Achim Peters

List of Publications by Year
in descending order

112 papers	4,095 citations	126907 33 h-index	118850 62 g-index
113 all docs	113 docs citations	113 times ranked	2590 citing authors

#	Article	IF	Citations
1	The Bose-Einstein Condensate and Cold Atom Laboratory. EPJ Quantum Technology, 2021, 8, .	6.3	85
2	Ultracold atom interferometry in space. Nature Communications, 2021, 12, 1317.	12.8	47
3	Optical clock technologies for global navigation satellite systems. GPS Solutions, 2021, 25, 1.	4.3	31
4	Collective-Mode Enhanced Matter-Wave Optics. Physical Review Letters, 2021, 127, 100401.	7.8	52
5	AEDGE: Atomic Experiment for Dark Matter and Gravity Exploration in Space. EPJ Quantum Technology, 2020, 7, .	6.3	190
6	Absolute laser frequency stabilization for LISA. International Journal of Modern Physics D, 2019, 28, 1845002.	2.1	5
7	Towards a Strontium Beam Optical Reference Based on the ¹S₀ to ³P₁ Intercombination Line on a Sounding Rocket. , 2019, , .		1
8	A Micro-Integrated Mode-Locked Extended-Cavity Diode Laser Emitting in the Wavelength Range Around 780 nm. , 2019, , .		0
9	Iodine Frequency Reference on a Sounding Rocket. Physical Review Applied, 2019, 11, .	3.8	42
10	Integrated atomic quantum technologies in demanding environments: development and qualification of miniaturized optical setups and integration technologies for UHV and space operation. CEAS Space Journal, 2019, 11, 561-566.	2.3	2
11	ZERODURÂ® based optical systems for quantum gas experiments in space. Acta Astronautica, 2019, 159, 166-169.	3.2	6
12	Improving the spectral performance of extended cavity diode lasers using angled-facet laser diode chips. Applied Physics B: Lasers and Optics, 2019, 125, 1.	2.2	4
13	SAGE: A proposal for a space atomic gravity explorer. European Physical Journal D, 2019, 73, 1.	1.3	75
14	A new laser technology for LISA. , 2019, , .		6
15	Compact and robust diode laser system technology for dual-species ultracold atom experiments with rubidium and potassium in microgravity. Applied Optics, 2019, 58, 5456.	1.8	6
16	Highly stable fiber lasers for satellite-based gravitational measurement. , 2019, , .		2
17	An absolute optical frequency reference for space. , 2019, , .		1
18	Frequency stabilized ND:YAG laser for space applications. , 2019, , .		0

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19	Observation of vector and tensor light shifts in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mmultiscripts><mml:mi>Rb</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>87</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math> using near-resonant, stimulated Raman spectroscopy. Physical Review A, 2018, 97, .	2.5	13
20	Space-borne Boseâ€“Einstein condensation for precision interferometry. Nature, 2018, 562, 391-395.	27.8	224
21	BOOST: A satellite mission to test Lorentz invariance using high-performance optical frequency references. Physical Review D, 2018, 97, .	4.7	17
22	Development and Qualification of UHV-Compatible, Micro-Integrated Optical Setups for Cold Atom Applications. , 2018, , .		0
23	Miniaturized Lab System for Future Cold Atom Experiments in Microgravity. Microgravity Science and Technology, 2017, 29, 37-48.	1.4	27
24	Mapping the absolute magnetic field and evaluating the quadratic Zeeman-effect-induced systematic error in an atom interferometer gravimeter. Physical Review A, 2017, 96, .	2.5	24
25	JOKARUS - design of a compact optical iodine frequency reference for a sounding rocket mission. EPJ Quantum Technology, 2017, 4, .	6.3	40
26	Design of a compact diode laser system for dual-species atom interferometry with rubidium and potassium in space. , 2017, , .		2
27	Autonomous frequency stabilization of two extended-cavity diode lasers at the potassium wavelength on a sounding rocket. Applied Optics, 2017, 56, 1388.	2.1	42
28	Method for in-depth characterization of electro-optic phase modulators. Applied Optics, 2017, 56, 1246.	2.1	7
29	Development of a compact optical absolute frequency reference for space with 10^â^'15 instability. Applied Optics, 2017, 56, 1101.	2.1	51
30	Comparison of symmetric and asymmetric double quantum well extended-cavity diode lasers for broadband passive mode-locking at 780â€‰â€‰nm. Applied Optics, 2017, 56, 5566.	1.8	4
31	Optical Frequency References for Space. , 2017, , .		0
32	Narrow linewidth micro-integrated high power diode laser module for deployment in space. , 2017, , .		4
33	Micro-integrated extended cavity diode laser with integrated optical amplifier for precision spectroscopy in space. , 2017, , .		1
34	Micro-integrated extended cavity diode laser with integrated optical amplifier for applications in space. , 2017, , .		0
35	Iodine frequency references for space. Journal of Physics: Conference Series, 2017, 840, 012050.	0.4	0
36	A high sensitivity heterodyne interferometer as a possible optical readout for the LISA gravitational reference sensor and its application to technology verification. , 2017, , .		2

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37	A high-performance iodine-based frequency reference for space applications. , 2017, , .		1
38	A heterodyne interferometer for high resolution translation and tilt measurement as optical readout for the LISA inertial sensor. , 2017, , .		1
39	Space-borne frequency comb metrology. Optica, 2016, 3, 1381.	9.3	180
40	High-Performance Optical Frequency References for Space. Journal of Physics: Conference Series, 2016, 723, 012047.	0.4	8
41	Macroscopic Quantum Resonators (MAQRO): 2015 update. EPJ Quantum Technology, 2016, 3, .	6.3	77
42	Compact narrow linewidth diode laser modules for precision quantum optics experiments on board of sounding rockets. Proceedings of SPIE, 2016, , .	0.8	4
43	KALEXUS - a Potassium Laser System with Autonomous Frequency Stabilization on a Sounding Rocket. , 2016, , .		1
44	Compact mode-locked diode laser system for precision frequency comparisons in microgravity experiments. , 2016, , .		0
45	Ultra-Narrow Linewidth, Micro-Integrated Semiconductor External Cavity Diode Laser Module for Quantum Optical Sensors in Space. , 2015, , .		1
46	mSTAR: Testing special relativity in space using high performance optical frequency references. , 2015, , .		2
47	Adhesive Bonding for Optical Metrology Systems in Space Applications. Journal of Physics: Conference Series, 2015, 610, 012039.	0.4	5
48	Ultra-narrow linewidth DFB-laser with optical feedback from a monolithic confocal Fabry-Perot cavity. Optics Express, 2015, 23, 9705.	3.4	49
49	High-power, micro-integrated diode laser modules at 767 and 780â€‰â€‰nm for portable quantum gas experiments. Applied Optics, 2015, 54, 5332.	2.1	31
50	Design of a dual species atom interferometer for space. Experimental Astronomy, 2015, 39, 167-206.	3.7	48
51	A high-flux BEC source for mobile atom interferometers. New Journal of Physics, 2015, 17, 065001.	2.9	65
52	Direct terrestrial test of Lorentz symmetry in electrodynamics to 10â˜’18. Nature Communications, 2015, 6, 8174.	12.8	67
53	An iodine-based ultra-stable optical frequency reference and its application in fundamental physics space missions. , 2014, , .		1
54	Micro-integrated extended cavity diode lasers for precision potassium spectroscopy in space. Optics Express, 2014, 22, 7790.	3.4	54

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55	Accurate frequency noise measurement of free-running lasers. Applied Optics, 2014, 53, 7138.	1.8	47
56	Testing speed of light isotropy using rotating cryogenic sapphire microwave oscillators. , 2014, , .		0
57	Highly stable piezoelectrically tunable optical cavities. Applied Physics B: Lasers and Optics, 2013, 111, 223-231.	2.2	9
58	A space-based optical Kennedy-Thorndike experiment testing special relativity. , 2013, , .		3
59	Iodine based optical frequency reference with 10^{−15} stability. , 2012, , .		5
60	An ultra-stable optical frequency reference for space applications. , 2012, , .		5
61	Astrodynamical Space Test of Relativity using Optical Devices I (ASTROD I)â€"a class-M fundamental physics mission proposal for cosmic vision 2015â€"2025: 2010 Update. Experimental Astronomy, 2012, 34, 181-201.	3.7	37
62	Rotating dual cryogenic sapphire oscillators with 10^{â^'16} fractional frequency stability for tests of Lorentz invariance. , 2011, , .		0
63	Micro-integrated 1 Watt semiconductor laser system with a linewidth of 36 kHz. Optics Express, 2011, 19, 7077.	3.4	18
64	Equivalence Principle and Gravitational Redshift. Physical Review Letters, 2011, 106, 151102.	7.8	108
65	Degenerate Quantum Gases in Microgravity. Microgravity Science and Technology, 2011, 23, 287-292.	1.4	22
66	Rotating microwave cryogenic sapphire oscillators for tests of Lorentz Invariance. , 2011, , .		0
67	PrÃzisionsmessung der Gravitations-Rotverschiebung. Physik in Unserer Zeit, 2010, 41, 164-165.	0.0	0
68	A precision measurement of the gravitational redshift by the interference of matter waves. Nature, 2010, 463, 926-929.	27.8	257
69	MÃ¼ller, Peters & Chu reply. Nature, 2010, 467, E2-E2.	27.8	38
70	High-Resolution Dimensional Metrology for Industrial Applications. Key Engineering Materials, 2010, 437, 113-117.	0.4	5
71	The Space-Time Asymmetry Research (STAR) program. , 2010, , .		2
72	An alignment-free fiber-coupled microsphere resonator for gas sensing applications. Applied Physics Letters, 2010, 96, .	3.3	34

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73	Megahertz monocrystalline optomechanical resonators with minimal dissipation. , 2010, , .		9
74	High performance iodine frequency reference for tests of the LISA laser system. , 2010, , .		7
75	Referencing femtosecond laser frequency combs to a He-Ne/CH<inf>4</inf> optical frequency standard. , 2009, , .		1
76	Development of an ultrasensitive interferometry system as a key to precision metrology applications. Proceedings of SPIE, 2009, , .	0.8	0
77	Picometer and nanoradian optical heterodyne interferometry for translation and tilt metrology of the LISA gravitational reference sensor. Classical and Quantum Gravity, 2009, 26, 085008.	4.0	59
78	â€œGalileo Galileiâ€•(GG) a small satellite to test the equivalence principle of Galileo, Newton and Einstein. Experimental Astronomy, 2009, 23, 689-710.	3.7	22
79	Astrodynamical Space Test of Relativity Using Optical Devices I (ASTROD I)â€”A class-M fundamental physics mission proposal for Cosmic Vision 2015â€“2025. Experimental Astronomy, 2009, 23, 491-527.	3.7	30
80	Thermoacoustic optical path length stabilization in a single-mode optical fiber. Applied Optics, 2009, 48, 704.	2.1	3
81	Frequency characteristics of an inherently stable Nd:YAG laser operated at liquid helium temperature. Applied Optics, 2009, 48, 3938.	2.1	1
82	A high precision heterodyne interferometer for relative and absolute displacement measurement. , 2009, , .		3
83	A high sensitivity heterodyne interferometer as a possible optical readout for the LISA gravitational reference sensor and its application to technology verification. Journal of Physics: Conference Series, 2009, 154, 012030.	0.4	5
84	A heterodyne interferometer for high-performance industrial metrology. Proceedings of SPIE, 2008, , .	0.8	1
85	Cryogenic buffer-gas loading and magnetic trapping of CrH and MnH molecules. Physical Review A, 2008, 78, .	2.5	33
86	A compact high-sensitivity heterodyne interferometer for industrial metrology. , 2008, , .		2
87	Picometer resolution interferometric characterization of the dimensional stability of zero CTE CFRP. Proceedings of SPIE, 2008, , .	0.8	8
88	Compact Laser Interferometer for Translation and Tilt Metrology. International Journal of Optomechatronics, 2007, 1, 168-179.	6.6	14
89	Adopting our heterodyne interferometer with sub-nm sensitivity for industrial position metrology. , 2007, , .		1
90	Tests of Relativity by Complementary Rotating Michelson-Morley Experiments. Physical Review Letters, 2007, 99, 050401.	7.8	119

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91	The Zeeman tuning of the Aâ€‰6Î£+â€“Xâ€‰6Î£+transition of chromium monohydride. Physical Chemistry Chemical Physics, 2007, 9, 949-957.	2.8	7
92	Realization of a magneto-optical trap in microgravity. Journal of Modern Optics, 2007, 54, 2513-2522.	1.3	2
93	Compact laser interferometer for translation and tilt measurement as optical readout for the LISA inertial sensor. Proceedings of SPIE, 2007, , .	0.8	5
94	A high sensitivity heterodyne interferometer as optical readout for the LISA inertial sensor. , 2006, , .		4
95	ASTROD and ASTROD I: Progress Report. Journal of Physics: Conference Series, 2006, 32, 154-160.	0.4	9
96	ASTROD I: Mission concept and Venus flybys. Acta Astronautica, 2006, 59, 598-607.	3.2	21
97	Magnetic trapping of buffer-gas-cooled chromium atoms and prospects for the extension to paramagnetic molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S1111-S1123.	1.5	16
98	A High Sensitivity Heterodyne Interferometer as Optical Readout for the LISA Inertial Sensor. AIP Conference Proceedings, 2006, , .	0.4	3
99	The OPTIS satellite â€“ improved tests of Special and General Relativity. Aerospace Science and Technology, 2005, 9, 357-365.	4.8	4
100	Test of the Isotropy of the Speed of Light Using a Continuously Rotating Optical Resonator. Physical Review Letters, 2005, 95, 150401.	7.8	96
101	Tests of Lorentz invariance using hydrogen molecules. Physical Review D, 2004, 70, .	4.7	37
102	Offset compensation by use of amplitude-modulated sidebands in optical frequency standards. Optics Letters, 2003, 28, 2186.	3.3	31
103	Modern Michelson-Morley Experiment using Cryogenic Optical Resonators. Physical Review Letters, 2003, 91, 020401.	7.8	237
104	Optical cavity tests of Lorentz invariance for the electron. Physical Review D, 2003, 68, .	4.7	89
105	Mini-ASTROD: Mission Concept. International Journal of Modern Physics D, 2002, 11, 1035-1048.	2.1	16
106	KINEMATICAL TEST THEORIES FOR SPECIAL RELATIVITY: A COMPARISON. International Journal of Modern Physics D, 2002, 11, 1109-1136.	2.1	19
107	Single-frequency continuous-wave optical parametric oscillator system with an ultrawide tuning range of 550 to 2830 nm. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 1419.	2.1	69
108	All-solid-state tunable continuous-wave ultraviolet source with high spectral purity and frequency stability. Applied Optics, 2002, 41, 7000.	2.1	24

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109	OPTIS: a satellite-based test of special and general relativity. Classical and Quantum Gravity, 2001, 18, 2499-2508.	4.0	58
110	Active low frequency vertical vibration isolation. Review of Scientific Instruments, 1999, 70, 2735-2741.	1.3	95
111	Measurement of gravitational acceleration by dropping atoms. Nature, 1999, 400, 849-852.	27.8	725
112	AEDGE: Atomic experiment for dark matter and gravity exploration in space. Experimental Astronomy, 0, , 1.	3.7	9