Steven L Rolston

List of Publications by Year
in descending order

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177 papers	13,396 citations	25014 57 h-index	21521 114 g-index
178 all docs	178 docs citations	178 times ranked	5986 citing authors

#	Article	IF	Citations
1	Resonant enhancement of three-body loss between strongly interacting photons. Physical Review Research, 2022, 4, .	1.3	1
2	Tunable Three-Body Loss in a Nonlinear Rydberg Medium. Physical Review Letters, 2021, 126, 173401.	2.9	4
3	Observation of Vacuum-Induced Collective Quantum Beats. Physical Review Letters, 2021, 127, 073604.	2.9	9
4	Coherent optical nanotweezers for ultracold atoms. Physical Review A, 2020, 102, .	1.0	6
5	Non-Markovian Collective Emission from Macroscopically Separated Emitters. Physical Review Letters, 2020, 124, 043603.	2.9	72
6	Realization of a stroboscopic optical lattice for cold atoms with subwavelength spacing. Physical Review A, 2020, 101, .	1.0	17
7	On-demand indistinguishable single photons from an efficient and pure source based on a Rydberg ensemble. Optica, 2020, 7, 813.	4.8	33
8	Griffiths physics in an ultracold Bose gas. Physical Review A, 2019, 99, .	1.0	0
9	Floquet engineering of optical lattices with spatial features and periodicity below the diffraction limit. New Journal of Physics, 2019, 21, 113058.	1.2	7
10	Microcontroller based scanning transfer cavity lock for long-term laser frequency stabilization. Review of Scientific Instruments, 2019, 90, 043115.	0.6	18
11	Nanoscale Atomic Density Microscopy. Physical Review X, 2019, 9, .	2.8	31
12	Quantum Interference between Photons from an Atomic Ensemble and a Remote Atomic Ion. Physical Review Letters, 2019, 123, 213601.	2.9	19
13	Alignment-dependent decay rate of an atomic dipole near an optical nanofiber. Physical Review A, 2019, 99, .	1.0	10
14	Dark State Optical Lattice with a Subwavelength Spatial Structure. Physical Review Letters, 2018, 120, 083601.	2.9	60
15	Dissipation-induced dipole blockade and antiblockade in driven Rydberg systems. Physical Review A, 2018, 97, .	1.0	29
16	Optimal and secure measurement protocols for quantum sensor networks. Physical Review A, 2018, 97, .	1.0	95
17	Spectral asymmetry of atoms in the van der Waals potential of an optical nanofiber. Physical Review A, 2018, 97, .	1.0	7
18	Super-radiance reveals infinite-range dipole interactions through a nanofiber. Nature Communications, 2017, 8, 1857.	5.8	174

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19	Spontaneous avalanche dephasing in large Rydberg ensembles. Physical Review A, 2017, 96, .	1.0	26
20	Ultracold neutral plasmas. Reports on Progress in Physics, 2017, 80, 017001.	8.1	57
21	Modal interference in optical nanofibers for sub-Angstrom radius sensitivity. Optica, 2017, 4, 157.	4.8	20
22	Optical Nanofibers. Advances in Atomic, Molecular and Optical Physics, 2017, 66, 439-505.	2.3	69
23	Dynamics of trapped atoms around an optical nanofiber probed through polarimetry. Optics Letters, 2017, 42, 2283.	1.7	15
24	Anomalous Broadening in Driven Dissipative Rydberg Systems. Physical Review Letters, 2016, 116, 113001.	2.9	84
25	Torsional modes of a nanofiber: polarimetric excitation and read out.. , 2016, , .		0
26	Subradiance in a nanofiber mode by an ensemble of a few cold Rb atoms. , 2016, , .		0
27	Radiative lifetime changes in the vicinity of a nanofiber: dielectric, and alignment effects. , 2016, , .		0
28	Photon-correlation measurements of atomic-cloud temperature using an optical nanofiber. Physical Review A, 2015, 92, .	1.0	30
29	A nanowaveguide platform for collective atom-light interaction. Applied Physics Letters, 2015, 107, .	1.5	18
30	Movable Thin-Film Superconducting Resonator Coupled to a Tapered Optical Microfiber at 15 mK. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-5.	1.1	3
31	Rayleigh scattering in an optical nanofiber as a probe of higher-order mode propagation. Optica, 2015, 2, 416.	4.8	32
32	Degenerate Bose-Fermi mixtures of rubidium and ytterbium. Physical Review A, 2015, 92, .	1.0	44
33	Inhomogeneous broadening of optical transitions of 87Rb atoms in an optical nanofiber trap. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 165004.	0.6	24
34	Getting the measure of entanglement. Nature, 2015, 528, 48-49.	13.7	2
35	Ultracold neutral plasmas. , 2014, , .		0
36	Ultrahigh transmission optical nanofibers. AIP Advances, 2014, 4, .	0.6	94

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37	10.1063/1.4879799.1. , 2014, , .		0
38	Higher order mode propagation in ultrathin optical fibers for atom traps. , 2013, , .		1
39	Intermodal energy transfer in a tapered optical fiber: optimizing transmission. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 2361.	0.8	60
40	A low-loss photonic silica nanofiber for higher-order modes. Optics Express, 2013, 21, 18325.	1.7	40
41	Integrated optical dipole trap for cold neutral atoms with an optical waveguide coupler. New Journal of Physics, 2013, 15, 043010.	1.2	18
42	Sub-Doppler cooling of neutral atoms in a grating magneto-optical trap. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 2869.	0.9	38
43	A hybrid quantum system of atoms trapped on ultrathin optical fibers coupled to superconductors. , 2013, , .		3
44	Disorder-driven loss of phase coherence in a quasi-2D cold atom system. New Journal of Physics, 2012, 14, 073024.	1.2	27
45	Electronic Detection of Collective Modes of an Ultracold Plasma. Physical Review Letters, 2012, 108, 065003.	2.9	28
46	Precision Measurement of Transition Matrix Elements via Light Shift Cancellation. Physical Review Letters, 2012, 109, 243003.	2.9	68
47	Atomic interface between microwave and optical photons. Physical Review A, 2012, 85, .	1.0	90
48	Using Atomic Physics to Understand Condensed Matter. , 2012, , .		0
49	Photon statistics and polarization correlations at telecommunications wavelengths from a warm atomic ensemble. Optics Express, 2011, 19, 14632.	1.7	47
50	Thin-film superconducting resonator tunable to the ground-state hyperfine splitting of 87Rb. AIP Advances, 2011, 1, .	0.6	15
51	Cold Atoms Coupled to a Superconducting Flux Qubit. , 2011, , .		0
52	Ultracold neutral plasmas. Physics Today, 2010, 63, 46-51.	0.3	35
53	Correlated photon pairs generated from a warm atomic ensemble. Physical Review A, 2010, 82, .	1.0	55
54	Nondegenerate four-wave mixing in rubidium vapor: Transient regime. Physical Review A, 2010, 82, .	1.0	9

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55	Interactions between Rydberg-dressed atoms. Physical Review A, 2010, 82, .	1.0	138
56	Electron evaporation from an ultracold plasma in a uniform electric field. Physics of Plasmas, 2010, 17, 082101.	0.7	12
57	Four-wave mixing in the diamond configuration in an atomic vapor. Physical Review A, 2009, 79, .	1.0	61
58	Using Charged Particle Imaging to Study Ultracold Plasma Expansion. , 2009, , .		3
59	Two-photon dichroic atomic vapor laser lock using electromagnetically induced transparency and absorption. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1315.	0.9	22
60	Adiabaticity and Localization in One-Dimensional Incommensurate Lattices. Physical Review Letters, 2008, 101, 260402.	2.9	30
61	Observation of an Ultracold Plasma Instability. Physical Review Letters, 2008, 101, 195002.	2.9	33
62	Ultracold Plasma Expansion in a Magnetic Field. Physical Review Letters, 2008, 100, 235002.	2.9	39
63	Nondegenerate four-wave mixing in rubidium vapor: The diamond configuration. Physical Review A, 2008, 78, .	1.0	51
64	Four-wave mixing in a diamond configuration: Experiments with rubidium vapor. , 2007, , .		0
65	Using Three-Body Recombination to Extract Electron Temperatures of Ultracold Plasmas. Physical Review Letters, 2007, 99, 145001.	2.9	65
66	Observation of Collective Modes of Ultracold Plasmas. Physical Review Letters, 2006, 96, 105003.	2.9	122
67	Manipulation of single neutral atoms in optical lattices. Physical Review A, 2006, 74, .	1.0	65
68	Collisional deexcitation in a quasi-two-dimensional degenerate bosonic gas. Physical Review A, 2006, 73, .	1.0	40
69	BOSONS IN OPTICAL LATTICES. International Journal of Modern Physics B, 2006, 20, 2755-2759.	1.0	4
70	BOSONS IN OPTICAL LATTICES. , 2006, , .		0
71	Transport of atoms in a quantum conveyor belt. Physical Review A, 2005, 72, .	1.0	58
72	Strongly Inhibited Transport of a Degenerate 1D Bose Gas in a Lattice. Physical Review Letters, 2005, 94, 120403.	2.9	194

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73	Study of a 1D interacting quantum Bose gas. European Physical Journal Special Topics, 2004, 116, 227-232.	0.2	0
74	Observation of Reduced Three-Body Recombination in a Correlated 1D Degenerate Bose Gas. Physical Review Letters, 2004, 92, 190401.	2.9	349
75	Deeply subrecoil two-dimensional Raman cooling. Physical Review A, 2004, 70, .	1.0	17
76	Electron Temperature of Ultracold Plasmas. Physical Review Letters, 2004, 92, 253003.	2.9	64
77	EXPERIMENTAL STUDY OF A BOSE GAS IN ONE DIMENSION. , 2004, , .		0
78	Ultracold neutral plasmas: recent experiments and new prospects. Journal of Physics A, 2003, 36, 6077-6085.	1.6	31
79	Patterned loading of a Bose-Einstein condensate into an optical lattice. Physical Review A, 2003, 67, .	1.0	193
80	Quantum information with neutral atoms as qubits. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1417-1427.	1.6	51
81	Ultracold neutral plasmas. , 2003, , .		1
82	Photoassociation of Sodium in a Bose-Einstein Condensate. Physical Review Letters, 2002, 88, 120403.	2.9	147
83	A Bose-Einstein condensate in an optical lattice. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, 3095-3110.	0.6	274
84	Nonlinear and quantum atom optics. Nature, 2002, 416, 219-224.	13.7	98
85	Formation of Rydberg Atoms in an Expanding Ultracold Neutral Plasma. Physical Review Letters, 2001, 86, 3759-3762.	2.9	220
86	Dynamical tunnelling of ultracold atoms. Nature, 2001, 412, 52-55.	13.7	316
87	A single hollow-beam optical trap for cold atoms. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, 353-357.	1.4	51
88	A laser-cooled Atomic Clock in Space. AIP Conference Proceedings, 2000, , .	0.3	1
89	Non-linear atom optics: solitons and four-wave-mixing in a Bose-Einstein condensate. , 2000, , WC2.		0
90	Plasma Oscillations and Expansion of an Ultracold Neutral Plasma. Physical Review Letters, 2000, 85, 318-321.	2.9	186

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91	Imaging the Phase of an Evolving Bose-Einstein Condensate Wave Function. Physical Review Letters, 2000, 85, 2040-2043.	2.9	91
92	Generating Solitons by Phase Engineering of a Bose-Einstein Condensate. Science, 2000, 287, 97-101.	6.0	1,129
93	Fast Quantum Gates for Neutral Atoms. Physical Review Letters, 2000, 85, 2208-2211.	2.9	1,197
94	Coherence properties of an atom laser. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 47-54.	0.6	27
95	An ultracold neutral plasma. , 1999, , .		0
96	Measurement of the Coherence of a Bose-Einstein Condensate. Physical Review Letters, 1999, 83, 3112-3115.	2.9	169
97	Coherent Splitting of Bose-Einstein Condensed Atoms with Optically Induced Bragg Diffraction. Physical Review Letters, 1999, 82, 871-875.	2.9	397
98	Temporal, Matter-Wave-Dispersion Talbot Effect. Physical Review Letters, 1999, 83, 5407-5411.	2.9	195
99	Creation of an Ultracold Neutral Plasma. Physical Review Letters, 1999, 83, 4776-4779.	2.9	402
100	Spin polarization and quantum-statistical effects in ultracold ionizing collisions. Physical Review A, 1999, 59, 1926-1935.	1.0	36
101	Diffraction of a Released Bose-Einstein Condensate by a Pulsed Standing Light Wave. Physical Review Letters, 1999, 83, 284-287.	2.9	154
102	Four-wave mixing with matter waves. Nature, 1999, 398, 218-220.	13.7	406
103	A Well-Collimated Quasi-Continuous Atom Laser. Science, 1999, 283, 1706-1709.	6.0	408
104	Properties of a Raman atom-laser output coupler. Journal of Physics B: Atomic, Molecular and Optical Physics, 1999, 32, 2935-2950.	0.6	28
105	Magnetic trapping, evaporative cooling, and Bose Einstein Condensation. , 1999, , .		0
106	Precision Spectroscopy in He as a Test of QED. Physica Scripta, 1999, T83, 76.	1.2	10
107	Decay of Atomic Wave-Packet Motion in Optical Lattices. Fortschritte Der Physik, 1998, 46, 791-799.	1.5	1
108	Time-Resolved Studies of Ultracold Ionizing Collisions. Physical Review Letters, 1998, 80, 5093-5096.	2.9	23

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109	Collapse and Revivals of Wave Packets in Optical Lattices. Physical Review Letters, 1998, 81, 3615-3618.	2.9	77
110	Measurement of the He Ground State Lamb Shift via the Two-Photon1S1â^'2S1Transition. Physical Review Letters, 1998, 80, 3475-3478.	2.9	104
111	Magnetization and spin-flip dynamics of atoms in optical lattices. Physical Review A, 1998, 58, R2660-R2663.	1.0	7
112	Suppression and Enhancement of Collisions in Optical Lattices. Physical Review Letters, 1998, 80, 480-483.	2.9	15
113	Self-assembled monolayers exposed by metastable argon and metastable helium for neutral atom lithography and atomic beam imaging. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1997, 15, 1805.	1.6	50
114	Temperature and localization of atoms in three-dimensional optical lattices. Physical Review A, 1997, 55, R3987-R3990.	1.0	35
115	Doppler-free resonance ionization spectroscopy of the He 1s[sup 2]â€‰[sup 1]Sâ^'1s2sâ€‰[sup 1]S transition at 120.3 nm. , 1997, , .		0
116	Compression and Parametric Driving of Atoms in Optical Lattices. Physical Review Letters, 1997, 78, 2928-2931.	2.9	51
117	Cooling and Localization Dynamics in Optical Lattices. Physical Review Letters, 1997, 78, 630-633.	2.9	74
118	Bragg Scattering from an Optical Lattice. Optics and Photonics News, 1996, 7, 25.	0.4	7
119	Magnetic inhibition of polarization-gradient laser cooling inÏƒ+-Ïƒâ^'optical molasses. Physical Review A, 1996, 54, 2275-2279.	1.0	20
120	Ultracold collisions and optical shielding in metastable xenon. Physical Review A, 1996, 53, 1678-1689.	1.0	29
121	Microlithography by using neutral metastable atoms and self-assembled monolayers. Science, 1995, 269, 1255-1257.	6.0	212
122	Photoassociative ionization spectroscopy in ultracold sodium. AIP Conference Proceedings, 1995, , .	0.3	1
123	Bragg Scattering from Atoms in Optical Lattices. Physical Review Letters, 1995, 75, 2823-2826.	2.9	183
124	Optical Control of Ultracold Collisions in Metastable Xenon. Physical Review Letters, 1995, 74, 506-509.	2.9	78
125	Adiabatic Cooling of Cesium to 700 nK in an Optical Lattice. Physical Review Letters, 1995, 74, 1542-1545.	2.9	224
126	Lifetime of the metastable 6sâ€² [1/2]_0 clock state in xenon. Optics Letters, 1995, 20, 1192.	1.7	21

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127	Determination of the xenon 6s[3/2]_2â€“6sâ€²[1/2]_0 clock frequency by interferometric wavelength measurements. Optics Letters, 1995, 20, 1421.	1.7	5
128	Photonic band gaps in optical lattices. Physical Review A, 1995, 52, 1394-1410.	1.0	168
129	Coherent transfer of photon momentum by adiabatic following in a dark state. Journal of the European Optical Society Part B: Quantum Optics, 1994, 6, 387-389.	1.2	15
130	Momentum transfer in laser-cooled cesium by adiabatic passage in a light field. Physical Review Letters, 1994, 72, 997-1000.	2.9	152
131	Precision measurement of the metastable 6s[3/2]2lifetime in xenon. Physical Review Letters, 1994, 72, 2843-2846.	2.9	49
132	Photoassociative spectroscopy of 1g, 0+u, and 0â^'g states of Na2. Journal of Chemical Physics, 1994, 101, 2638-2641.	1.2	101
133	Demonstration of neutral atom trapping with microwaves. Physical Review Letters, 1994, 72, 3162-3165.	2.9	65
134	Coherent atomic waveguides from hollow optical fibers: Quantized atomic motion. Physical Review A, 1994, 50, 2680-2690.	1.0	151
135	Demonstration of a microwave trap for cesium atoms. Physica B: Condensed Matter, 1994, 194-196, 893-894.	1.3	2
136	The microwave trap and prospects for Bose-Einstein condensation. Physica B: Condensed Matter, 1994, 194-196, 907-908.	1.3	0
137	Laser manipulation and cooling of (anti)hydrogen. Hyperfine Interactions, 1993, 76, 265-272.	0.2	11
138	Spectroscopy ofNa2by photoassociation of laser-cooled Na. Physical Review Letters, 1993, 71, 2200-2203.	2.9	211
139	Magneto-optical trapping of metastable xenon: Isotope-shift measurements. Physical Review A, 1993, 48, R879-R882.	1.0	61
140	Hyperfine effects on associative ionization of ultracold sodium. Physical Review Letters, 1993, 70, 2074-2077.	2.9	41
141	Observation of quantized motion of atoms in optical molasses. AIP Conference Proceedings, 1993, , .	0.3	0
142	Demonstration of the microwave trap for cesium atoms. AIP Conference Proceedings, 1993, , .	0.3	0
143	Trapping atoms with optical potentials. , 1992, , .		14
144	Observation of quantized motion of Rb atoms in an optical field. Physical Review Letters, 1992, 69, 49-52.	2.9	294

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145	Ïƒ_+â€“Ïƒ_â^' Optical molasses in a longitudinal magnetic field. Journal of the Optical Society of America B: Optical Physics, 1992, 9, 1997.	0.9	47
146	A resonance cell for on-line optical spectroscopy of accelerator produced radioactive atoms. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1992, 311, 224-239.	0.7	11
147	Laser-cooled neutral atom frequency standards. Proceedings of the IEEE, 1991, 79, 943-951.	16.4	29
148	Measurements of fluorescence from cold atoms: Localization in three-dimensional standing waves. AIP Conference Proceedings, 1991, , .	0.3	0
149	A superconducting solenoid system which cancels fluctuations in the ambient magnetic field. Journal of Magnetic Resonance, 1991, 91, 564-572.	0.5	8
150	Optical molasses: cold atoms for precision measurements. IEEE Transactions on Instrumentation and Measurement, 1991, 40, 78-80.	2.4	3
151	Westbrooket al. reply. Physical Review Letters, 1991, 66, 2413-2413.	2.9	0
152	Comment on â€˜â€˜Localization of atoms in a three-dimensional standing waveâ€™â€™. Physical Review Letters, 1991, 66, 2412-2412.	2.9	1
153	Laser modification of ultracold collisions: Experiment. Physical Review Letters, 1991, 67, 2139-2142.	2.9	63
154	Optical Molasses: The Coldest Atoms Ever. Physica Scripta, 1991, T34, 20-22.	1.2	2
155	Localization of atoms in a three-dimensional standing wave. Physical Review Letters, 1990, 65, 33-36.	2.9	139
156	Heterodyne Spectrum of the Fluorescence from Optical Molasses. , 1990, , 681-684.		0
157	Barkas effect with use of antiprotons and protons. Physical Review A, 1989, 40, 481-484.	1.0	36
158	Cooling antiprotons in an ion trap. Hyperfine Interactions, 1989, 44, 233-245.	0.2	50
159	Possible antihydrogen production using trapped plasmas. Hyperfine Interactions, 1989, 44, 287-293.	0.2	22
160	Open-endcap Penning traps for high precision experiments. International Journal of Mass Spectrometry and Ion Processes, 1989, 88, 319-332.	1.9	251
161	Optical molasses. Journal of the Optical Society of America B: Optical Physics, 1989, 6, 2084.	0.9	361
162	Laser spectroscopy of light Yb isotopes on-line in a cooled gas cell. Physical Review Letters, 1989, 63, 1463-1466.	2.9	49

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163	Atoms Laser-Cooled Below the Doppler-Cooling Limit. , 1989, , 264-269.		1
164	Antihydrogen production using trapped plasmas. Physics Letters, Section A: General, Atomic and Solid State Physics, 1988, 129, 38-42.	0.9	295
165	First Capture of Antiprotons in an Ion Trap: Progress Toward a Precision Mass Measurement and Antihydrogen. Physica Scripta, 1988, T22, 36-40.	1.2	8
166	Lifetime andg-factor measurements of yrast states inNd134andNd136. Physical Review C, 1987, 36, 974-985.	1.1	23
167	Observation of proton alignment at the backbend in 136Nd. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1987, 189, 277-281.	1.5	7
168	Lifetime andg-factor measurements in136Nd. Hyperfine Interactions, 1987, 34, 65-68.	0.2	2
169	First Antiprotons in an Ion Trap. Springer Series in Optical Sciences, 1987, , 22-25.	0.5	0
170	g factor above the first backbend in 168W. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1986, 178, 145-149.	1.5	7
171	First Capture of Antiprotons in a Penning Trap: A Kiloelectronvolt Source. Physical Review Letters, 1986, 57, 2504-2507.	2.9	186
172	A g-factor measurement of the 239Am fission isomer. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1985, 163, 327-330.	1.5	4
173	g-Factor measurements of fission isomers. Hyperfine Interactions, 1983, 15, 43-54.	0.2	6
174	Optical lattices for atomic fountain frequency standards. , 0, , .		0
175	Progress towards a laser-cooled cesium atomic fountain frequency standard at NIST, Gaithersburg. , 0, , .		1
176	Atom optics with Bose-Einstein condensates. , 0, , .		3
177	Non-linear atom optics: solitons and four-wave-mixing in a Bose-Einstein condensate. , 0, , .		0