Sebastien Bize

List of Publications by Year
in descending order

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134 papers	6,112 citations	50276 46 h-index	71685 76 g-index
146 all docs	146 docs citations	146 times ranked	2504 citing authors

#	Article	IF	Citations
1	New Limits on the Drift of Fundamental Constants from Laboratory Measurements. Physical Review Letters, 2004, 92, 230802.	7.8	376
2	Search for Variations of Fundamental Constants using Atomic Fountain Clocks. Physical Review Letters, 2003, 90, 150801.	7.8	271
3	Progress in atomic fountains at LNE-SYRTE. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 391-409.	3.0	240
4	Testing the Stability of Fundamental Constants with theHg+199Single-Ion Optical Clock. Physical Review Letters, 2003, 90, 150802.	7.8	228
5	Cold atom clocks and applications. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, S449-S468.	1.5	196
6	Comparison between frequency standards in Europe and the USA at the 10â˜'15uncertainty level. Metrologia, 2006, 43, 109-120.	1.2	194
7	Experimental realization of an optical second with strontium lattice clocks. Nature Communications, 2013, 4, 2109.	12.8	192
8	Ultrastable lasers based on vibration insensitive cavities. Physical Review A, 2009, 79, .	2.5	187
9	Interference-filter-stabilized external-cavity diode lasers. Optics Communications, 2006, 266, 609-613.	2.1	181
10	Delivery of high-stability optical and microwave frequency standards over an optical fiber network. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1459.	2.1	167
11	Cold Atom Clock Test of Lorentz Invariance in the Matter Sector. Physical Review Letters, 2006, 96, 060801.	7.8	161
12	Ultralow noise microwave generation with fiber-based optical frequency comb and application to atomic fountain clock. Applied Physics Letters, 2009, 94, .	3.3	151
13	Searching for an Oscillating Massive Scalar Field as a Dark Matter Candidate Using Atomic Hyperfine Frequency Comparisons. Physical Review Letters, 2016, 117, 061301.	7.8	151
14	High-accuracy measurement of the 87 Rb ground-state hyperfine splitting in an atomic fountain. Europhysics Letters, 1999, 45, 558-564.	2.0	142
15	High resolution frequency standard dissemination via optical fiber metropolitan network. Review of Scientific Instruments, 2006, 77, 064701.	1.3	140
16	Tests of Lorentz Invariance using a Microwave Resonator. Physical Review Letters, 2003, 90, 060402.	7.8	135
17	Long-Distance Frequency Dissemination with a Resolution of10â˜'17. Physical Review Letters, 2005, 94, 203904.	7.8	127
18	Cold Collision Frequency Shifts in a87RbAtomic Fountain. Physical Review Letters, 2000, 85, 3117-3120.	7.8	119

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19	Tests of Local Position Invariance Using<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Rb</mml:mi><mml:mprescripts /><mml:none /><mml:mn>87</mml:mn></mml:mmultiscripts></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Cs</mml:mi><mml:mprescripts /><mml:none /><mml:mn	7.8	107
20	Controlling the Cold Collision Shift in High Precision Atomic Interferometry. Physical Review Letters, 2002, 89, 233004.	7.8	99
21	Design of the cold atom PHARAO space clock and initial test results. Applied Physics B: Lasers and Optics, 2006, 84, 683-690.	2.2	95
22	An optical lattice clock with spin-polarized 87Sr atoms. European Physical Journal D, 2008, 48, 11-17.	1.3	92
23	Improved test of Lorentz invariance in electrodynamics. Physical Review D, 2004, 70, .	4.7	89
24	Prototype of an ultra-stable optical cavity for space applications. Optics Express, 2012, 20, 25409.	3.4	87
25	BNM-SYRTE Fountains: Recent Results. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 833-836.	4.7	83
26	Direct measurement of the ground-state dissociation energy ofNa2. Physical Review A, 1996, 54, R1006-R1009.	2.5	76
27	Neutral Atom Frequency Reference in the Deep Ultraviolet with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mtext mathvariant="normal">Fractional Doppler-Free Spectroscopy of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>S</mml:mi><mml:mn>0</mml:mn><mml:none /><mml:mprescripts /><mml:none /><mml:mn>1</mml:mn></mml:mmultiscripts><mml:mtext mathvariant="normal">â^’</mml:mtext><mml:mmultiscripts><mml:mi>P</mml:mi><mml:mn>0</mml:mn><mml:none /><mml:mprescripts /><mml:none /><mml:mn>3</mml:mn></mml:mmultiscripts></mml:math>Optical Clock Transition in Laser-Cooled Fermionic Isotopes of Neutral Mercury. Physical Review Letters, 2008	7.8	76
28	Accuracy evaluation of an optical lattice clock with bosonic atoms. Optics Letters, 2007, 32, 1812.	3.3	74
29	Development of a strontium optical lattice clock for the SOC mission on the ISS. Comptes Rendus Physique, 2015, 16, .	0.9	74
30	Optical to microwave clock frequency ratios with a nearly continuous strontium optical lattice clock. Metrologia, 2016, 53, 1123-1130.	1.2	74
31	Optical Lattice Trapping of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Hg</mml:mi><mml:mprescripts /><mml:none /><mml:mn>199</mml:mn></mml:mmultiscripts></mml:math>and Determination of the Magic Wavelength for the Ultraviolet<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>S</mml:mi><mml:mn>0</mml:mn><mml:none /><mml:mprescripts /><mml:none /><mml:mn>1</mml:mn></mml:mmultiscripts><mml:mo>â†”</mml:mo><m.	7.8	73
32	Whispering Gallery Resonators and Tests of Lorentz Invariance. General Relativity and Gravitation, 2004, 36, 2351-2372.	2.0	72
33	Advances in atomic fountains. Comptes Rendus Physique, 2004, 5, 829-843.	0.9	68
34	Testing local Lorentz and position invariance and variation of fundamental constants by searching the derivative of the comparison frequency between a cryogenic sapphire oscillator and hydrogen maser. Physical Review D, 2010, 81, .	4.7	67
35	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
36			

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37	First international comparison of fountain primary frequency standards via a long distance optical fiber link. Metrologia, 2017, 54, 348-354.	1.2	64
38	Design and realization of a flywheel oscillator for advanced time and frequency metrology. Review of Scientific Instruments, 2005, 76, 094704.	1.3	61
39	Contributing to TAI with a secondary representation of the SI second. Metrologia, 2014, 51, 108-120.	1.2	60
40	Design and control of femtosecond lasers for optical clocks and the synthesis of low-noise optical and microwave signals. IEEE Journal of Selected Topics in Quantum Electronics, 2003, 9, 1072-1080.	2.9	59
41	From optical lattice clocks to the measurement of forces in the Casimir regime. Physical Review A, 2007, 75, .	2.5	58
42	Cold Atom Clocks. Physica Scripta, 2001, T95, 50.	2.5	55
43	Demonstration of a dual alkali Rb/Cs fountain clock. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 647-653.	3.0	55
44	Evaluation of Doppler Shifts to Improve the Accuracy of Primary Atomic Fountain Clocks. Physical Review Letters, 2011, 106, 130801.	7.8	55
45	UTC(OP) based on LNE-SYRTE atomic fountain primary frequency standards. Metrologia, 2016, 53, S81-S88.	1.2	53
46	Comparing a mercury optical lattice clock with microwave and optical frequency standards. New Journal of Physics, 2016, 18, 113002.	2.9	53
47	Ultra-stable clock laser system development towards space applications. Scientific Reports, 2016, 6, 33973.	3.3	49
48	Switching atomic fountain clock microwave interrogation signal and high-resolution phase measurements. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 1319-1326.	3.0	39
49	An ultra-stable referenced interrogation system in the deep ultraviolet for a mercury optical lattice clock. Applied Physics B: Lasers and Optics, 2010, 99, 41-46.	2.2	38
50	Determination of a high spatial resolution geopotential model using atomic clock comparisons. Journal of Geodesy, 2017, 91, 597-611.	3.6	38
51	The unit of time: Present and future directions. Comptes Rendus Physique, 2019, 20, 153-168.	0.9	37
52	Lorentz-symmetry test at Planck-scale suppression with nucleons in a spin-polarized<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Cs</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>133</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>cold atom clock. Physical Review D, 2017, 95, .	4.7	33
53	Cavity frequency pulling in cold atom fountains. IEEE Transactions on Instrumentation and Measurement, 2001, 50, 503-506.	4.7	31
54	Atomic fountains and optical clocks at SYRTE: Status and perspectives. Comptes Rendus Physique, 2015, 16, 461-470.	0.9	31

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55	Interrogation oscillator noise rejection in the comparison of atomic fountains. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2000, 47, 1253-1255.	3.0	28
56	Sub-Doppler cooling of fermionic Hg isotopes in a magneto-optical trap. Optics Letters, 2010, 35, 3078.	3.3	27
57	Design and metrological features of microwave synthesizers for atomic fountain frequency standard. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 729-735.	3.0	26
58	Ultraviolet laser spectroscopy of neutral mercury in a one-dimensional optical lattice. Physical Review A, 2011, 84, .	2.5	24
59	Laser locking to the ^199Hg ^1S_0 â^' ^3P_0 clock transition with 54 Ã— 10^â^'15/âœ"Ï„ fractional frequency instability. Optics Letters, 2012, 37, 3477.	3.3	23
60	Testing local position and fundamental constant invariance due to periodic gravitational and boost using long-term comparison of the SYRTE atomic fountains and H-masers. Physical Review D, 2013, 87, .	4.7	22
61	Long-term operation and performance of cryogenic sapphire oscillators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 53, 2386-2393.	3.0	21
62	Transmission of an Optical Carrier Frequency over a Telecommunication Fiber Link. , 2007, , .		21
63	High-Stability Comparison of Atomic Fountains Using Two Different Cryogenic Oscillators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 1198-1203.	3.0	21
64	The space optical clocks project: Development of high-performance transportable and breadboard optical clocks and advanced subsystems. , 2012, , .		20
65	Direct comparisons of European primary and secondary frequency standards via satellite techniques. Metrologia, 2020, 57, 045005.	1.2	20
66	Cold-Atom Clocks on Earth and in Space. Topics in Applied Physics, 2001, , 131-153.	0.8	20
67	The199HgÂsingle ion optical clock: recent progress. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 545-551.	1.5	16
68	Statistical uncertainty of 2.5<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mo>Ã—</mml:mo></mml:math>10<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow /><mml:mrow><mml:mo>â^'</mml:mo><mml:mn>16</mml:mn></mml:mrow></mml:msup></mml:math>for the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow /><mml:mn>199</mml:mn></mml:msup><mml:mn>Hg</mml:mn></mml:math><mml:math xmlns:mml="http	2.5	14
69	International timescales with optical clocks (ITOC). , 2013, , .		10
70	Development of a strontium optical lattice clock for the SOC mission on the ISS. Proceedings of SPIE, 2016, , .	0.8	10
71	Optical frequency standards based on the /sup 199/Hg/sup +/ ion. IEEE Transactions on Instrumentation and Measurement, 2003, 52, 245-249.	4.7	7
72	The new UTC(OP) based on LNE-SYRTE atomic fountains. , 2013, , .		7

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73	Creation of the first Russian time and frequency standard on a fountain of ultracold rubidium atoms. Quantum Electronics, 2018, 48, 967-972.	1.0	7
74	Optical Lattice Clocks as Candidates for a Possible Redefinition of the SI Second. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1568-1573.	4.7	6
75	High performance frequency dissemination for metrology applications with optical fibers. , 0, , .		5
76	New measurement of the rubidium hyperfine frequency using LNE-SYRTE fountain ensemble. , 2008, , .		5
77	Ultrastable silicon Fabryâ€“PÃ©rot cavity. Nature Photonics, 2012, 6, 638-639.	31.4	5
78	Comparisons between 3 fountain clocks at LNE-SYRTE. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	4
79	Feshbach resonances in cesium at ultralow static magnetic fields. Physical Review A, 2012, 86, .	2.5	4
80	Performances of UTC(OP) based on LNE-SYRTE atomic fountains. , 2014, , .		4
81	A mercury optical lattice clock at LNE-SYRTE. Journal of Physics: Conference Series, 2016, 723, 012017.	0.4	4
82	Accurate laser frequency locking to optical frequency combs under low-signal-to-noise-ratio conditions. Review of Scientific Instruments, 2020, 91, 033202.	1.3	4
83	First observation of Feshbach resonances at very low magnetic field in a. , 2004, , .		4
84	Ultra-stable ground frequency dissemination via optical fibres. , 2004, , .		3
85	Recent Experimental Tests of Special Relativity. , 2006, , 451-478.		3
86	Cs and Rb fountains. , 0, , .		2
87	Magneto-Optical Trap of Neutral Mercury for an Optical Lattice Clock. , 2008, , .		2
88	Ultra-stable optical cavities: Design and experiments at LNE-SYRTE. , 2008, , .		2
89	Flywheel oscillator for atomic fountain clocks using ultra-stable lasers and a fiber-based optical frequency comb. , 2009, , .		2
90	Performances of UTC(OP) based on LNE-SYRTE atomic fountains. , 2014, , .		2

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91	Lorentz-Symmetry Test at Planck-Scale Suppression With a Spin-Polarized 133Cs Cold Atom Clock. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 945-949.	3.0	2
92	Horloges en fontaine du BNM-SYRTE : rÃ©sultats rÃ©cents. European Physical Journal Special Topics, 2004, 119, 287-288.	0.2	2
93	BNM-SYRTE fountains: Recent results. , 2004, , .		1
94	From Optical Lattice Clocks to the Measurement of Forces in the Casimir Regime. , 2006, , .		1
95	Comparisons between 3 fountain clocks at LNE-SYRTE. Proceedings of SPIE, 2007, , .	0.8	1
96	Towards an Optical Lattice Clock Based on Neutral Mercury. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	1
97	First dual mode operation of the Cs/Rb FO2 double fountain at SYRTE. , 2009, , .		1
98	LNE-SYRTE CLOCK ENSEMBLE: NEW ⁸⁷Rb HYPERFINE FREQUENCY MEASUREMENT - SPECTROSCOPY OF ¹⁹⁹Hg AND ²⁰¹Hg OPTICAL CLOCK TRANSITION. , 2009, , .		1
99	Measurements of the distributed cavity phase shift in the LNE-SYRTE FO2 fountain. , 2010, , .		1
100	Characterization of the distributed cavity phase shift in FO2 for improving the accuracy of SYRTE fountain clocks. , 2010, , .		1
101	Quantitative evaluation of distributed cavity phase shifts to improve the accuracy of SYRTE FO2. , 2011, , .		1
102	Performances of UTC(OP) based on LNE-SYRTE atomic fountains. , 2014, , .		1
103	Preliminary stability analysis of Rb fountains for timescale generation. , 2017, , .		1
104	High performance flywheel source for atomic fountains and advanced metrology applications. , 2004, , .		1
105	Recoil effects in microwave atomic frequency standards: preliminary results. , 0, , .		0
106	The mercury single-ion optical clock and a test of the stability of the fundamental constants. , 2003, , .		0
107	Advances in 133Cs Fountains: Control of the Cold Collision Shift and Observation of Feshbach Resonances. AIP Conference Proceedings, 2005, , .	0.4	0
108	Long term operation, performance and applications of cryogenic sapphire oscillators. , 0, , .		0

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109	Comparison with an uncertainty of 2X10/sup -16/ between two primary frequency standards. , 0, , .		0
110	Testing Lorentz Invariance Using Zeeman Transitions in Atomic Fountains. , 0, , .		0
111	An Optical Lattice Clock with Fermionic and Bosonic Sr Atoms. , 2007, , .		0
112	Optical lattice clock with spin-polarized87Sr atoms. , 2007, , .		0
113	Latest Measurements with the LNE-SYRTE Fountain Clocks. , 2008, , .		0
114	Toward a mercury optical lattice clock: Spectroscopy of the clock transition in fermionic isotopes. , 2009, , .		0
115	Towards an optical lattice clock based on mercury: Loading of a dipole trap. , 2010, , .		0
116	Characterization of the distributed cavity phase shift in LNE-SYRTE FO2 fountain. , 2010, , .		0
117	Toward a mercury optical lattice clock: Development of a dipole lattice trap at the magic wavelength. , 2010, , .		0
118	Recent atomic fountain clock comparisons at LNE-SYRTE. , 2011, , .		0
119	Optical lattice clock with neutral mercury. , 2011, , .		0
120	Testing for periodic changes in fundamental constants using long-term comparison of the SYRTE Cs fountains and H-masers. , 2012, , .		0
121	Strontium and mercury optical lattice clocks at LNE-SYRTE. , 2012, , .		0
122	Characterization of an ultra-stable optical cavity developed in the industry for space applications. , 2012, , .		0
123	Reaching the 10^{−15} accuracy range with a Hg optical lattice clock. , 2012, , .		0
124	Reaching the 10^{−15} accuracy range with a Hg optical lattice clock. , 2012, , .		0
125	Development of compact lattice optical clocks towards future space clocks. , 2013, , .		0
126	Strontium optical lattice clocks at LNE-SYRTE. , 2014, , .		0

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127	Stability analysis of the French timescale UTC(OP). , 2015, , .		0
128	Time and frequency activities at LNE-SYRTE related to global navigation satellite systems. , 2016, , .		0
129	Lorentz-symmetry test at Planck-scale suppression with a spin-polarized133Cs cold atom clock. , 2017, , .		0
130	UTC(OP) Based on LNE-SYRTE Primary Frequency Standards: Five Years of Continuous Operation. , 2018, , .		0
131	Strontium and Mercury of Optical Lattice Clocks. , 2012, , .		0
132	Real-Time Realization of UTC at Observatoire de Paris. Thirty Years of Astronomical Discovery With UKIRT, 2017, , 119-122.	0.3	0
133	Improved Tests of Lorentz Invariance in the Matter Sector Using Atomic Clocks. , 2017, , .		0
134	Characterization of an ultra-stable optical cavity developed in the industry for space applications. , 2017, , .		0