Hidetoshi Katori

List of Publications by Year
in descending order

113 papers	6,552 citations	87888 38 h-index	64796 79 g-index
113 all docs	113 docs citations	113 times ranked	2799 citing authors

#	Article	IF	Citations
1	An optical lattice clock. Nature, 2005, 435, 321-324.	27.8	688
2	Cryogenic optical lattice clocks. Nature Photonics, 2015, 9, 185-189.	31.4	496
3	Ultrastable Optical Clock with Neutral Atoms in an Engineered Light Shift Trap. Physical Review Letters, 2003, 91, 173005.	7.8	468
4	Quantum State Engineering and Precision Metrology Using State-Insensitive Light Traps. Science, 2008, 320, 1734-1738.	12.6	343
5	Magneto-Optical Trapping and Cooling of Strontium Atoms down to the Photon Recoil Temperature. Physical Review Letters, 1999, 82, 1116-1119.	7.8	300
6	New Limits on Coupling of Fundamental Constants to Gravity Using<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Sr</mml:mi><mml:mprescripts /><mml:none /><mml:mn>87</mml:mn></mml:mmultiscripts></mml:math>Optical Lattice Clocks. Physical Review Letters, 2008, 100, 140801.	7.8	261
7	Test of general relativity by a pair of transportable optical lattice clocks. Nature Photonics, 2020, 14, 411-415.	31.4	244
8	Optical lattice clocks and quantum metrology. Nature Photonics, 2011, 5, 203-210.	31.4	201
9	Colloquium: Physics of optical lattice clocks. Reviews of Modern Physics, 2011, 83, 331-347.	45.6	197
10	Geopotential measurements with synchronously linked optical lattice clocks. Nature Photonics, 2016, 10, 662-666.	31.4	176
11	Frequency ratio of Yb and Sr clocks with 5â€‰Ã—â€‰10â^'17 uncertainty at 150â€…seconds averaging time. Nature Photonics, 2016, 10, 258-261.	31.4	170
12	Spectroscopy of theS01â^'P03Clock Transition ofSr87in an Optical Lattice. Physical Review Letters, 2003, 91, 223001.	7.8	149
13	Trapping of Neutral Mercury Atoms and Prospects for Optical Lattice Clocks. Physical Review Letters, 2008, 100, 053001.	7.8	146
14	Recoil-Free Spectroscopy of Neutral Sr Atoms in the Lamb-Dicke Regime. Physical Review Letters, 2003, 91, 053001.	7.8	138
15	Anomalous Dynamics of a Single Ion in an Optical Lattice. Physical Review Letters, 1997, 79, 2221-2224.	7.8	129
16	Optimal Design of Dipole Potentials for Efficient Loading of Sr Atoms. Journal of the Physical Society of Japan, 1999, 68, 2479-2482.	1.6	128
17	Frequency comparison of optical lattice clocks beyond the Dick limit. Nature Photonics, 2011, 5, 288-292.	31.4	121
18	Optical lattice clocks with non-interacting bosons and fermions. Nature Physics, 2008, 4, 954-959.	16.7	118

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19	Recoil-Limited Laser Cooling ofSr87Atoms near the Fermi Temperature. Physical Review Letters, 2003, 90, 113002.	7.8	115
20	Improved Frequency Measurement of a One-Dimensional Optical Lattice Clock with a Spin-Polarized Fermionic87Sr Isotope. Journal of the Physical Society of Japan, 2006, 75, 104302.	1.6	110
21	Measuring the frequency of a Sr optical lattice clock using a 120 km coherent optical transfer. Optics Letters, 2009, 34, 692.	3.3	102
22	Optical-dipole trapping of Sr atoms at a high phase-space density. Physical Review A, 2000, 61, .	2.5	87
23	Direct Comparison of Distant Optical Lattice Clocks at the 10^{-16} Uncertainty. Applied Physics Express, 2011, 4, 082203.	2.4	87
24	Lamb-Dicke spectroscopy of atoms in a hollow-core photonic crystal fibre. Nature Communications, 2014, 5, 4096.	12.8	79
25	SAGE: A proposal for a space atomic gravity explorer. European Physical Journal D, 2019, 73, 1.	1.3	75
26	Frequency Ratio of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Hg</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>199</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Sr</mml:mi></mml:mrow><mml:mprescripts	7.8	74
27	Lifetime measurement of the 1s5metastable state of argon and krypton with a magneto-optical trap. Physical Review Letters, 1993, 70, 3545-3548.	7.8	72
28	Frequency ratios of Sr, Yb, and Hg based optical lattice clocks and their applications. Comptes Rendus Physique, 2015, 16, 489-498.	0.9	67
29	Operational Magic Intensity for Sr Optical Lattice Clocks. Physical Review Letters, 2018, 121, 263202.	7.8	65
30	SPECTROSCOPY OF STRONTIUM ATOMS IN THE LAMB-DICKE CONFINEMENT. , 2002, , .		63
31	Three-dimensional optical lattice clock with bosonic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Sr</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>88</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>atoms. Physical Review A, 2010, 81, .	2.5	60
32	Photoassociation spectroscopy ofSr88: Reconstruction of the wave function near the last node. Physical Review A, 2006, 73, .	2.5	59
33	Laser-Induced Ionizing Collisions of Ultracold Krypton Gas in the1s5Metastable State. Physical Review Letters, 1994, 73, 2555-2558.	7.8	55
34	Lifetime Measurement of theP23Metastable State of Strontium Atoms. Physical Review Letters, 2004, 92, 153004.	7.8	52
35	Strategies for reducing the light shift in atomic clocks. Physical Review A, 2015, 91, .	2.5	52
36	Magic Wavelength to Make Optical Lattice Clocks Insensitive to Atomic Motion. Physical Review Letters, 2009, 103, 153004.	7.8	48

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37	Prospects for Optical Clocks with a Blue-Detuned Lattice. Physical Review Letters, 2009, 102, 063002.	7.8	43
38	Optical clock sensitive to variations of the fine-structure constant based on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mtext>Ho</mml:mtext><mml:mrow><mml:mn>14</mml:mn></mml:mrow></mml:msup></mml:math> Physical Review A, 2015, 91, .	2.5	40
39	Magic-wave-inducedS01â^'P03transition in even isotopes of alkaline-earth-metal-like atoms. Physical Review A, 2007, 75, .	2.5	39
40	Narrow-line Cooling and Determination of the Magic Wavelength of Cd. Physical Review Letters, 2019, 123, 113201.	7.8	37
41	Transportable Strontium Optical Lattice Clocks Operated Outside Laboratory at the Level of 10^{â^'18} Uncertainty. Advanced Quantum Technologies, 2021, 4, 2100015.	3.9	32
42	Polarisation and dispersion properties of light shifts in ultrastable optical frequency standards. Quantum Electronics, 2006, 36, 3-19.	1.0	31
43	Continuous-wave, single-frequency 229â€‰â€‰nm laser source for laser cooling of cadmium atoms. Optics Letters, 2016, 41, 705.	3.3	30
44	All-polarization-maintaining, single-port Er:fiber comb for high-stability comparison of optical lattice clocks. Applied Physics Express, 2017, 10, 062503.	2.4	29
45	Compact field programmable gate array-based pulse-sequencer and radio-frequency generator for experiments with trapped atoms. Review of Scientific Instruments, 2015, 86, 115106.	1.3	28
46	Multipole, nonlinear, and anharmonic uncertainties of clocks of Sr atoms in an optical lattice. Physical Review A, 2013, 88, .	2.5	27
47	Narrow-line diode laser system for laser cooling of strontium atoms on the intercombination transition. Applied Physics B: Lasers and Optics, 2004, 78, 315-320.	2.2	25
48	Optical frequency distribution using laser repeater stations with planar lightwave circuits. Optics Express, 2020, 28, 9186.	3.4	25
49	Laser Cooling and Trapping of Argon and Krypton Using Diode Lasers. Japanese Journal of Applied Physics, 1990, 29, L2124-L2126.	1.5	23
50	Direct measurement of the frequency ratio for Hg and Yb optical lattice clocks and closure of the Hg/Yb/Sr loop. Optics Express, 2020, 28, 15112.	3.4	23
51	30-km-long optical fiber link at 1397 nm for frequency comparison between distant strontium optical lattice clocks. Japanese Journal of Applied Physics, 2014, 53, 032801.	1.5	22
52	Superradiance from lattice-confined atoms inside hollow core fibre. Communications Physics, 2019, 2, .	5.3	22
53	Frequency measurement of a Sr lattice clock using an SI-second-referenced optical frequency comb linked by a global positioning system (GPS). Optics Express, 2005, 13, 5253.	3.4	20
54	Precise determination of the isotope shift of⁸⁸Srâ€“⁸⁷Sr optical lattice clock by sharing perturbations. Applied Physics Express, 2017, 10, 072801.	2.4	20

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55	Electrodynamic Trapping of Spinless Neutral Atoms with an Atom Chip. Physical Review Letters, 2006, 96, 123001.	7.8	18
56	Higher-order effects on the precision of clocks of neutral atoms in optical lattices. Physical Review A, 2016, 93, .	2.5	17
57	Modeling light shifts in optical lattice clocks. Physical Review A, 2019, 99, .	2.5	17
58	Electric Manipulation of Spinless Neutral Atoms on a Surface. Japanese Journal of Applied Physics, 2004, 43, 358-361.	1.5	16
59	Direct determination of the energy of the first excited fine-structure level in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow><mml:mi>Ba</mml:mi></mml:mrow><mml:mrow><mml:mn Physical Review A, 2019, 100, .	2.5	16
60	Longitudinal Ramsey spectroscopy of atoms for continuous operation of optical clocks. Applied Physics Express, 0, , .	2.4	14
61	Quantum statistical effect on ionizing collisions of ultracold metastable Kr isotopes. Physical Review A, 1995, 52, R4324-R4327.	2.5	13
62	Visible spectra of highly charged holmium ions observed with a compact electron beam ion trap. Nuclear Instruments & Methods in Physics Research B, 2017, 408, 118-121.	1.4	13
63	A perspective on the future of transportable optical lattice clocks. Applied Physics Letters, 2022, 120, .	3.3	13
64	Coherence of Spin-Polarized Fermions Interacting with a Clock Laser in a Stark-Shift-Free Optical Lattice. Journal of the Physical Society of Japan, 2009, 78, 013301.	1.6	12
65	Exploring potential applications of optical lattice clocks in a plate subduction zone. Journal of Geodesy, 2021, 95, 1.	3.6	12
66	Optically guided atom interferometer tuned to magic wavelength. Applied Physics Express, 2017, 10, 112501.	2.4	10
67	Diffusion of a single ion in a one-dimensional optical lattice. Optics Express, 1998, 3, 97.	3.4	9
68	INO: Interplanetary network of optical lattice clocks. International Journal of Modern Physics D, 2020, 29, 1940002.	2.1	9
69	Three-stage laser cooling of Sr atoms using the 5s5pP23 metastable state below Doppler temperatures. Physical Review A, 2021, 103, .	2.5	9
70	Laser cooling of strontium atoms toward quantum degeneracy. AIP Conference Proceedings, 2001, , .	0.4	8
71	Tricks for ticks. Nature Physics, 2017, 13, 414-414.	16.7	4
72	Decomposed description of Ramsey spectra under atomic interactions. Physical Review A, 2018, 98, .	2.5	4

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73	Frequency measurement on the 5s5pÂP23â˜5s4dÂD33 transition of Sr88 atoms using the photon-momentum-transfer technique. Physical Review A, 2019, 100, .	2.5	4
74	Highâ€stability optical frequency transfer with allâ€fiber architecture for optical lattice clocks. Electronics and Communications in Japan, 2019, 102, 43-48.	0.5	4
75	Direct Wavelength Measurement of the Visible M1 Transition in Ba⁷⁺with a Novel Calibration Method. Plasma and Fusion Research, 2019, 14, 1201021-1201021.	0.7	4
76	Optical lattice clock. , 2005, , .		3
77	Present Status of the Development of the Yb Optical Lattice Clock at NMIJ/AIST. LEOS Summer Topical Meeting, 2007, , .	0.0	2
78	Frequency Metrology with Optical Lattice Clocks. Japanese Journal of Applied Physics, 2010, 49, 080001.	1.5	2
79	626-nm single-frequency semiconductor laser system operated near room temperature for mW-level second-harmonic generation at 313 nm. Review of Scientific Instruments, 2019, 90, 063201.	1.3	2
80	SIDEBAND COOLING AND SPECTROSCOPY OF STRONTIUM ATOMS IN THE LAMB-DICKE CONFINEMENT. , 2002, , .		1
81	Optical lattice clock: Towards frequency measurement at 10^{−18} level. , 2006, , .		1
82	The Invention of An Optical Lattice Clock: Its Impact and Outlook. The Review of Laser Engineering, 2010, 38, 479-486.	0.0	1
83	Optical lattice clocks and frequency comparison. Journal of Physics: Conference Series, 2011, 264, 012011.	0.4	1
84	A 30-km-long optical fiber link for frequency comparison between distant strontium optical lattice clocks. , 2013, , .		1
85	Optical Lattice Clocks for Precision Time and Frequency Metrology. Lecture Notes in Physics, 2016, , 93-110.	0.7	1
86	OPTICAL LATTICE CLOCK: PRECISION SPECTROSCOPY OF NEUTRAL ATOMS IN TIGHT CONFINEMENT. , 2004, , .		0
87	Optical lattice clock. , 0, , .		0
88	Development of an Optical Lattice Clock in NMIJ, AIST. , 2006, , .		0
89	Optical Lattice Clock: Precision Frequency Measurement. , 2006, , .		0
90	Design and prototyping of Stark atom chip for electric trapping of laser-cooled atoms. Precision Engineering, 2006, 30, 387-395.	3.4	0

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91	Frequency Comparison between Optical Lattice Clocks. , 2007, , .		0
92	Frequency Measurement of an Optical Lattice Clock. LEOS Summer Topical Meeting, 2007, , .	0.0	0
93	Optical lattice clocks with non-interacting bosons and fermions. , 2008, , .		0
94	Magneto-optical trapping of Yb atoms using an intercombination transition with an optical frequency comb: For realizing an Yb optical lattice clock. , 2008, , .		0
95	Optical lattice clocks toward 10⁻¹⁷uncertainty. Proceedings of SPIE, 2009, , .	0.8	0
96	OPTICAL LATTICE CLOCKS WITH SINGLE OCCUPANCY BOSONS AND SPIN-POLARIZED FERMIONS TOWARD 10-17 ACCURACY. , 2010, , .		0
97	Optical lattice clocks and frequency comparisons. , 2010, , .		0
98	Synchronous frequency comparison of optical lattice clocks to approach the quantum limit. , 2011, , .		0
99	Frequency comparison of optical lattice clocks. , 2011, , .		0
100	Prospects for frequency comparison of Sr and Hg optical lattice clocks toward 10^{−18} uncertainties. , 2012, , .		0
101	Higher-order shifts of a clock frequency in Sr, Yb and Hg atoms trapped in an optical lattice. , 2014, , .		0
102	Frequency comparisons of Sr, Yb, and Hg based optical lattice clocks and their applications. , 2015, , .		0
103	SIMULATE ION TRAPS WITH NEUTRAL ATOMS: STARK ATOM CHIP AND OPTICAL LATTICE CLOCK. , 2005, , .		0
104	AN OPTICAL LATTICE CLOCK: ULTRASTABLE ATOMIC CLOCK WITH ENGINEERED PERTURBATION. , 2006, , .		0
105	Optical Lattice Clocks with Non-Interacting Bosons and Fermions. The Review of Laser Engineering, 2008, 36, 1004-1007.	0.0	0
106	Frequency Measurement of a Sr Optical Lattice Clock Using a Coherent Optical Link over a 120-km Fiber. , 2009, , .		0
107	OPTICAL LATTICE CLOCK: SEVEN YEARS OF PROGRESS AND NEXT STEPS. , 2009, , .		0
108	Optical Lattice Clocks toward 10â^'17 Uncertainty. , 2010, , .		0

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109	Optical direct comparison of two 87Sr lattice clocks using a >50km fiber link. , 2011, , .		0
110	Real Time Probing of Space-Time by Optical Lattice Clocks. Hyomen Kagaku, 2011, 32, 797-800.	0.0	0
111	High-stability Optical Frequency Transfer with All-Fiber Architecture for Optical Lattice Clocks. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 126-130.	0.2	0
112	Transportable Optical Lattice Clocks to Test Gravitational Redshift. , 2020, , .		0
113	Quantum Technologies Accelerated by Ultrahigh Vacuum Technologies. Vacuum and Surface Science, 2020, 63, 511-511.	0.1	0