Randolf Pohl

List of Publications by Year
in descending order

96 papers	4,942 citations	147801 31 h-index	91884 69 g-index
98 all docs	98 docs citations	98 times ranked	1979 citing authors

#	Article	IF	Citations
1	Improved active fiber-based retroreflector with intensity stabilization and a polarization monitor for the near UV: erratum. Optics Express, 2022, 30, 7340-7341.	3.4	0
2	Characterization of a Continuous Muon Source for the Non-Destructive and Depth-Selective Elemental Composition Analysis by Muon Induced X- and Gamma-rays. Applied Sciences (Switzerland), 2022, 12, 2541.	2.5	9
3	Measuring the Î±-particle charge radius with muonic helium-4 ions. Nature, 2021, 589, 527-531.	27.8	62
4	Improved active fiber-based retroreflector with intensity stabilization and a polarization monitor for the near UV. Optics Express, 2021, 29, 7024.	3.4	4
5	Laser spectroscopy of light muonic atoms and the nuclear charge radii. SciPost Physics Proceedings, 2021, , .	0.4	12
6	Two-photon frequency comb spectroscopy of atomic hydrogen. Science, 2020, 370, 1061-1066.	12.6	98
7	Fundamental symmetry tested using antihydrogen. Nature, 2020, 578, 369-370.	27.8	0
8	Quantum Interference Line Shifts of Broad Dipoleâ€Allowed Transitions. Annalen Der Physik, 2019, 531, 1900044.	2.4	22
9	Passive alignment stability and auto-alignment of multipass amplifiers based on Fourier transforms. Applied Optics, 2019, 58, 2904.	1.8	2
10	Challenging QED with atomic Hydrogen. , 2019, , .		0
11	Compact 20-pass thin-disk amplifier insensitive to thermal lensing. , 2019, , .		1
12	2S-4S spectroscopy in hydrogen atom: The new value for the Rydberg constant and the proton charge radius. AIP Conference Proceedings, 2018, , .	0.4	3
13	On the double peak structure of avalanche photodiode response to monoenergetic x-rays at various temperatures and bias voltages. Journal of Instrumentation, 2018, 13, C01033-C01033.	1.2	1
14	Theory of the Lamb Shift and fine structure in muonic 4He ions and the muonic 3Heâ€" 4He Isotope Shift. Annals of Physics, 2018, 396, 220-244.	2.8	35
15	Spatial hole burning in thin-disk lasers and twisted-mode operation. Applied Optics, 2018, 57, 2900.	1.8	12
16	Multipass amplifiers with self-compensation of the thermal lens. Applied Optics, 2018, 57, 10323.	1.8	8
17	Deuteron charge radius and Rydberg constant from spectroscopy data in atomic deuterium. Metrologia, 2017, 54, L1-L10.	1.2	43
18	The Rydberg constant and proton size from atomic hydrogen. Science, 2017, 358, 79-85.	12.6	281

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19	Theory of the nâ€‰=â€‰2 levels in muonic helium-3 ions. European Physical Journal D, 2017, 71, 1.	1.3	20
20	Experiments towards resolving the proton charge radius puzzle. EPJ Web of Conferences, 2016, 113, 01006.	0.3	20
21	Thin-disk laser scaling limit due to thermal lens induced misalignment instability. Applied Optics, 2016, 55, 9022.	2.1	19
22	Laser Spectroscopy of Muonic Hydrogen and the Puzzling Proton. Journal of the Physical Society of Japan, 2016, 85, 091003.	1.6	26
23	Active fiber-based retroreflector providing phase-retracing anti-parallel laser beams for precision spectroscopy. Optics Express, 2016, 24, 17470.	3.4	17
24	Laser spectroscopy of muonic deuterium. Science, 2016, 353, 669-673.	12.6	225
25	Laser spectroscopy of muonic deuterium: New contribution to the proton puzzle. , 2016, , .		0
26	Spectroscopy of the hydrogen<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>1</mml:mn><mml:mi>S</mml:mi><mml:mo>âˆ’</mml:m with chirped laser pulses. Physical Review A, 2016, 93, .	2.5	31
27	Auch das Deuteron ist zu klein. Physik in Unserer Zeit, 2016, 47, 266-267.	0.0	0
28	Theory of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si142.gif" display="inline" overflow="scroll"><mml:mi>n</mml:mi><mml:mo>=</mml:mo><mml:mn>2</mml:mn></mml:math> levels in muonic deuterium. Annals of Physics, 2016, 366, 168-196.	2.8	45
29	Quantum interference effects in laser spectroscopy of muonic hydrogen, deuterium, and helium-3. Physical Review A, 2015, 92, .	2.5	18
30	Quantum interference shifts in laser spectroscopy with elliptical polarization. Physical Review A, 2015, 92, .	2.5	11
31	Improved x-ray detection and particle identification with avalanche photodiodes. Review of Scientific Instruments, 2015, 86, 053102.	1.3	8
32	Thin-disk laser pump schemes for large number of passes and moderate pump source quality. Applied Optics, 2015, 54, 9400.	2.1	20
33	Precision spectroscopy of 2Sâ€“<i>n</i>P transitions in atomic hydrogen for a new determination of the Rydberg constant and the proton charge radius. Physica Scripta, 2015, T165, 014030.	2.5	16
34	Thin-disk laser multi-pass amplifier. Proceedings of SPIE, 2015, , .	0.8	7
35	Multipass laser cavity for efficient transverse illumination of an elongated volume. Optics Express, 2014, 22, 13050.	3.4	9
36	The Proton Radius Problem. Scientific American, 2014, 310, 32-39.	1.0	45

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37	Reach-Through Avalanche Photodiodes in Soft X-ray Detection. IEEE Transactions on Nuclear Science, 2014, 61, 2419-2424.	2.0	1
38	The Lamb shift in muonic hydrogen and the proton radius puzzle. Hyperfine Interactions, 2014, 227, 23-28.	0.5	5
39	Muonic Hydrogen and the Proton Radius Puzzle. Annual Review of Nuclear and Particle Science, 2013, 63, 175-204.	10.2	283
40	Das Proton bleibt zu klein. Physik in Unserer Zeit, 2013, 44, 110-111.	0.0	0
41	Proton Structure from the Measurement of 2S-2P Transition Frequencies of Muonic Hydrogen. Science, 2013, 339, 417-420.	12.6	676
42	Laser spectroscopy of muonic hydrogen. Annalen Der Physik, 2013, 525, 647-651.	2.4	4
43	Theory of the 2Sâ€“2P Lamb shift and 2S hyperfine splitting in muonic hydrogen. Annals of Physics, 2013, 331, 127-145.	2.8	134
44	Precision spectroscopy of the 2Sâ€4P transition in atomic hydrogen on a cryogenic beam of optically excited 2S atoms. Annalen Der Physik, 2013, 525, 671-679.	2.4	41
45	Lifetime and population of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>2</mml:mn><mml:mi>S</mml:mi></mml:mrow></mml:math>state in muonic hydrogen and deuterium. Physical Review A, 2013, 88, .	2.5	9
46	Precision Spectroscopy of Atomic Hydrogen. Journal of Physics: Conference Series, 2013, 467, 012003.	0.4	22
47	The size of the proton. Hyperfine Interactions, 2012, 212, 185-194.	0.5	7
48	The Lamb-shift experiment in Muonic helium. Hyperfine Interactions, 2012, 212, 195-201.	0.5	22
49	Die Vermessung des Protons. Physik in Unserer Zeit, 2012, 43, 229-235.	0.0	2
50	Highly stable remote clock comparisons via 920 km optical fiber for precision spectroscopy of atomic hydrogen. , 2012, , .		0
51	Illuminating the proton radius conundrum: the Î¼He⁺ Lamb shiftThis paper was presented at the International Conference on Precision Physics of Simple Atomic Systems, held at Ã‰cole de Physique, les Houches, France, 30 Mayâ€‰â€“â€‰4 June, 2010.. Canadian Journal of Physics, 2011, 89, 47-57.	1.1	69
52	The Lamb shift in muonic hydrogenThis paper was presented at the International Conference on Precision Physics of Simple Atomic Systems, held at Ã‰cole de Physique, les Houches, France, 30 Mayâ€‰â€“â€‰4 June, 2010.. Canadian Journal of Physics, 2011, 89, 37-45.	1.1	5
53	Improved Measurement of the Hydrogen<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>1</mml:mn><mml:mi>S</mml:mi><mml:mo>â€“</mml:mo><mml:mn>2</mml:mn><mml:mi>S</mml:mi> Frequency. Physical Review Letters, 2011, 107, 203001.	7.8	343
54	The size of the proton and the deuteron. Journal of Physics: Conference Series, 2011, 264, 012008.	0.4	14

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55	The Lamb shift in muonic hydrogen and the proton radius. Physics Procedia, 2011, 17, 10-19.	1.2	4
56	Is the proton radius a player in the redefinition of the International System of Units?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 4064-4077.	3.4	4
57	Precision spectroscopy on atomic hydrogen. Proceedings of SPIE, 2011, , .	0.8	0
58	Systematic Frequency Shifts in Spectroscopy of 1s-2s Transition in Atomic Hydrogen. , 2011, , .		1
59	Disk laser delivering 50 mJ with 400 ns latency. , 2011, , .		0
60	The size of the proton from the Lamb shift in muonic hydrogen. , 2011, , .		0
61	Muonic hydrogen spectroscopy: the proton radius puzzle. Proceedings of SPIE, 2010, , .	0.8	0
62	The size of the proton. Nature, 2010, 466, 213-216.	27.8	1,113
63	Precision Measurement of the Hydrogen-Deuterium<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>1</mml:mn><mml:mi>S</mml:mi><mml:mo>âˆ’</mml:mo><mml:mn>2</mml:mn><mml:mi>S</mml:mi> Shift. Physical Review Letters, 2010, 104, 233001.	7.8	109
64	2S state and Lamb shift in muonic hydrogen. Hyperfine Interactions, 2009, 193, 115-120.	0.5	12
65	Thin-Disk Yb:YAG Oscillator-Amplifier Laser, ASE, and Effective Yb:YAG Lifetime. IEEE Journal of Quantum Electronics, 2009, 45, 993-1005.	1.9	92
66	2S state and Lamb shift in muonic hydrogen. , 2009, , 115-120.		0
67	Characterization of large area avalanche photodiodes in X-ray and VUV-light detection. Journal of Instrumentation, 2007, 2, P08005-P08005.	1.2	26
68	Status of the muonic hydrogen Lamb-shift experiment. Canadian Journal of Physics, 2007, 85, 469-478.	1.1	27
69	Observation of Long-Lived Muonic Hydrogen in the2SState. Physical Review Letters, 2006, 97, 193402.	7.8	55
70	Planar LAAPDs: temperature dependence, performance, and application in low-energy X-ray spectroscopy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 540, 169-179.	1.6	36
71	Powerful fast triggerable 6 Î¼m laser for the muonic hydrogen 2S-Lamb shift experiment. Optics Communications, 2005, 253, 362-374.	2.1	37
72	The muonic hydrogen Lamb-shift experiment. Canadian Journal of Physics, 2005, 83, 339-349.	1.1	31

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73	Populations and lifetimes in thev=nâˆ'â„"âˆ'1=2and 3 metastable cascades ofpÂ¯He+measured by pulsed and continuous antiproton beams. Physical Review A, 2004, 70, .	2.5	35
74	LAAPD low temperature performance in X-ray and visible-light detection. IEEE Transactions on Nuclear Science, 2004, 51, 1575-1580.	2.0	13
75	Application of large-area avalanche photodiodes to X-ray spectrometry of muonic atoms. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 2255-2260.	2.9	6
76	Large area APDs for low energy X-ray detection in intense magnetic fields. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 505, 136-139.	1.6	12
77	Behaviour of large-area avalanche photodiodes under intense magnetic fields for VUV- visible- and X-ray photon detection. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 498, 362-368.	1.6	27
78	Collisional quenching of metastable states of antiprotonic helium by hydrogen and deuterium molecules. European Physical Journal D, 2001, 13, 305-316.	1.3	5
79	Observation of the Molecular Quenching of Î¼p(2S) Atoms. Hyperfine Interactions, 2001, 138, 35-40.	0.5	35
80	The Muonic Hydrogen Lamb Shift Experiment at PSI. Hyperfine Interactions, 2001, 138, 55-60.	0.5	40
81	Laser spectroscopy of antiprotonic helium and stringent constraint on the antiproton charge and mass. Nuclear Physics A, 2000, 663-664, 955c-958c.	1.5	1
82	Experiment to measure the Lamb shift in muonic hydrogen. , 2000, 127, 161-166.		16
83	Laser measurements of the density shifts of resonance lines in antiprotonic helium atoms and stringent constraint on the antiproton charge and mass. Physical Review A, 1999, 59, 223-229.	2.5	74
84	Long-lived population of the metastable 2s state in muonic hydrogen. , 1999, 119, 77-81.		2
85	Kinetic energies of exotic H atoms at formation and cascade. , 1999, 119, 3-10.		20
86	Laser spectroscopy of the Lamb shift in muonic hydrogen. , 1999, 119, 311-315.		35
87	Quenching of metastable states of antiprotonic helium atoms by collisions with H2 molecules. Journal of Chemical Physics, 1998, 109, 424-431.	3.0	17
88	Laser spectroscopic studies of state-dependent collisional quenching of the lifetimes of metastable antiprotonic helium atoms. Physical Review A, 1998, 57, 1698-1712.	2.5	42
89	Laser spectroscopy of metastable states in theÏ…=2cascade of antiprotonic3He. Physical Review A, 1998, 58, 3604-3610.	2.5	6
90	Influence of oxygen admixtures on the lifetime of metastable antiprotonic helium atoms. Physical Review A, 1998, 58, 4406-4415.	2.5	6

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91	Observation of double-resonant laser-induced transitions in the v=n-l-1=2 metastable cascade of antiprotonicHe4atoms. Physical Review A, 1997, 55, R1-R4.	2.5	34
92	High-precision structural studies of the antiprotonic helium atom p-|Am4He+by observing laser resonances with Î”v=Î”(n-l-1)=2. Physical Review A, 1997, 55, R3295-R3298.	2.5	34
93	Hydrogen-Assisted Laser-Induced Resonant Transitions between Metastable States of Antiprotonic Helium Atoms. Physical Review Letters, 1997, 78, 1671-1674.	7.8	35
94	Hyperfine structure of the metastable pÌ„He+ atomcule revealed by a laser-induced (n, l) = (37, 35) â†’ (38, 34) transition. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1997, 404, 15-19.	4.1	45
95	Laser resonance studies of the interactions of metastable antiprotonic helium atomcules p4He+ with surrounding H2 molecules. Chemical Physics Letters, 1997, 265, 137-144.	2.6	23
96	Laser-induced resonant transitions in thev=nâˆ'lâˆ'1=2Âand Â3metastable cascades of antiprotonicHe3atoms. Physical Review A, 1996, 53, R1931-R1934.	2.5	34