

Charles S Adams

List of Publications by Citations

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129
papers

7,000
citations

44
h-index

80
g-index

132
ext. papers

7,814
ext. citations

4
avg, IF

5.9
L-index

#	Paper	IF	Citations
129	Atom optics. <i>Physics Reports</i> , 1994 , 240, 143-210	27.7	475
128	Coherent optical detection of highly excited Rydberg states using electromagnetically induced transparency. <i>Physical Review Letters</i> , 2007 , 98, 113003	7.4	370
127	Cooperative atom-light interaction in a blockaded Rydberg ensemble. <i>Physical Review Letters</i> , 2010 , 105, 193603	7.4	354
126	Laser cooling and trapping of neutral atoms. <i>Progress in Quantum Electronics</i> , 1997 , 21, 1-79	9.1	235
125	Storage and control of optical photons using Rydberg polaritons. <i>Physical Review Letters</i> , 2013 , 110, 103001	7.4	202
124	Cooperative Lamb shift in an atomic vapor layer of nanometer thickness. <i>Physical Review Letters</i> , 2012 , 108, 173601	7.4	187
123	Coherent excitation transfer in a spin chain of three Rydberg atoms. <i>Physical Review Letters</i> , 2015 , 114, 113002	7.4	165
122	Evaporative cooling in a crossed dipole trap. <i>Physical Review Letters</i> , 1995 , 74, 3577-3580	7.4	160
121	Sound emission due to superfluid vortex reconnections. <i>Physical Review Letters</i> , 2001 , 86, 1410-3	7.4	149
120	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
119	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
118	Nonequilibrium phase transition in a dilute Rydberg ensemble. <i>Physical Review Letters</i> , 2013 , 111, 113901	7.4	141
117	Long atomic coherence times in an optical dipole trap. <i>Physical Review Letters</i> , 1995 , 74, 1311-1314	7.4	137
116	Vortex Formation in Dilute Inhomogeneous Bose-Einstein Condensates. <i>Physical Review Letters</i> , 1998 , 80, 3903-3906	7.4	134
115	A giant electro-optic effect using polarizable dark states. <i>Nature Physics</i> , 2008 , 4, 890-894	16.2	132
114	Nonlinear quantum optics mediated by Rydberg interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 152003	1.3	128
113	Pressure Drag in Linear and Nonlinear Quantum Fluids. <i>Physical Review Letters</i> , 1999 , 82, 5186-5189	7.4	121

112	Enhanced Optical Cross Section via Collective Coupling of Atomic Dipoles in a 2D Array. <i>Physical Review Letters</i> , 2016 , 116, 103602	7.4	110
111	Raman cooling of atoms in an optical dipole trap. <i>Physical Review Letters</i> , 1996 , 76, 2658-2661	7.4	100
110	Emergence and decay of turbulence in stirred atomic Bose-Einstein condensates. <i>Physical Review Letters</i> , 2005 , 95, 145301	7.4	96
109	Polarization spectroscopy in rubidium and cesium. <i>Physical Review A</i> , 2006 , 73,	2.6	92
108	All-optical quantum information processing using Rydberg gates. <i>Physical Review Letters</i> , 2014 , 112, 040501	7.4	87
107	Bright matter-wave soliton collisions in a harmonic trap: regular and chaotic dynamics. <i>Physical Review Letters</i> , 2007 , 98, 020402	7.4	83
106	ElecSus: A program to calculate the electric susceptibility of an atomic ensemble. <i>Computer Physics Communications</i> , 2015 , 189, 162-174	4.2	81
105	Magneto-optical beam splitter for atoms. <i>Physical Review Letters</i> , 1993 , 71, 3427-3430	7.4	80
104	Laser frequency stabilization to excited state transitions using electromagnetically induced transparency in a cascade system. <i>Applied Physics Letters</i> , 2009 , 94, 071107	3.4	73
103	Dissipation and vortex creation in Bose-Einstein condensed gases. <i>Physical Review A</i> , 2000 , 61,	2.6	73
102	Electromagnetically induced transparency of an interacting cold Rydberg ensemble. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008 , 41, 201002	1.3	67
101	Vortex shedding and drag in dilute Bose-Einstein condensates. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2000 , 33, 4069-4078	1.3	64
100	Soliton-sound interactions in quasi-one-dimensional Bose-Einstein condensates. <i>Physical Review Letters</i> , 2003 , 90, 220401	7.4	63
99	A Fast Semi-Implicit Finite-Difference Method for the TDGL Equations. <i>Journal of Computational Physics</i> , 2002 , 179, 127-139	4.1	61
98	Cooperative eigenmodes and scattering in one-dimensional atomic arrays. <i>Physical Review A</i> , 2016 , 94,	2.6	59
97	Cooperative ordering in lattices of interacting two-level dipoles. <i>Physical Review A</i> , 2015 , 92,	2.6	57
96	Contactless nonlinear optics mediated by long-range Rydberg interactions. <i>Nature Physics</i> , 2017 , 13, 655-658	16.2	55
95	Absolute absorption on the rubidium D1line including resonant dipole-dipole interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 195006	1.3	55

94	A gigahertz-bandwidth atomic probe based on the slow-light Faraday effect. <i>Nature Photonics</i> , 2009 , 3, 225-229	33.9	55
93	Microwave dressing of Rydberg dark states. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 184020	1.3	54
92	Maximal refraction and superluminal propagation in a gaseous nanolayer. <i>Physical Review Letters</i> , 2012 , 109, 233001	7.4	50
91	Controlled vortex-sound interactions in atomic Bose-Einstein condensates. <i>Physical Review Letters</i> , 2004 , 92, 160403	7.4	49
90	Quantum interference in interacting three-level Rydberg gases: coherent population trapping and electromagnetically induced transparency. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 184018	1.3	47
89	Electrometry near a dielectric surface using Rydberg electromagnetically induced transparency. <i>Physical Review A</i> , 2011 , 84,	2.6	46
88	Decay of superfluid turbulence via Kelvin-wave radiation. <i>Physical Review A</i> , 2003 , 67,	2.6	46
87	Atomic Faraday filter with equivalent noise bandwidth less than 1 GHz. <i>Optics Letters</i> , 2015 , 40, 2000-3	3	44
86	Enhanced electric field sensitivity of rf-dressed Rydberg dark states. <i>New Journal of Physics</i> , 2010 , 12, 065015	2.9	44
85	Narrow absorptive resonances in a four-level atomic system. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009 , 42, 075503	1.3	44
84	Quantum reflection of bright matter-wave solitons. <i>Physica D: Nonlinear Phenomena</i> , 2009 , 238, 1299-1305	3.5	44
83	Analogies between dark solitons in atomic Bose-Einstein condensates and optical systems. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2004 , 6, S380-S391		44
82	Hyperfine effects in electromagnetically induced transparency. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001 , 34, L749-L756	1.3	44
81	The hyperfine Paschen-Back Faraday effect. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 075005	1.3	42
80	Parametric driving of dark solitons in atomic Bose-Einstein condensates. <i>Physical Review Letters</i> , 2004 , 93, 130408	7.4	41
79	Collisions of bright solitary matter waves. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008 , 41, 045303	1.3	40
78	Effects of stress on threshold, wavelength, and polarization of the output of InGaAsP semiconductor diode lasers. <i>Journal of Applied Physics</i> , 1988 , 64, 6631-6638	2.5	40
77	Decay of quantised vorticity by sound emission. <i>Journal of Low Temperature Physics</i> , 2005 , 138, 629-634	1.3	38

76	Number-resolved imaging of excited-state atoms using a scanning autoionization microscope. <i>Physical Review A</i> , 2013 , 87,	2.6	37
75	Exciton dynamics in emergent Rydberg lattices. <i>Physical Review A</i> , 2013 , 88,	2.6	36
74	Motion of an object through a quantum fluid. <i>Europhysics Letters</i> , 2000 , 52, 257-263	1.6	36
73	Reflection of metastable argon atoms from an evanescent wave. <i>Physical Review A</i> , 1994 , 49, 3814-3823	2.6	35
72	Tunable narrow linewidth ultra-violet light generation by frequency doubling of a ring Ti:sapphire laser using lithium tri-borate in an external enhancement cavity. <i>Optics Communications</i> , 1992 , 90, 89-94 ²		35
71	Deformation of dark solitons in inhomogeneous Bose-Einstein condensates. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2003 , 36, 2891-2910	1.3	34
70	Dynamical instability of a dark soliton in a quasi-one-dimensional Bose-Einstein condensate perturbed by an optical lattice. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004 , 37, S175-S185 ^{1,3}		34
69	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
68	Mobile atom traps using magnetic nanowires. <i>Applied Physics Letters</i> , 2006 , 89, 014102	3.4	32
67	Bright solitary-matter-wave collisions in a harmonic trap: Regimes of solitonlike behavior. <i>Physical Review A</i> , 2008 , 77,	2.6	31
66	Driven-dissipative many-body systems with mixed power-law interactions: Bistabilities and temperature-driven nonequilibrium phase transitions. <i>Physical Review A</i> , 2016 , 94,	2.6	30
65	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
64	Graph-state preparation and quantum computation with global addressing of optical lattices. <i>Physical Review A</i> , 2006 , 73,	2.6	30
63	Bright solitary waves and trapped solutions in Bose-Einstein condensates with attractive interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2007 , 40, 3127-3142	1.3	30
62	Electromagnetically induced absorption in a nondegenerate three-level ladder system. <i>Optics Letters</i> , 2015 , 40, 4289-92	3	29
61	Time-dependent Ginzburg-Landau simulations of the voltage-current characteristic of type-II superconductors with pinning. <i>Physical Review B</i> , 2002 , 65,	3.3	29
60	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
59	Correlated photon emission from multiatom Rydberg dark States. <i>Physical Review Letters</i> , 2012 , 108, 043601	7.4	27

58	Dark soliton decay due to trap anharmonicity in atomic Bose-Einstein condensates. <i>Physical Review A</i> , 2010 , 81,	2.6	26
57	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
56	Microwave control of the interaction between two optical photons. <i>Physical Review A</i> , 2014 , 89,	2.6	25
55	Optical coherences and wavelength mismatch in ladder systems. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013 , 46, 245001	1.3	25
54	Synchronous tuning of extended cavity diode lasers: the case for an optimum pivot point. <i>Applied Optics</i> , 1999 , 38, 548-53	1.7	25
53	. <i>IEEE Journal of Quantum Electronics</i> , 1989 , 25, 1156-1160	2	24
52	Intrinsic optical bistability in a strongly driven Rydberg ensemble. <i>Physical Review A</i> , 2016 , 93,	2.6	23
51	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
50	Cold Rydberg gases and ultra-cold plasmas. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 180201	1.3	22
49	Off-resonance laser frequency stabilization using the Faraday effect. <i>Optics Letters</i> , 2011 , 36, 64-6	3	22
48	Optical control of Faraday rotation in hot Rb vapor. <i>Physical Review A</i> , 2010 , 81,	2.6	22
47	Output coupling and flow of a dilute Bose-Einstein condensate. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1998 , 31, 4489-4499	1.3	22
46	Bright solitary waves of trapped atomic Bose-Einstein condensates. <i>Physica D: Nonlinear Phenomena</i> , 2009 , 238, 1456-1461	3.3	21
45	Spatially selective loading of an optical lattice by light-shift engineering using an auxiliary laser field. <i>New Journal of Physics</i> , 2006 , 8, 11-11	2.9	20
44	A terahertz-driven non-equilibrium phase transition in a room temperature atomic vapour. <i>Nature Communications</i> , 2018 , 9, 3567	17.4	20
43	Subnatural linewidths in two-photon excited-state spectroscopy. <i>Physical Review A</i> , 2012 , 85,	2.6	19
42	Non-linear Sagnac interferometry for pump-probe dispersion spectroscopy. <i>European Physical Journal D</i> , 2003 , 27, 273-276	1.3	19
41	An atomic fountain guided by a far-off resonance laser beam. <i>Europhysics Letters</i> , 1999 , 45, 450-455	1.6	19

40	Vortex structures in dilute quantum fluids. <i>Europhysics Letters</i> , 1999 , 48, 475-481	1.6	19
39	Interaction of atoms with a magneto-optical potential. <i>Physical Review A</i> , 1993 , 48, 2108-2116	2.6	19
38	Frequency doubling of a single frequency Ti:Al ₂ O ₃ laser using an external enhancement cavity. <i>Optics Communications</i> , 1990 , 79, 219-223	2	19
37	A vapor cell based on dispensers for laser spectroscopy. <i>Review of Scientific Instruments</i> , 2009 , 80, 013101	1.7	18
36	Photo-ionization in far-off-resonance optical lattices. <i>New Journal of Physics</i> , 2006 , 8, 163-163	2.9	18
35	Sagnac interferometry in a slow-light medium. <i>Physical Review A</i> , 2006 , 74,	2.6	18
34	Refractive index measurements by probe-beam deflection. <i>European Physical Journal D</i> , 2004 , 29, 433-436	1.3	18
33	Saturated spectroscopy and two-photon absorption spectroscopy in rubidium using an actively stabilised Ti:Al ₂ O ₃ ring laser. <i>Optics Communications</i> , 1990 , 75, 419-424	2	18
32	Fast and quasideterministic single ion source from a dipole-blockaded atomic ensemble. <i>Physical Review Letters</i> , 2013 , 110, 213003	7.4	17
31	Optical non-linearity in a dynamical Rydberg gas. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 184019	1.3	17
30	Josephson tunnelling of a phase-imprinted Bose-Einstein condensate in a time-dependent double-well potential. <i>New Journal of Physics</i> , 2004 , 6, 42-42	2.9	17
29	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
28	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
27	Electromagnetically induced transparency and two-photon absorption in the ladder system in thin columns of atomic vapors. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2010 , 109, 529-537	0.7	16
26	Electro-optic control of atom-light interactions using Rydberg dark-state polaritons. <i>Physical Review A</i> , 2008 , 77,	2.6	16
25	A mechanical shutter for light using piezoelectric actuators. <i>Review of Scientific Instruments</i> , 2000 , 71, 59-60	1.7	16
24	Vortex rings and mutual drag in trapped Bose-Einstein condensates. <i>Physical Review A</i> , 1999 , 60, 4882-4885	2.5	16
23	Response of an atomic Bose-Einstein condensate to a rotating elliptical trap. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2006 , 39, 43-55	1.3	15

22	Spectroscopic detection of atom-surface interactions in an atomic-vapor layer with nanoscale thickness. <i>Physical Review A</i> , 2015 , 92,	2.6	14
21	Fast switching of alkali atom dispensers using laser-induced heating. <i>Review of Scientific Instruments</i> , 2005 , 76, 093102	1.7	13
20	Josephson spectroscopy of a dilute Bose-Einstein condensate in a double-well potential. <i>Physical Review A</i> , 2002 , 66,	2.6	13
19	Active narrowband filtering, line narrowing and gain using ladder electromagnetically induced transparency in an optically thick atomic vapour. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 075002	1.3	11
18	Nanostructured Alkali-Metal Vapor Cells. <i>Physical Review Applied</i> , 2020 , 14,	4.3	11
17	Hilbert transform: Applications to atomic spectra. <i>Physical Review A</i> , 2015 , 91,	2.6	10
16	Observation of interference effects via four-photon excitation of highly excited Rydberg states in thermal cesium vapor. <i>Optics Letters</i> , 2015 , 40, 5570-3	3	10
15	Tunnelling induced collapse of an atomic Bose-Einstein condensate in a double-well potential. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004 , 37, 3681-3690	1.3	10
14	A versatile and reliably reusable ultrahigh vacuum viewport. <i>Review of Scientific Instruments</i> , 2009 , 80, 026105	1.7	9
13	Transferring laser-cooled atoms to a spatially separated magnetic trap using a far-off resonance optical guide. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2000 , 33, 4079-4086	1.3	8
12	FM operation of Nd: YAG lasers with standing wave and ring cavity configurations. <i>Optics Communications</i> , 1990 , 76, 127-130	2	8
11	High-contrast atomic dark resonances formed in a ladder system of rubidium atoms in submicron structures. <i>Journal of Experimental and Theoretical Physics</i> , 2014 , 119, 8-14	1	7
10	Laser cooling of calcium in a [golden ratio]quasi-electrostatic lattice. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2003 , 36, 1933-1942	1.3	7
9	Probing an excited-state atomic transition using hyperfine quantum-beat spectroscopy. <i>Physical Review A</i> , 2014 , 90,	2.6	6
8	Design and characterization of a field-switchable nanomagnetic atom mirror. <i>Journal of Applied Physics</i> , 2010 , 108, 043906	2.5	6
7	Reusable ultrahigh vacuum viewport bakeable to 240 °C. <i>Review of Scientific Instruments</i> , 2003 , 74, 3185-3187	1.7	6
6	Effect of condensate depletion on the critical velocity for vortex nucleation in quantum fluids. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2003 , 36, L143-L148	1.3	5
5	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

4	Magnetic merging of ultracold atomic gases of Rb85 and Rb87. <i>Physical Review A</i> , 2011 , 83,	2.6	2
3	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
2	Experimental tests of Bertrand's question and the Duhem-Quine problem. <i>European Journal of Physics</i> , 2019 , 40, 065801	0.8	0
1	Transient Density-Induced Dipolar Interactions in a Thin Vapor Cell.. <i>Physical Review Letters</i> , 2022 , 128, 173401	7.4	