Aidan S Arnold

List of Publications by Year
in descending order

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78 papers	2,234 citations	236912 25 h-index	214788 47 g-index
78 all docs	78 docs citations	78 times ranked	1633 citing authors

#	Article	IF	Citations
1	Optical ferris wheel for ultracold atoms. Optics Express, 2007, 15, 8619.	3.4	300
2	Trans-Spectral Orbital Angular Momentum Transfer via Four-Wave Mixing in Rb Vapor. Physical Review Letters, 2012, 108, 243601.	7.8	190
3	A simple extended-cavity diode laser. Review of Scientific Instruments, 1998, 69, 1236-1239.	1.3	173
4	A surface-patterned chip as a strong source of ultracold atoms for quantum technologies. Nature Nanotechnology, 2013, 8, 321-324.	31.5	127
5	Large magnetic storage ring for Bose-Einstein condensates. Physical Review A, 2006, 73, .	2.5	122
6	Comparison of beam generation techniques using a phase only spatial light modulator. Optics Express, 2016, 24, 6249.	3.4	106
7	Optomechanical self-structuring in a cold atomic gas. Nature Photonics, 2014, 8, 321-325.	31.4	87
8	Roadmap on Atomtronics: State of the art and perspective. AVS Quantum Science, 2021, 3, .	4.9	87
9	Enhanced frequency up-conversion in Rb vapor. Optics Express, 2010, 18, 17020.	3.4	83
10	Grating chips for quantum technologies. Scientific Reports, 2017, 7, 384.	3.3	62
11	Single-laser, one beam, tetrahedral magneto-optical trap. Optics Express, 2009, 17, 13601.	3.4	50
12	Laser cooling with a single laser beam and a planar diffractor. Optics Letters, 2010, 35, 3453.	3.3	41
13	Extending dark optical trapping geometries. Optics Letters, 2012, 37, 2505.	3.3	41
14	Spiral bandwidth of four-wave mixing in Rb vapour. Communications Physics, 2018, 1, .	5.3	39
15	Phase-space properties of magneto-optical traps utilising micro-fabricated gratings. Optics Express, 2015, 23, 8948.	3.4	37
16	Diffraction-grating characterization for cold-atom experiments. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 1271.	2.1	36
17	Laser cooling in a chip-scale platform. Applied Physics Letters, 2020, 117, .	3.3	35
18	Adaptive inelastic magnetic mirror for Bose-Einstein condensates. Physical Review A, 2002, 65, .	2.5	34

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19	Cold-atom clock based on a diffractive optic. Optics Express, 2019, 27, 38359.	3.4	34
20	Gouy phase-matched angular and radial mode conversion in four-wave mixing. Physical Review A, 2021, 103, .	2.5	33
21	Smooth inductively coupled ring trap for atoms. Physical Review A, 2008, 77, .	2.5	32
22	Nonlinear Models of the Bump Cepheid HV 905 and the Distance Modulus to the Large Magellanic Cloud. Astrophysical Journal, 1997, 485, L25-L28.	4.5	31
23	Cavity-enhanced frequency up-conversion in rubidium vapor. Optics Letters, 2016, 41, 2177.	3.3	30
24	Adaptable-radius, time-orbiting magnetic ring trap for Boseâ€“Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, L29-L33.	1.5	28
25	Vector Magnetometry Exploiting Phase-Geometry Effects in a Double-Resonance Alignment Magnetometer. Physical Review Applied, 2018, 10, .	3.8	27
26	Demonstration of an inductively coupled ring trap for cold atoms. New Journal of Physics, 2012, 14, 103047.	2.9	25
27	Design and fabrication of diffractive atom chips for laser cooling and trapping. Applied Physics B: Lasers and Optics, 2016, 122, 172.	2.2	25
28	Reproducible dynamic dark ring lattices for ultracold atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 211001.	1.5	24
29	Stand-alone vacuum cell for compact ultracold quantum technologies. Applied Physics Letters, 2021, 119, .	3.3	22
30	Optical pattern formation with a two-level nonlinearity. Physical Review A, 2015, 92, .	2.5	20
31	Orientational effects on the amplitude and phase of polarimeter signals in double-resonance atomic magnetometry. Physical Review A, 2017, 96, .	2.5	20
32	Spatial interference from well-separated split condensates. Physical Review A, 2010, 81, .	2.5	19
33	Atomic density and temperature distributions in magneto-optical traps. Journal of the Optical Society of America B: Optical Physics, 2000, 17, 497.	2.1	16
34	Bose-Einstein condensates in 'giant' toroidal magnetic traps. Journal of Modern Optics, 2002, 49, 959-964.	1.3	16
35	Coherence length for a trapped Bose gas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 4177-4191.	1.5	14
36	A simple imaging solution for chip-scale laser cooling. Applied Physics Letters, 2021, 119, .	3.3	14

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37	Diffraction-limited focusing of Boseâ€“Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 485-494.	1.5	13
38	Talbot-enhanced, maximum-visibility imaging of condensate interference. Optica, 2018, 5, 80.	9.3	13
39	Inductively guided circuits for ultracold dressed atoms. Nature Communications, 2014, 5, 5289.	12.8	12
40	High-precision control of static magnetic field magnitude, orientation, and gradient using optically pumped vapour cell magnetometry. Review of Scientific Instruments, 2017, 88, 043109.	1.3	11
41	The UK National Quantum Technologies Hub in sensors and metrology (Keynote Paper). Proceedings of SPIE, 2016, , .	0.8	10
42	Laser cooling of calcium in a Âgolden ratioÂ quasi-electrostatic lattice. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 1933-1942.	1.5	8
43	Single-impulse magnetic focusing of launched cold atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 4435-4450.	1.5	8
44	Experimental single-impulse magnetic focusing of launched cold atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 125302.	1.5	8
45	Spectroscopy and isotope shifts of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>4</mml:mn><mml:mi>s</mml:mi><mml:mn>3</mml:mn><mml:mi>d</mml:mi></mml:mrow> xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msup><mml:mi /><mml:mrow><mml:mn>1</mml:mn></mml:mrow></mml:msup><mml:msub><mml:mi>D</mml:mi><mml:mrow><mml:mn>2</mm xmlns:mml="http://www.w3.org/19. Physical Review A, 2010, 81, .	2.5	8
46	Inductive dressed ring traps for ultracold atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 071001.	1.5	8
47	Transport of launched cold atoms with a laser guide and pulsed magnetic fields. New Journal of Physics, 2006, 8, 309-309.	2.9	7
48	Diamond heat sinking of terahertz antennas for continuous-wave photomixing. Journal of Applied Physics, 2012, 112, 123109.	2.5	6
49	^87Rb-stabilized 375-MHz Yb:fiber femtosecond frequency comb. Optics Express, 2014, 22, 10494.	3.4	5
50	Optical characterisation of micro-fabricated Fresnel zone plates for atomic waveguides. Optics Express, 2020, 28, 9072.	3.4	5
51	Double-impulse magnetic focusing of launched cold atoms. New Journal of Physics, 2006, 8, 53-53.	2.9	4
52	Comparative simulations of Fresnel holography methods for atomic waveguides. New Journal of Physics, 2016, 18, 025007.	2.9	4
53	Twisting Light to Trap Atoms. American Scientist, 2008, 96, 226.	0.1	4
54	Towards a compact, optically interrogated, cold-atom microwave clock. Advanced Optical Technologies, 2020, 9, 297-303.	1.7	4

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55	Raman-Ramsey CPT with a grating magneto-optical trap. , 2018, , .		3
56	A simple, powerful diode laser system for atomic physics. Applied Optics, 2021, 60, 5832.	1.8	3
57	Detection of applied and ambient forces with a matter-wave magnetic gradiometer. Physical Review A, 2017, 96, .	2.5	2
58	Towards a compact atomic clock based on coherent population trapping and the grating magneto-optical trap. , 2019, , .		2
59	Single-laser, one-beam, tetrahedral magneto-optical trap. , 2009, , .		1
60	Utilising diffractive optics towards a compact, cold atom clock. , 2016, , .		1
61	Holographically controlled three-dimensional atomic population patterns. Optics Express, 2018, 26, 18513.	3.4	1
62	Impact of Laser Frequency Noise in Coherent Population Trapping with Cold Atoms. , 2019, , .		1
63	Enabling the mass production of a chip-scale laser cooling platform. , 2021, , .		1
64	A centilitre-scale vacuum chamber for compact ultracold quantum technologies. , 2020, , .		1
65	Investigation of micrometre scale parabolic mirrors for use as single atom quantum registers. , 2009, , .		0
66	Inductively Coupled Magnetic Ring Trap for Atom Interferometry. , 2012, , .		0
67	Optomechanical self-organization in cold atomic gases. , 2013, , .		0
68	Magneto-optical traps on a chip using micro-fabricated gratings. , 2013, , .		0
69	High-contrast spatial interference of BECs. , 2013, , .		0
70	Trans-spectral orbital angular momentum transfer via 4WM in Rb vapor. , 2013, , .		0
71	Nonlinear Optomechanical Patterns and Dissipative Solitons. , 2014, , .		0
72	Dipole and quadrupole patterns in cold atoms via light induced interactions. , 2017, , .		0

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73	Cavity-enhanced frequency up-conversion in rubidium vapour. , 2017, , .		0
74	Optically pumped magnetometry in arbitrarily oriented magnetic fields. , 2017, , .		0
75	Two-Photon Imaging of a Magneto-Optical Trap in a Micro-Fabricated Cell for Cold-Atom Sensors. , 2019, , .		0
76	Spiral Bandwidth of Four-Wave Mixing in Rubidium Vapour. , 2019, , .		0
77	A STORAGE RING FOR BOSE-EINSTEIN CONDENSATES. , 2004, , .		0
78	Progress towards a fully integrated cold atom measurement platform. , 2022, , .		0