

Ifan G Hughes

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

94
papers

2,841
citations

29
h-index

51
g-index

103
ext. papers

3,200
ext. citations

2.9
avg, IF

5.11
L-index

#	Paper	IF	Citations
94	Magnetic atom optics: mirrors, guides, traps, and chips for atoms. <i>Journal Physics D: Applied Physics</i> , 1999 , 32, R119-R146	3	200
93	Cooperative Lamb shift in an atomic vapor layer of nanometer thickness. <i>Physical Review Letters</i> , 2012 , 108, 173601	7.4	187
92	Polarization spectroscopy of a closed atomic transition: applications to laser frequency locking. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2002 , 35, 5141-5151	1.3	148
91	Absolute absorption on rubidium D lines: comparison between theory and experiment. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008 , 41, 155004	1.3	146
90	Propagation of cold atoms along a miniature magnetic guide. <i>Physical Review Letters</i> , 2000 , 84, 1371-3	7.4	136
89	The role of hyperfine pumping in multilevel systems exhibiting saturated absorption. <i>American Journal of Physics</i> , 2004 , 72, 631-637	0.7	104
88	Polarization spectroscopy in rubidium and cesium. <i>Physical Review A</i> , 2006 , 73,	2.6	92
87	Optical isolator using an atomic vapor in the hyperfine Paschen-Back regime. <i>Optics Letters</i> , 2012 , 37, 3405-7	3	85
86	Magnetic Waveguide for Trapping Cold Atom Gases in Two Dimensions. <i>Physical Review Letters</i> , 1998 , 80, 645-649	7.4	84
85	ElecSus: A program to calculate the electric susceptibility of an atomic ensemble. <i>Computer Physics Communications</i> , 2015 , 189, 162-174	4.2	81
84	Reconstruction of a Cold Atom Cloud by Magnetic Focusing. <i>Physical Review Letters</i> , 1999 , 82, 468-471	7.4	75
83	Observations of the collapse and fractional revival of a Rydberg wavepacket in atomic rubidium. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1991 , 24, L63-L69	1.3	74
82	Absolute absorption on the rubidium D1 line including resonant dipole-dipole interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 195006	1.3	55
81	A gigahertz-bandwidth atomic probe based on the slow-light Faraday effect. <i>Nature Photonics</i> , 2009 , 3, 225-229	33.9	55
80	Maximal refraction and superluminal propagation in a gaseous nanolayer. <i>Physical Review Letters</i> , 2012 , 109, 233001	7.4	50
79	Atomic Faraday filter with equivalent noise bandwidth less than 1 GHz. <i>Optics Letters</i> , 2015 , 40, 2000-3	3	44
78	Hyperfine effects in electromagnetically induced transparency. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001 , 34, L749-L756	1.3	44

77	The hyperfine Paschen-Back Faraday effect. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 075005	1.3	42
76	How weak is a weak probe in laser spectroscopy?. <i>American Journal of Physics</i> , 2009 , 77, 111-115	0.7	42
75	. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1997 , 30, 647-658	1.3	41
74	Atom optics with magnetic surfaces: II. Microscopic analysis of the 'floppy disk' mirror. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1997 , 30, 2119-2132	1.3	40
73	Degenerate four-wave mixing spectroscopy and spectral simulation of C2 in an atmospheric pressure oxy-acetylene flame. <i>Journal of Chemical Physics</i> , 1997 , 106, 5324-5332	3.9	38
72	DAVLL lineshapes in atomic rubidium. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2007 , 40, 187-198	1.3	38
71	Collective Lamb Shift of a Nanoscale Atomic Vapor Layer within a Sapphire Cavity. <i>Physical Review Letters</i> , 2018 , 120, 243401	7.4	34
70	Absolute absorption and dispersion of a rubidium vapour in the hyperfine Paschen-Back regime. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012 , 45, 215005	1.3	33
69	Mobile atom traps using magnetic nanowires. <i>Applied Physics Letters</i> , 2006 , 89, 014102	3.4	32
68	Selective reflection from an Rb layer with a thickness below $\lambda/2$ and applications. <i>Optics Letters</i> , 2017 , 42, 1476-1479	3	30
67	Optical response of gas-phase atoms at less than $\lambda/80$ from a dielectric surface. <i>Physical Review Letters</i> , 2014 , 112, 253201	7.4	30
66	Electromagnetically induced absorption in a nondegenerate three-level ladder system. <i>Optics Letters</i> , 2015 , 40, 4289-92	3	29
65	Optimization of sub-Doppler DAVLL on the rubidium D2 line. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008 , 41, 085401	1.3	29
64	Creating Complex Optical Longitudinal Polarization Structures. <i>Physical Review Letters</i> , 2018 , 120, 163903	7.4	28
63	Faraday dichroic beam splitter for Raman light using an isotopically pure alkali-metal-vapor cell. <i>Optics Letters</i> , 2009 , 34, 3071-3	3	28
62	Manipulation of cold atoms using a corrugated magnetic reflector. <i>Physical Review A</i> , 2000 , 61,	2.6	28
61	Direct measurement of excited-state dipole matrix elements using electromagnetically induced transparency in the hyperfine Paschen-Back regime. <i>Physical Review A</i> , 2016 , 93,	2.6	27
60	Single-Photon Interference due to Motion in an Atomic Collective Excitation. <i>Physical Review Letters</i> , 2017 , 118, 253601	7.4	27

59	Off-resonance absorption and dispersion in vapours of hot alkali-metal atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009 , 42, 175004	1.3	26
58	Modulation-free pump-probe spectroscopy of strontium atoms. <i>European Physical Journal D</i> , 2010 , 57, 151-154	1.3	24
57	Four-wave mixing in a non-degenerate four-level diamond configuration in the hyperfine PaschenBack regime. <i>Journal of Modern Optics</i> , 2018 , 65, 713-722	1.1	23
56	A heated vapor cell unit for dichroic atomic vapor laser lock in atomic rubidium. <i>Review of Scientific Instruments</i> , 2007 , 78, 093106	1.7	23
55	Realization of the manipulation of ultracold atoms with a reconfigurable nanomagnetic system of domain walls. <i>Nano Letters</i> , 2012 , 12, 4065-9	11.5	22
54	Optical control of Faraday rotation in hot Rb vapor. <i>Physical Review A</i> , 2010 , 81,	2.6	22
53	Manipulation of cold atoms by an adaptable magnetic reflector. <i>Applied Physics B: Lasers and Optics</i> , 2000 , 70, 709-720	1.9	22
52	Non-linear Sagnac interferometry for pump-probe dispersion spectroscopy. <i>European Physical Journal D</i> , 2003 , 27, 273-276	1.3	19
51	A single-mode external cavity diode laser using an intra-cavity atomic Faraday filter with short-term linewidth. <i>Review of Scientific Instruments</i> , 2016 , 87, 095111	1.7	19
50	Broadband degenerate four-wave mixing of OH for flame thermometry. <i>Applied Physics B: Lasers and Optics</i> , 1998 , 67, 107-113	1.9	18
49	Sagnac interferometry in a slow-light medium. <i>Physical Review A</i> , 2006 , 74,	2.6	18
48	Refractive index measurements by probe-beam deflection. <i>European Physical Journal D</i> , 2004 , 29, 433-436	3.6	18
47	Thermometry of an oxy-acetylene flame using multiplex degenerate four-wave mixing of C2. <i>Applied Physics B: Lasers and Optics</i> , 1996 , 62, 39-44	1.9	18
46	Optimized ultra-narrow atomic bandpass filters via magneto-optic rotation in an unconstrained geometry. <i>Optics Letters</i> , 2018 , 43, 4272-4275	3	18
45	Optical Transmission of an Atomic Vapor in the Mesoscopic Regime. <i>Physical Review Letters</i> , 2019 , 122, 113401	7.4	16
44	Optimization of atomic Faraday filters in the presence of homogeneous line broadening. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015 , 48, 185001	1.3	16
43	Measuring the Stokes parameters for light transmitted by a high-density rubidium vapour in large magnetic fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012 , 45, 055001	1.3	16
42	Excitation of knotted vortex lines in matter waves. <i>New Journal of Physics</i> , 2016 , 18, 063016	2.9	16

41	ElecSus: Extension to arbitrary geometry magneto-optics. <i>Computer Physics Communications</i> , 2018 , 224, 311-324	4.2	15
40	Spectroscopic detection of atom-surface interactions in an atomic-vapor layer with nanoscale thickness. <i>Physical Review A</i> , 2015 , 92,	2.6	14
39	Interrogation and fabrication of nm scale hot alkali vapour cells. <i>Journal of Physics: Conference Series</i> , 2015 , 635, 122006	0.3	12
38	Absolute absorption on the potassium D lines: theory and experiment. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015 , 48, 195004	1.3	11
37	Nanostructured Alkali-Metal Vapor Cells. <i>Physical Review Applied</i> , 2020 , 14,	4.3	11
36	Hilbert transform: Applications to atomic spectra. <i>Physical Review A</i> , 2015 , 91,	2.6	10
35	An intuitive approach to structuring the three electric field components of light. <i>New Journal of Physics</i> , 2019 , 21, 013032	2.9	9
34	Piezoelectrically actuated time-averaged atomic microtraps. <i>Applied Physics Letters</i> , 2012 , 101, 023115	3.4	9
33	Periodic trajectories of cold atoms in a gravitational cavity. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001 , 34, 2869-2880	1.3	9
32	Optics f2f 2018 ,		9
31	Simultaneous two-photon resonant optical laser locking (STROLLing) in the hyperfine Paschen-Back regime. <i>Optics Letters</i> , 2018 , 43, 4204-4207	3	8
30	An analytical model of off-resonant Faraday rotation in hot alkali metal vapours. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 235004	1.3	8
29	Experimental single-impulse magnetic focusing of launched cold atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008 , 41, 125302	1.3	8
28	Single-impulse magnetic focusing of launched cold atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004 , 37, 4435-4450	1.3	8
27	Measurement of the atom-surface van der Waals interaction by transmission spectroscopy in a wedged nanocell. <i>Physical Review A</i> , 2019 , 100,	2.6	7
26	Nanomagnetic engineering of the properties of domain wall atom traps. <i>Journal of Applied Physics</i> , 2011 , 110, 123918	2.5	7
25	A simple model for calculating magnetic nanowire domain wall fringing fields. <i>Journal Physics D: Applied Physics</i> , 2012 , 45, 095002	3	6
24	Design and characterization of a field-switchable nanomagnetic atom mirror. <i>Journal of Applied Physics</i> , 2010 , 108, 043906	2.5	6

23	Transport of launched cold atoms with a laser guide and pulsed magnetic fields. <i>New Journal of Physics</i> , 2006 , 8, 309-309	2.9	6
22	Quantitative optical spectroscopy of 87Rb vapour in the Voigt geometry in DC magnetic fields up to 0.4 T. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019 , 52, 055003	1.3	5
21	A visual understanding of optical rotation using corn syrup. <i>European Journal of Physics</i> , 2017 , 38, 045302.8	0.8	4
20	Velocity selection in a Doppler-broadened ensemble of atoms interacting with a monochromatic laser beam. <i>Journal of Modern Optics</i> , 2018 , 65, 640-647	1.1	4
19	Selective reflection from a potassium atomic layer with a thickness as small as $\lambda/13$. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019 , 52, 195001	1.3	4
18	Double-impulse magnetic focusing of launched cold atoms. <i>New Journal of Physics</i> , 2006 , 8, 53-53	2.9	4
17	Measuring the Faraday effect in olive oil using permanent magnets and Malus's law. <i>European Journal of Physics</i> , 2020 , 41, 025301	0.8	4
16	Pseudoclassical model for quantum resonances in a cold dilute atomic gas periodically driven by finite-duration standing-wave laser pulses. <i>Physical Review A</i> , 2016 , 94,	2.6	4
15	Selective Reflection of Potassium Vapor Nanolayers in a Magnetic Field. <i>Journal of Experimental and Theoretical Physics</i> , 2018 , 126, 293-301	1	3
14	Error Propagation: A Functional Approach. <i>Journal of Chemical Education</i> , 2012 , 89, 821-822	2.4	3
13	Cold atom reflection from curved magnetic mirrors 1997 ,		3
12	Electronic Rydberg wavepacket effects on molecular vibration. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1994 , 27, 1377-1386	1.3	3
11	Absorption spectroscopy and Stokes polarimetry in a 87Rb vapour in the Voigt geometry with a 1.5 T external magnetic field. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021 , 54, 015401	1.3	3
10	Optical rotation of white light. <i>American Journal of Physics</i> , 2020 , 88, 247-251	0.7	2
9	Optical preparation and measurement of atomic coherence at gigahertz bandwidth. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012 , 45, 124009	1.3	2
8	Atomic line versus lens cavity filters: a comparison of their merits. <i>OSA Continuum</i> , 2020 , 3, 961	1.4	2
7	White-light versus discrete wavelength measurements of Faraday dispersion and the Verdet constant. <i>European Journal of Physics</i> ,	0.8	2
6	Lattice-depth measurement using multipulse atom diffraction in and beyond the weakly diffracting limit. <i>Physical Review A</i> , 2019 , 99,	2.6	1

5	The Solar Activity Monitor Network - SAMNet. <i>Journal of Space Weather and Space Climate</i> ,	2.5	1
4	Lattice-depth measurement using continuous grating atom diffraction. <i>Physical Review A</i> , 2019 , 100,	2.6	1
3	Electromagnetically induced transparency in a V-system with 87Rb vapour in the hyperfine Paschen-Back regime. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021 , 54, 165403	1.3	1
2	The Raspberry Pi auto-aligner: Machine learning for automated alignment of laser beams. <i>Review of Scientific Instruments</i> , 2021 , 92, 015117	1.7	1
1	Cool things to do with lasers. <i>Physics Education</i> , 2007 , 42, 27-36	0.8	