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List of Publications by Year
in descending order

98 papers	3,958 citations	94433 37 h-index	118850 62 g-index
99 all docs	99 docs citations	99 times ranked	2229 citing authors

#	Article	IF	Citations
1	Geodesy and metrology with a transportable optical clock. Nature Physics, 2018, 14, 437-441.	16.7	316
2	A clock network for geodesy and fundamental science. Nature Communications, 2016, 7, 12443.	12.8	297
3	8â€‰â€‰Ã—â€‰â€‰10^âˆ’17 fractional laser frequency instability with a long room-temperature cavity. Optics Letters, 2015, 40, 2112.	3.3	187
4	Transportable Optical Lattice Clock with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>7</mml:mn><mml:mo>Ã—</mml:mo><mml:msup><mml:mn>10</mml:mn><mml:mrow><mml:mo>âˆ’</mn Physical Review Letters, 2017, 118, 073601.	7.8	168
5	Test of Special Relativity Using a Fiber Network of Optical Clocks. Physical Review Letters, 2017, 118, 221102.	7.8	155
6	A strontium lattice clock with 3 Ã— 10^{âˆ’17}inaccuracy and its frequency. New Journal of Physics, 2014, 16, 073023.	2.9	153
7	Atomic clocks for geodesy. Reports on Progress in Physics, 2018, 81, 064401.	20.1	145
8	Hyper-Ramsey spectroscopy of optical clock transitions. Physical Review A, 2010, 82, .	2.5	111
9	High Accuracy Correction of Blackbody Radiation Shift in an Optical Lattice Clock. Physical Review Letters, 2012, 109, 263004.	7.8	110
10	Realization of a timescale with an accurate optical lattice clock. Optica, 2016, 3, 563.	9.3	110
11	The⁸⁷Sr optical frequency standard at PTB. Metrologia, 2011, 48, 399-407.	1.2	102
12	Calcium optical frequency standard with ultracold atoms: Approaching10âˆ’15relative uncertainty. Physical Review A, 2005, 72, .	2.5	98
13	Improvement of an Atomic Clock using Squeezed Vacuum. Physical Review Letters, 2016, 117, 143004.	7.8	94
14	Transition frequencies of theDlines ofK39,K40, andK41measured with a femtosecond laser frequency comb. Physical Review A, 2006, 74, .	2.5	90
15	Towards an optical clock for space: Compact, high-performance optical lattice clock based on bosonic atoms. Physical Review A, 2018, 98, .	2.5	81
16	A transportable strontium optical lattice clock. Applied Physics B: Lasers and Optics, 2014, 117, 1107-1116.	2.2	75
17	Development of a strontium optical lattice clock for the SOC mission on the ISS. Comptes Rendus Physique, 2015, 16, .	0.9	74
18	Search for transient variations of the fine structure constant and dark matter using fiber-linked optical atomic clocks. New Journal of Physics, 2020, 22, 093010.	2.9	67

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19	The optical calcium frequency standards of PTB and NIST. Comptes Rendus Physique, 2004, 5, 845-855.	0.9	65
20	Potassium ground-state scattering parameters and Born-Oppenheimer potentials from molecular spectroscopy. Physical Review A, 2008, 78, .	2.5	65
21	Collisional Losses, Decoherence, and Frequency Shifts in Optical Lattice Clocks with Bosons. Physical Review Letters, 2009, 103, 090801.	7.8	65
22	Noise and instability of an optical lattice clock. Physical Review A, 2015, 92, .	2.5	62
23	Ultrastable laser with average fractional frequency drift rate below 5 Ã— 10^â ’19/s. Optics Letters, 2014, 39, 5102.	3.3	56
24	Demonstration of a transportable 1 Hz-linewidth laser. Applied Physics B: Lasers and Optics, 2011, 104, 741-745.	2.2	53
25	Tackling the Blackbody Shift in a Strontium Optical Lattice Clock. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 2550-2557.	4.7	52
26	Ultra-stable clock laser system development towards space applications. Scientific Reports, 2016, 6, 33973.	3.3	49
27	Providing 10^{-16} Short-Term Stability of a 1.5-$muhbox{m}$ Laser to Optical Clocks. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1556-1562.	4.7	47
28	Photoassociation spectroscopy of cold calcium atoms. Physical Review A, 2003, 67, .	2.5	45
29	Accurate asymptotic ground state potential curves of Cs $mathsf{_2}$ from two-colour photoassociation. European Physical Journal D, 2004, 28, 351-360.	1.3	44
30	Spectroscopic observations, spin-orbit functions, and coupled-channel deperturbation analysis of data on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>A</mml:mi><mml:mtext>â€‰</mml:mtext><mml:msubsup><mml:mrow><mml:mmultiscripts /><mml:none /><mml:mn>1</mml:mn></mml:mmultiscripts></mml:mrow><mml:mi>u</mml:mi><mml:mo>+</mml:mo></mml:msubsup></mml:mro xmlns:mml="http://www.w3.org/1998/Math/MathML" displa. Physical Review A, 2009, 80, .	2.5	44
31	On the relation between uncertainties of weighted frequency averages and the various types of Allan deviations. Metrologia, 2015, 52, 565-574.	1.2	44
32	Wavelength-dependent ac Stark shift of theS01â€P13transition at657nmin Ca. Physical Review A, 2004, 70, .	2.5	43
33	Delivering pulsed and phase stable light to atoms of an optical clock. Applied Physics B: Lasers and Optics, 2012, 107, 301-311.	2.2	43
34	A compact and efficient strontium oven for laser-cooling experiments. Review of Scientific Instruments, 2012, 83, 103101.	1.3	40
35	Inversion analysis of K2 coupled electronic states with the Fourier grid method. European Physical Journal D, 2001, 17, 319-328.	1.3	39
36	Direct comparison of optical lattice clocks with an intercontinental baseline of 9000â€‰â€‰km. Optics Letters, 2014, 39, 4072.	3.3	39

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37	Long term measurement of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Sr</mml:mi><mml:mprescripts /><mml:none /><mml:mn>87</mml:mn></mml:mmultiscripts></mml:math> clock frequency at the limit of primary Cs clocks. Physical Review Research, 2020, 2, .	3.6	38
38	Cold atoms and molecules from fragmentation of deceleratedSO2. Physical Review A, 2006, 74, .	2.5	37
39	Absolute frequency measurement of the magnesium intercombination transitionS01â†’P13. Physical Review A, 2008, 78, .	2.5	31
40	Prospects and challenges for squeezing-enhanced optical atomic clocks. Nature Communications, 2020, 11, 5955.	12.8	30
41	Lattice-induced photon scattering in an optical lattice clock. Physical Review A, 2018, 97, .	2.5	29
42	The AÎ£u+1 state of K2 up to the dissociation limit. Journal of Chemical Physics, 2006, 125, 224303.	3.0	28
43	Optical frequency ratio of a ¹⁷¹Yb⁺ single-ion clock and a ⁸⁷Sr lattice clock. Metrologia, 2021, 58, 015005.	1.2	27
44	Comparing ultrastable lasers at 7â€‰Ã—â€‰10âˆ’17 fractional frequency instability through a 2220â€‰km optical fibre network. Nature Communications, 2022, 13, 212.	12.8	27
45	A second generation of low thermal noise cryogenic silicon resonators. Journal of Physics: Conference Series, 2016, 723, 012031.	0.4	24
46	Line shape analysis of two-colour photoassociation spectra on the example of the Cs ground state. European Physical Journal D, 2002, 21, 299-309.	1.3	23
47	Influence of Chirped Excitation Pulses in an Optical Clock With Ultracold Calcium Atoms. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 771-775.	4.7	23
48	Low-frequency-noise diode laser for atom interferometry. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 1632.	2.1	23
49	Compensation of field-induced frequency shifts in Ramsey spectroscopy of optical clock transitions. JETP Letters, 2010, 90, 713-717.	1.4	21
50	Determination of the calcium ground state scattering length by photoassociation spectroscopy at large detunings. European Physical Journal D, 2007, 44, 73-79.	1.3	20
51	Direct comparisons of European primary and secondary frequency standards via satellite techniques. Metrologia, 2020, 57, 045005.	1.2	20
52	Realization of a Ramsey-BordÃ© matter wave interferometer on the molecule. European Physical Journal D, 2000, 12, 235-240.	1.3	18
53	Long-range transport of ultracold atoms in a far-detuned one-dimensional optical lattice. New Journal of Physics, 2012, 14, 073020.	2.9	18
54	Cold SO2 molecules by Stark deceleration. European Physical Journal D, 2008, 46, 463-469.	1.3	17

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55	Transportable interrogation laser system with an instability of mod Ïƒ_yâ€‰=â€‰3â€‰Ã—â€‰10^{âˆ’16}. Optics Express, 2020, 28, 16407.	3.4	17
56	Interrogation Laser for a Strontium Lattice Clock. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 1252-1257.	4.7	16
57	Dynamical decoupling of laser phase noise in compound atomic clocks. Communications Physics, 2020, 3, .	5.3	11
58	First Observation of Hyperfine Structure in K2. Journal of Molecular Spectroscopy, 2000, 199, 81-86.	1.2	10
59	Feasibility of narrow-line cooling in optical dipole traps. European Physical Journal D, 2007, 42, 317-324.	1.3	10
60	International timescales with optical clocks (ITOC). , 2013, , .		10
61	Development of a strontium optical lattice clock for the SOC mission on the ISS. Proceedings of SPIE, 2016, , .	0.8	10
62	The Stark effect of the excited1B2state of SO2and manipulation of dissociation channels. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S1085-S1095.	1.5	9
63	A sharper laser. Nature Physics, 2009, 5, 382-383.	16.7	9
64	A transportable optical lattice clock. Journal of Physics: Conference Series, 2016, 723, 012020.	0.4	8
65	Phase noise of frequency doublers in optical clock lasers. Optics Express, 2019, 27, 23262.	3.4	8
66	Born-Oppenheimer approximation for mass scaling of cold-collision properties. Physical Review A, 2007, 76, .	2.5	7
67	A compact and robust cooling laser system for an optical strontium lattice clock. Review of Scientific Instruments, 2019, 90, 023109.	1.3	7
68	Blackbody radiation shift in strontium lattice clocks revisited. Physical Review Research, 2021, 3, .	3.6	6
69	Two-Color Grating Magneto-Optical Trap for Narrow-Line Laser Cooling. Physical Review Applied, 2022, 17, .	3.8	6
70	An Optical Frequency Standardwith Cold and Ultra-cold Calcium Atoms. Lecture Notes in Physics, 2004, , 229-244.	0.7	5
71	Frequency measurements in the b 3Î(0u +)Â-ÂXÂ1Î£g + system of K2. European Physical Journal D, 2007, 41, 485-492.	1.3	5
72	The space optical clocks project. , 2017, , .		5

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73	An optical lattice clock breadboard demonstrator for the I-SOC mission on the ISS. , 2017, , .		4
74	Ramsey-BordÃ© interferometer and embedded Ramsey interferometer with molecular matter waves of 39K2. European Physical Journal D, 2010, 58, 369-377.	1.3	2
75	Tackling the black body shift in a strontium optical lattice clock. , 2010, , .		2
76	Development of a transportable laser cooled strontium source for future applications in space. , 2010, , .		2
77	Direct frequency comparison of intercontinentally separated Sr lattice clocks using carrier-phase two-way satellite frequency transfer. , 2014, , .		2
78	Optical pumping and modulation techniques with a molecular Ramseyâ€"BordÃ© interferometer. Applied Physics B: Lasers and Optics, 2001, 73, 99-104.	2.2	1
79	An improved optical clock with ultracold calcium atoms. , 2005, , .		1
80	Influence of high-frequency laser frequency noise on the stability of an optical clock. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	1
81	ULTRACOLD CALCIUM ATOMS FOR OPTICAL CLOCKS AND COLLISIONAL STUDIES. , 2004, , .		1
82	Ultracold calcium atoms for an optical frequency standard and cold collision studies. , 2003, , .		0
83	Diode laser frequency stabilization for a Ca optical clock. , 2003, , .		0
84	Improved Optical Frequency Standard with Ultracold Calcium Atoms. , 2004, , .		0
85	Formation and Trapping of Cold Molecules. , 2005, , 320-336.		0
86	Optical Frequency Standard Based on Ballistic Ca Atoms. , 2006, , .		0
87	THE OPTICAL CALCIUM FREQUENCY STANDARD OF PTB. , 2006, , .		0
88	The transition frequencies of the D lines of ³⁹K, ⁴⁰K, and ⁴¹K measured with a femtosecond laser frequency comb. , 2006, , .		0
89	Clock laser system for strontium lattice clock. , 2008, , .		0
90	Determining the clock frequency shift due to collisions in a 1-D optical lattice clock with ⁸⁸Sr. , 2009, , .		0

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91	DECOHERENCE AND LOSSES BY COLLISIONS IN A ⁸⁸Sr LATTICE CLOCK. , 2009, , .		0
92	Comparing PTB's optical ¹⁷¹Yb⁺ ion and ⁸⁷Sr lattice clock. , 2013, , .		0
93	0.75 atoms improve the clock signal of 10,000 atoms. , 2017, , .		0
94	An optical frequency standard with ultracold calcium atoms. , 2004, , .		0
95	Extreme control of molecular states: On the way to Super Chemistry. , 2007, , .		0
96	CLOCK LASER SYSTEM FOR A STRONTIUM LATTICE CLOCK. , 2009, , .		0
97	Optical Atomic Clocks: From International Timekeeping to Gravity Potential Measurement. , 2019, , .		0
98	Quantum engineering for optical clocks. Nature, 2020, 588, 397-398.	27.8	0