Charles S Adams

List of Publications by Year
in descending order

132 papers	8,373 citations	46984 47 h-index	48277 88 g-index
132 all docs	132 docs citations	132 times ranked	3626 citing authors

#	Article	IF	Citations
1	Atom optics. Physics Reports, 1994, 240, 143-210.	10.3	514
2	Coherent Optical Detection of Highly Excited Rydberg States Using Electromagnetically Induced Transparency. Physical Review Letters, 2007, 98, 113003.	2.9	480
3	Cooperative Atom-Light Interaction in a Blockaded Rydberg Ensemble. Physical Review Letters, 2010, 105, 193603.	2.9	414
4	Laser cooling and trapping of neutral atoms. Progress in Quantum Electronics, 1997, 21, 1-79.	3.5	299
5	Storage and Control of Optical Photons Using Rydberg Polaritons. Physical Review Letters, 2013, 110, 103001.	2.9	237
6	Cooperative Lamb Shift in an Atomic Vapor Layer of Nanometer Thickness. Physical Review Letters, 2012, 108, 173601.	2.9	222
7	Coherent Excitation Transfer in a Spin Chain of Three Rydberg Atoms. Physical Review Letters, 2015, 114, 113002.	2.9	209
8	Absolute absorption on rubidium D lines: comparison between theory and experiment. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 155004.	0.6	188
9	Nonequilibrium Phase Transition in a Dilute Rydberg Ensemble. Physical Review Letters, 2013, 111, 113901.	2.9	175
10	Evaporative Cooling in a Crossed Dipole Trap. Physical Review Letters, 1995, 74, 3577-3580.	2.9	173
11	Polarization spectroscopy of a closed atomic transition: applications to laser frequency locking. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, 5141-5151.	0.6	171
12	Nonlinear quantum optics mediated by Rydberg interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 152003.	0.6	169
13	Enhanced Optical Cross Section via Collective Coupling of Atomic Dipoles in a 2D Array. Physical Review Letters, 2016, 116, 103602.	2.9	169
14	Sound Emission due to Superfluid Vortex Reconnections. Physical Review Letters, 2001, 86, 1410-1413.	2.9	164
15	A giant electro-optic effect using polarizable dark states. Nature Physics, 2008, 4, 890-894.	6.5	159
16	Long Atomic Coherence Times in an Optical Dipole Trap. Physical Review Letters, 1995, 74, 1311-1314.	2.9	155
17	Vortex Formation in Dilute Inhomogeneous Bose-Einstein Condensates. Physical Review Letters, 1998, 80, 3903-3906.	2.9	151
18	Pressure Drag in Linear and Nonlinear Quantum Fluids. Physical Review Letters, 1999, 82, 5186-5189.	2.9	130

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19	Raman Cooling of Atoms in an Optical Dipole Trap. Physical Review Letters, 1996, 76, 2658-2661.	2.9	118
20	Polarization spectroscopy in rubidium and cesium. Physical Review A, 2006, 73, .	1.0	116
21	Emergence and Decay of Turbulence in Stirred Atomic Bose-Einstein Condensates. Physical Review Letters, 2005, 95, 145301.	2.9	111
22	ElecSus: A program to calculate the electric susceptibility of an atomic ensemble. Computer Physics Communications, 2015, 189, 162-174.	3.0	105
23	All-Optical Quantum Information Processing Using Rydberg Gates. Physical Review Letters, 2014, 112, 040501.	2.9	102
24	Bright Matter-Wave Soliton Collisions in a Harmonic Trap: Regular and Chaotic Dynamics. Physical Review Letters, 2007, 98, 020402.	2.9	90
25	Microwave dressing of Rydberg dark states. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 184020.	0.6	89
26	Laser frequency stabilization to excited state transitions using electromagnetically induced transparency in a cascade system. Applied Physics Letters, 2009, 94, .	1.5	87
27	Magneto-optical beam splitter for atoms. Physical Review Letters, 1993, 71, 3427-3430.	2.9	84
28	Dissipation and vortex creation in Bose-Einstein condensed gases. Physical Review A, 2000, 61, .	1.0	80
29	Electromagnetically induced transparency of an interacting cold Rydberg ensemble. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 201002.	0.6	78
30	Contactless nonlinear optics mediated by long-range Rydberg interactions. Nature Physics, 2017, 13, 655-658.	6.5	76
31	A Fast Semi-Implicit Finite-Difference Method for the TDGL Equations. Journal of Computational Physics, 2002, 179, 127-139.	1.9	75
32	Vortex shedding and drag in dilute Bose-Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 4069-4078.	0.6	73
33	Soliton-Sound Interactions in Quasi-One-Dimensional Bose-Einstein Condensates. Physical Review Letters, 2003, 90, 220401.	2.9	72
34	Enhanced electric field sensitivity of rf-dressed Rydberg dark states. New Journal of Physics, 2010, 12, 065015.	1.2	71
35	Cooperative ordering in lattices of interacting two-level dipoles. Physical Review A, 2015, 92, .	1.0	71
36	Absolute absorption on the rubidium D₁line including resonant dipoleâ€“dipole interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 195006.	0.6	70

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37	Cooperative eigenmodes and scattering in one-dimensional atomic arrays. Physical Review A, 2016, 94, .	1.0	69
38	A gigahertz-bandwidth atomic probe based on the slow-light Faraday effect. Nature Photonics, 2009, 3, 225-229.	15.6	67
39	Maximal Refraction and Superluminal Propagation in a Gaseous Nanolayer. Physical Review Letters, 2012, 109, 233001.	2.9	59
40	Quantum interference in interacting three-level Rydberg gases: coherent population trapping and electromagnetically induced transparency. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 184018.	0.6	57
41	Narrow absorptive resonances in a four-level atomic system. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 075503.	0.6	56
42	Controlled Vortex-Sound Interactions in Atomic Bose-Einstein Condensates. Physical Review Letters, 2004, 92, 160403.	2.9	55
43	Atomic Faraday filter with equivalent noise bandwidth less than 1â€‰â€‰GHz. Optics Letters, 2015, 40, 2000.	1.7	55
44	Collisions of bright solitary matter waves. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 045303.	0.6	52
45	Electrometry near a dielectric surface using Rydberg electromagnetically induced transparency. Physical Review A, 2011, 84, .	1.0	51
46	Decay of superfluid turbulence via Kelvin-wave radiation. Physical Review A, 2003, 67, .	1.0	49
47	Analogies between dark solitons in atomic Boseâ€“Einstein condensates and optical systems. Journal of Optics B: Quantum and Semiclassical Optics, 2004, 6, S380-S391.	1.4	48
48	The hyperfine Paschenâ€“Back Faraday effect. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 075005.	0.6	48
49	Quantum reflection of bright matter-wave solitons. Physica D: Nonlinear Phenomena, 2009, 238, 1299-1305.	1.3	47
50	Hyperfine effects in electromagnetically induced transparency. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, L749-L756.	0.6	46
51	Effects of stress on threshold, wavelength, and polarization of the output of InGaAsP semiconductor diode lasers. Journal of Applied Physics, 1988, 64, 6631-6638.	1.1	45
52	Number-resolved imaging of excited-state atoms using a scanning autoionization microscope. Physical Review A, 2013, 87, .	1.0	44
53	Motion of an object through a quantum fluid. Europhysics Letters, 2000, 52, 257-263.	0.7	43
54	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. Optics Communications, 1992, 90, 89-94.	1.0	42

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55	Parametric Driving of Dark Solitons in Atomic Bose-Einstein Condensates. Physical Review Letters, 2004, 93, 130408.	2.9	42
56	Decay of quantised vorticity by sound emission. Journal of Low Temperature Physics, 2005, 138, 629-634.	0.6	42
57	Reflection of metastable argon atoms from an evanescent wave. Physical Review A, 1994, 49, 3814-3823.	1.0	40
58	Absolute absorption and dispersion of a rubidium vapour in the hyperfine Paschenâ€“Back regime. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 215005.	0.6	40
59	Bright solitary-matter-wave collisions in a harmonic trap: Regimes of solitonlike behavior. Physical Review A, 2008, 77, .	1.0	39
60	Dynamical instability of a dark soliton in a quasi-one-dimensional Boseâ€“Einstein condensate perturbed by an optical lattice. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, S175-S185.	0.6	37
61	Mobile atom traps using magnetic nanowires. Applied Physics Letters, 2006, 89, 014102.	1.5	37
62	Exciton dynamics in emergent Rydberg lattices. Physical Review A, 2013, 88, .	1.0	37
63	Optical Response of Gas-Phase Atoms at Less than<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î»</mml:mi><mml:mo stretchy="false">/</mml:mo><mml:mn>80</mml:mn></mml:math>from a Dielectric Surface. Physical Review Letters, 2014, 112, 253201.	2.9	37
64	Electromagnetically induced absorption in a nondegenerate three-level ladder system. Optics Letters, 2015, 40, 4289.	1.7	37
65	Time-dependent Ginzburg-Landau simulations of the voltage-current characteristic of type-II superconductors with pinning. Physical Review B, 2002, 65, .	1.1	36
66	Deformation of dark solitons in inhomogeneous Boseâ€“Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 2891-2910.	0.6	36
67	Graph-state preparation and quantum computation with global addressing of optical lattices. Physical Review A, 2006, 73, .	1.0	36
68	Synchronous tuning of extended cavity diode lasers: the case for an optimum pivot point. Applied Optics, 1999, 38, 548.	2.1	35
69	Optical coherences and wavelength mismatch in ladder systems. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 245001.	0.6	35
70	Direct measurement of excited-state dipole matrix elements using electromagnetically induced transparency in the hyperfine Paschen-Back regime. Physical Review A, 2016, 93, .	1.0	35
71	Driven-dissipative many-body systems with mixed power-law interactions: Bistabilities and temperature-driven nonequilibrium phase transitions. Physical Review A, 2016, 94, .	1.0	35
72	Bright solitary waves and trapped solutions in Boseâ€“Einstein condensates with attractive interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, 3127-3142.	0.6	32

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73	Off-resonance absorption and dispersion in vapours of hot alkali-metal atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 175004.	0.6	32
74	Dark soliton decay due to trap anharmonicity in atomic Bose-Einstein condensates. Physical Review A, 2010, 81, .	1.0	32
75	A terahertz-driven non-equilibrium phase transition in a room temperature atomic vapour. Nature Communications, 2018, 9, 3567.	5.8	32
76	Correlated Photon Emission from Multiatom Rydberg Dark States. Physical Review Letters, 2012, 108, 043601.	2.9	30
77	Polarization of the output of InGaAsP semiconductor diode lasers. IEEE Journal of Quantum Electronics, 1989, 25, 1156-1160.	1.0	29
78	Optical control of Faraday rotation in hot Rb vapor. Physical Review A, 2010, 81, .	1.0	28
79	Intrinsic optical bistability in a strongly driven Rydberg ensemble. Physical Review A, 2016, 93, .	1.0	28
80	Off-resonance laser frequency stabilization using the Faraday effect. Optics Letters, 2011, 36, 64.	1.7	27
81	Realization of the Manipulation of Ultracold Atoms with a Reconfigurable Nanomagnetic System of Domain Walls. Nano Letters, 2012, 12, 4065-4069.	4.5	27
82	Microwave control of the interaction between two optical photons. Physical Review A, 2014, 89, .	1.0	27
83	Output coupling and flow of a dilute Bose-Einstein condensate. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 4489-4499.	0.6	25
84	Vortex structures in dilute quantum fluids. Europhysics Letters, 1999, 48, 475-481.	0.7	24
85	Bright solitary waves of trapped atomic Boseâ€“Einstein condensates. Physica D: Nonlinear Phenomena, 2009, 238, 1456-1461.	1.3	24
86	Cold Rydberg gases and ultra-cold plasmas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 180201.	0.6	24
87	Optimization of atomic Faraday filters in the presence of homogeneous line broadening. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 185001.	0.6	24
88	Subnatural linewidths in two-photon excited-state spectroscopy. Physical Review A, 2012, 85, .	1.0	23
89	Nanostructured Alkali-Metal Vapor Cells. Physical Review Applied, 2020, 14, .	1.5	23
90	Spatially selective loading of an optical lattice by light-shift engineering using an auxiliary laser field. New Journal of Physics, 2006, 8, 11-11.	1.2	22

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91	Optical non-linearity in a dynamical Rydberg gas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 184019.	0.6	22
92	Frequency doubling of a single frequency Ti:Al2O3 laser using an external enhancement cavity. Optics Communications, 1990, 79, 219-223.	1.0	21
93	Photo-ionization in far-off-resonance optical lattices. New Journal of Physics, 2006, 8, 163-163.	1.2	21
94	Saturated spectroscopy and two-photon absorption spectroscopy in rubidium using an actively stabilised Ti:Al2O3 ring laser. Optics Communications, 1990, 75, 419-424.	1.0	20
95	Non-linear Sagnac interferometry for pump-probe dispersion spectroscopy. European Physical Journal D, 2003, 27, 273-276.	0.6	20
96	Measuring the Stokes parameters for light transmitted by a high-density rubidium vapour in large magnetic fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 055001.	0.6	20
97	Interaction of atoms with a magneto-optical potential. Physical Review A, 1993, 48, 2108-2116.	1.0	19
98	An atomic fountain guided by a far-off resonance laser beam. Europhysics Letters, 1999, 45, 450-455.	0.7	19
99	Josephson tunnelling of a phase-imprinted Boseâ€“Einstein condensate in a time-dependent double-well potential. New Journal of Physics, 2004, 6, 42-42.	1.2	19
100	Electro-optic control of atom-light interactions using Rydberg dark-state polaritons. Physical Review A, 2008, 77, .	1.0	19
101	A vapor cell based on dispensers for laser spectroscopy. Review of Scientific Instruments, 2009, 80, 013101.	0.6	19
102	Vortex rings and mutual drag in trapped Bose-Einstein condensates. Physical Review A, 1999, 60, 4882-4885.	1.0	18
103	A mechanical shutter for light using piezoelectric actuators. Review of Scientific Instruments, 2000, 71, 59-60.	0.6	18
104	Refractive index measurements by probe-beam deflection. European Physical Journal D, 2004, 29, 433-436.	0.6	18
105	Sagnac interferometry in a slow-light medium. Physical Review A, 2006, 74, .	1.0	18
106	Electromagnetically induced transparency and two-photon absorption in the ladder system in thin columns of atomic vapors. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2010, 109, 529-537.	0.2	18
107	Spectroscopic detection of atom-surface interactions in an atomic-vapor layer with nanoscale thickness. Physical Review A, 2015, 92, .	1.0	18
108	Fast and Quasideterministic Single Ion Source from a Dipole-Blockaded Atomic Ensemble. Physical Review Letters, 2013, 110, 213003.	2.9	17

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109	Active narrowband filtering, line narrowing and gain using ladder electromagnetically induced transparency in an optically thick atomic vapour. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 075002.	0.6	17
110	Response of an atomic Boseâ€“Einstein condensate to a rotating elliptical trap. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, 43-55.	0.6	16
111	Hilbert transform: Applications to atomic spectra. Physical Review A, 2015, 91, .	1.0	16
112	Josephson spectroscopy of a dilute Bose-Einstein condensate in a double-well potential. Physical Review A, 2002, 66, .	1.0	15
113	Fast switching of alkali atom dispensers using laser-induced heating. Review of Scientific Instruments, 2005, 76, 093102.	0.6	14
114	Observation of interference effects via four-photon excitation of highly excited Rydberg states in thermal cesium vapor. Optics Letters, 2015, 40, 5570.	1.7	13
115	Tunnelling induced collapse of an atomic Boseâ€“Einstein condensate in a double-well potential. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 3681-3690.	0.6	11
116	A versatile and reliably reusable ultrahigh vacuum viewport. Review of Scientific Instruments, 2009, 80, 026105.	0.6	10
117	FM operation of Nd: YAG lasers with standing wave and ring cavity configurations. Optics Communications, 1990, 76, 127-130.	1.0	8
118	Transferring laser-cooled atoms to a spatially separated magnetic trap using a far-off resonance optical guide. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 4079-4086.	0.6	8
119	Laser cooling of calcium in a Âgolden ratioÂ quasi-electrostatic lattice. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 1933-1942.	0.6	8
120	Measuring the Faraday effect in olive oil using permanent magnets and Malusâ€™ law. European Journal of Physics, 2020, 41, 025301.	0.3	8
121	Effect of condensate depletion on the critical velocity for vortex nucleation in quantum fluids. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, L143-L148.	0.6	7
122	Probing an excited-state atomic transition using hyperfine quantum-beat spectroscopy. Physical Review A, 2014, 90, .	1.0	7
123	High-contrast atomic dark resonances formed in a ladder system of rubidium atoms in submicron structures. Journal of Experimental and Theoretical Physics, 2014, 119, 8-14.	0.2	7
124	High-resolution nanosecond spectroscopy of even-parity Rydberg excitons in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Cu</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mathvariant="normal">O</mml:mi></mml:mrow></mml:math>. Physical Review B, 2022, 105, .	1.1	7
125	Reusable ultrahigh vacuum viewport bakeable to 240â€ŠÂ°C. Review of Scientific Instruments, 2003, 74, 3185-3187.	0.6	6
126	Design and characterization of a field-switchable nanomagnetic atom mirror. Journal of Applied Physics, 2010, 108, 043906.	1.1	6

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127	Purcell-enhanced dipolar interactions in nanostructures. Physical Review Research, 2022, 4, .	1.3	5
128	Magnetic merging of ultracold atomic gases of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Rb</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>85</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Rb</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>87</mml:mn></mml:m	1.0	4
129	Transient Density-Induced Dipolar Interactions in a Thin Vapor Cell. Physical Review Letters, 2022, 128, 173401.	2.9	4
130	Optical preparation and measurement of atomic coherence at gigahertz bandwidth. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 124009.	0.6	2
131	Experimental tests of Bertrandâ€™s question and the Duhemâ€“Quine problem. European Journal of Physics, 2019, 40, 065801.	0.3	1
132	Publisher's Note: Hilbert transform: Applications to atomic spectra [Phys. Rev. A91, 032513 (2015)]. Physical Review A, 2015, 92, .	1.0	0