONDENSATE. , 2004, , .		0
74	Continuous variable tripartite entanglement and Einstein-Podolsky-Rosen correlations from triple nonlinearities. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2007, 103, 187-192.	0.2	0
75	Dark soliton decay in a Bose-Einstein condensate. , 2011, , .		0
76	Two-dimensional quantum turbulence in Bose-Einstein condensates. , 2011, , .		0
77	Raman schemes for phase sensitive measurement and teleportation of massive particles. , 2007, , .		0
78	Super-Radiant Rayleigh Scattering off a Condensate in an Optical Cavity. , 2007, , .		0
79	Coherence Properties of a Continuously Pumped Atom Laser at Finite Temperature. , 2007, , .		0
80	Spontaneous Vortex Formation During the Growth of a Bose-Einstein Condensate. , 2007, , .		0
81	CV tripartite entanglement from coupled nonlinearities. , 2007, , .		0
82	Suppression of Kelvin-induced decay of quantized vortices in trapped Bose-Einstein Condensates. , 2011, , .		0
83	Finite Temperature Theory for Novel Cold Gas Systems. , 2011, , .		0