

# Andrei Derevianko

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

113  
papers

5,069  
citations

37  
h-index

69  
g-index

125  
ext. papers

5,964  
ext. citations

5  
avg, IF

6.03  
L-index

#	Paper	IF	Citations
113	Search for new physics with atoms and molecules. <i>Reviews of Modern Physics</i> , <b>2018</b> , 90,	40.5	501
112	High-Precision Calculations of Dispersion Coefficients, Static Dipole Polarizabilities, and Atom-Wall Interaction Constants for Alkali-Metal Atoms. <i>Physical Review Letters</i> , <b>1999</b> , 82, 3589-3592	7.4	269
111	Hunting for topological dark matter with atomic clocks. <i>Nature Physics</i> , <b>2014</b> , 10, 933-936	16.2	249
110	Relativistic many-body calculations of energy levels, hyperfine constants, electric-dipole matrix elements, and static polarizabilities for alkali-metal atoms. <i>Physical Review A</i> , <b>1999</b> , 60, 4476-4487	2.6	245
109	Precision determination of electroweak coupling from atomic parity violation and implications for particle physics. <i>Physical Review Letters</i> , <b>2009</b> , 102, 181601	7.4	186
108	Multipolar theory of blackbody radiation shift of atomic energy levels and its implications for optical lattice clocks. <i>Physical Review A</i> , <b>2006</b> , 74,	2.6	179
107	Single-ion nuclear clock for metrology at the 19th decimal place. <i>Physical Review Letters</i> , <b>2012</b> , 108, 120802	40.5	172
106	Colloquium: Physics of optical lattice clocks. <i>Reviews of Modern Physics</i> , <b>2011</b> , 83, 331-347	40.5	159
105	High-precision calculations of van der Waals coefficients for heteronuclear alkali-metal dimers. <i>Physical Review A</i> , <b>2001</b> , 63,	2.6	137
104	Trapping of neutral mercury atoms and prospects for optical lattice clocks. <i>Physical Review Letters</i> , <b>2008</b> , 100, 053001	7.4	110
103	Reconciliation of the measurement of parity nonconservation in Cs with the standard model. <i>Physical Review Letters</i> , <b>2000</b> , 85, 1618-21	7.4	105
102	NON-DIPOLE EFFECTS IN PHOTOELECTRON ANGULAR DISTRIBUTIONS FOR RARE GAS ATOMS. <i>Atomic Data and Nuclear Data Tables</i> , <b>1999</b> , 73, 153-211	2	105
101	Electric dipole polarizabilities at imaginary frequencies for hydrogen, the alkali metal, alkaline earth, and noble gas atoms. <i>Atomic Data and Nuclear Data Tables</i> , <b>2010</b> , 96, 323-331	2	102
100	Accurate relativistic many-body calculations of van der Waals coefficients C8 and C10 for alkali-metal dimers. <i>Journal of Chemical Physics</i> , <b>2003</b> , 119, 844-850	3.9	102
99	High-accuracy calculations of dipole, quadrupole, and octupole electric dynamic polarizabilities and van der Waals coefficients C 6, C 8, and C 10 for alkaline-earth dimers. <i>Journal of Experimental and Theoretical Physics</i> , <b>2006</b> , 102, 195-205	1	91
98	Highly charged ions as a basis of optical atomic clockwork of exceptional accuracy. <i>Physical Review Letters</i> , <b>2012</b> , 109, 180801	7.4	86
97	Two-photon decay of 21S0 and 23S1 states of heliumlike ions. <i>Physical Review A</i> , <b>1997</b> , 56, 1288-1294	2.6	81

96	Electric-octupole and pure-electric-quadrupole effects in soft-X-Ray photoemission. <i>Physical Review Letters</i> , <b>2000</b> , 84, 2116-9	7.4	81
95	Relativistic many-body calculations of energy levels, hyperfine constants, and transition rates for sodiumlike ions, $Z=11\bar{1}6$ . <i>Physical Review A</i> , <b>1998</b> , 58, 1016-1028	2.6	80
94	High-accuracy relativistic many-body calculations of van der Waals coefficients $C_6$ for alkaline-earth-metal atoms. <i>Physical Review A</i> , <b>2002</b> , 65,	2.6	75
93	Precision determination of weak charge of $Cs^{133}$ from atomic parity violation. <i>Physical Review D</i> , <b>2010</b> , 82,	4.9	74
92	High-accuracy calculation of the blackbody radiation shift in the $^{133}Cs$ primary frequency standard. <i>Physical Review Letters</i> , <b>2006</b> , 97, 040801	7.4	71
91	Search for domain wall dark matter with atomic clocks on board global positioning system satellites. <i>Nature Communications</i> , <b>2017</b> , 8, 1195	17.4	64
90	Observation of the nuclear magnetic octupole moment of $^{133}Cs$ . <i>Physical Review Letters</i> , <b>2003</b> , 91, 072501	7.4	57
89	Correlated many-body treatment of the Breit interaction with application to cesium atomic properties and parity violation. <i>Physical Review A</i> , <b>2001</b> , 65,	2.6	57
88	Relativistic Many-Body Calculations of Transition Probabilities for the $2l12l2[LSJ]-2l32l4[L'S'J']$ Lines in Be-like Ions. <i>Physica Scripta</i> , <b>1999</b> , 59, 286-295	2.6	56
87	Ultracold collision properties of metastable alkaline-earth atoms. <i>Physical Review Letters</i> , <b>2003</b> , 90, 063002	7.4	52
86	ac Stark shift of the Cs microwave atomic clock transitions. <i>Physical Review A</i> , <b>2009</b> , 79,	2.6	48
85	Negative-energy contributions to transition amplitudes in heliumlike ions. <i>Physical Review A</i> , <b>1998</b> , 58, 4453-4461	2.6	47
84	Axio-electric effect. <i>Physical Review D</i> , <b>2010</b> , 82,	4.9	46
83	Relativistic many-body calculations of transition probabilities for the $2l12l2[LSJ]-2l33l4[L'S'J']$ lines in Be-like ions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>1999</b> , 32, 3527-3545	1.3	46
82	Magic frequencies for cesium primary-frequency standard. <i>Physical Review Letters</i> , <b>2008</b> , 101, 220801	7.4	45
81	Calculations of the neutron skin and its effect in atomic parity violation. <i>Physical Review C</i> , <b>2009</b> , 79,	2.7	44
80	Interaction potentials of LiH, NaH, KH, RbH, and CsH. <i>Journal of Chemical Physics</i> , <b>2001</b> , 115, 5984-5988	3.9	39
79	High-precision atomic clocks with highly charged ions: Nuclear-spin-zero f12-shell ions. <i>Physical Review A</i> , <b>2012</b> , 86,	2.6	38

78	Nondipole effects in the photoionization of neon: Random-phase approximation. <i>Physical Review A</i> , <b>1999</b> , 59, 3609-3613	2.6	38
77	Precision Metrology Meets Cosmology: Improved Constraints on Ultralight Dark Matter from Atom-Cavity Frequency Comparisons. <i>Physical Review Letters</i> , <b>2020</b> , 125, 201302	7.4	37
76	SAGE: A proposal for a space atomic gravity explorer. <i>European Physical Journal D</i> , <b>2019</b> , 73, 1	1.3	37
75	Coherence Preservation of a Single Neutral Atom Qubit Transferred between Magic-Intensity Optical Traps. <i>Physical Review Letters</i> , <b>2016</b> , 117, 123201	7.4	36
74	Detecting dark-matter waves with a network of precision-measurement tools. <i>Physical Review A</i> , <b>2018</b> , 97,	2.6	35
73	Relativistic Many-Body Calculations of Magnetic Dipole Transitions in Be-Like Ions. <i>Physica Scripta</i> , <b>1999</b> , 60, 46-53	2.6	34
72	Review of the advanced generalized theory for Stark broadening of hydrogen lines in plasmas with tables. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , <b>2000</b> , 65, 543-571	2.1	33
71	Application of the dual-kinetic-balance sets in the relativistic many-body problem of atomic structure. <i>Computer Physics Communications</i> , <b>2008</b> , 179, 310-319	4.2	32
70	Sensitivity of Atom Interferometry to Ultralight Scalar Field Dark Matter. <i>Physical Review Letters</i> , <b>2016</b> , 117, 261301	7.4	32
69	Magnetic-dipole transitions in highly charged ions as a basis of ultraprecise optical clocks. <i>Physical Review Letters</i> , <b>2014</b> , 113, 233003	7.4	30
68	Theory of magic optical traps for Zeeman-insensitive clock transitions in alkali-metal atoms. <i>Physical Review A</i> , <b>2010</b> , 81,	2.6	30
67	Triple excitations in the relativistic coupled-cluster formalism and calculation of Na properties. <i>Physical Review A</i> , <b>2006</b> , 73,	2.6	29
66	Ion clock and search for the variation of the fine-structure constant using optical transitions in Nd13+ and Sm15+. <i>Physical Review A</i> , <b>2012</b> , 86,	2.6	28
65	Searching for Ultralight Dark Matter with Optical Cavities. <i>Physical Review Letters</i> , <b>2019</b> , 123, 031304	7.4	27
64	Mapping out atom-wall interaction with atomic clocks. <i>Physical Review Letters</i> , <b>2009</b> , 103, 133201	7.4	27
63	Theoretical overview of atomic parity violation. <i>European Physical Journal A</i> , <b>2007</b> , 32, 517-523	2.5	27
62	Fourth-order perturbative extension of the single-double excitation coupled-cluster method. <i>Physical Review A</i> , <b>2002</b> , 66,	2.6	26
61	Large Contributions of Negative-Energy States to Forbidden Magnetic-Dipole Transition Amplitudes in Alkali-Metal Atoms. <i>Physical Review Letters</i> , <b>1999</b> , 83, 2914-2917	7.4	26

60	"Doubly magic" conditions in magic-wavelength trapping of ultracold alkali-metal atoms. <i>Physical Review Letters</i> , <b>2010</b> , 105, 033002	7.4	25
59	Long-range interaction coefficients for ytterbium dimers. <i>Physical Review A</i> , <b>2014</b> , 89,	2.6	24
58	Differential light-shift cancellation in a magnetic-field-insensitive transition of 87rb. <i>Physical Review Letters</i> , <b>2011</b> , 106, 063002	7.4	24
57	Reevaluation of the role of nuclear uncertainties in experiments on atomic parity violation with isotopic chains. <i>Physical Review A</i> , <b>2002</b> , 65,	2.6	24
56	Effects of molecular resonances on Rydberg blockade. <i>Physical Review A</i> , <b>2015</b> , 92,	2.6	23
55	Convergence of all-order many-body methods: Coupled-cluster study for Li. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	23
54	Accurate potential energy, dipole moment curves, and lifetimes of vibrational states of heteronuclear alkali dimers. <i>Journal of Chemical Physics</i> , <b>2014</b> , 140, 184315	3.9	21
53	Hyperfine structure of the metastable P32 state of alkaline-earth-metal atoms as an accurate probe of nuclear magnetic octupole moments. <i>Physical Review A</i> , <b>2008</b> , 77,	2.6	20
52	Micromagic clock: microwave clock based on atoms in an engineered optical lattice. <i>Physical Review Letters</i> , <b>2009</b> , 102, 120801	7.4	19
51	Generalized theory of ion impact broadening in magnetized plasmas and its applications for tokamaks. <i>Physical Review Letters</i> , <b>1994</b> , 73, 2059-2062	7.4	19
50	Quantum Network of Atom Clocks: A Possible Implementation with Neutral Atoms. <i>Physical Review Letters</i> , <b>2016</b> , 117, 060506	7.4	19
49	Dressing lines and vertices in calculations of matrix elements with the coupled-cluster method and determination of Cs atomic properties. <i>Physical Review A</i> , <b>2005</b> , 71,	2.6	18
48	Higher-order Stark effect on an excited helium atom. <i>Physical Review A</i> , <b>1999</b> , 60, 986-995	2.6	18
47	Application of B-splines in determining the eigenspectrum of diatomic molecules: robust numerical description of halo-state and Feshbach molecules. <i>Canadian Journal of Physics</i> , <b>2009</b> , 87, 67-74	1.1	16
46	Intensity landscape and the possibility of magic trapping of alkali-metal Rydberg atoms in infrared optical lattices. <i>Physical Review A</i> , <b>2013</b> , 88,	2.6	14
45	Complete fourth-order relativistic many-body calculations for atoms. <i>Physical Review A</i> , <b>2004</b> , 69,	2.6	14
44	A generalized theory of stark broadening of hydrogen-like spectral lines in dense plasmas. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , <b>1995</b> , 54, 307-315	2.1	14
43	Atomic Physics Studies at the Gamma Factory at CERN. <i>Annalen Der Physik</i> , <b>2020</b> , 532, 2000204	2.6	14

42	Nuclear magnetic octupole moment and the hyperfine structure of the $5D_{3/2,5/2}$ states of the Ba <sup>+</sup> ion. <i>Physical Review A</i> , <b>2008</b> , 77,	2.6	13
41	Many-body calculations of the static atom-wall interaction potential for alkali-metal atoms. <i>Physical Review A</i> , <b>1998</b> , 57, 2629-2634	2.6	13
40	Entangling the lattice clock: Towards Heisenberg-limited timekeeping. <i>Physical Review A</i> , <b>2010</b> , 81,	2.6	12
39	Fine-structure effects in relativistic calculations of the static polarizability of the helium atom. <i>Journal of Experimental and Theoretical Physics</i> , <b>1999</b> , 88, 272-277	1	12
38	Second-order effects on the hyperfine structure of P states of alkali-metal atoms. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	11
37	A data archive for storing precision measurements. <i>Physics Today</i> , <b>2015</b> , 68, 10-11	0.9	10
36	Possibility of triple magic trapping of clock and Rydberg states of divalent atoms in optical lattices. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2016</b> , 49, 144004	1.3	9
35	Relativistic many-body calculations of van der Waals coefficients for Yb-Li and Yb-Rb dimers. <i>Physical Review A</i> , <b>2014</b> , 89,	2.6	9
34	Resolving all-order method convergence problems for atomic physics applications. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	9
33	Atomic CP-violating polarizability. <i>Physical Review A</i> , <b>2005</b> , 72,	2.6	9
32	Ab initio calculations of off-diagonal hyperfine interaction in cesium. <i>Physical Review A</i> , <b>1999</b> , 60, R1741-R17428	2.6	9
31	Efficient repumping of a Ca magneto-optical trap. <i>Physical Review A</i> , <b>2017</b> , 96,	2.6	7
30	Upper limit on the magnetic dipole contribution to the $5p^8p$ transition in Rb by use of ultracold atom spectroscopy. <i>Physical Review A</i> , <b>2009</b> , 80,	2.6	7
29	Molecular CP-violating magnetic moment. <i>Physical Review A</i> , <b>2005</b> , 72,	2.6	7
28	Quantum sensor networks as exotic field telescopes for multi-messenger astronomy. <i>Nature Astronomy</i> , <b>2021</b> , 5, 150-158	12.1	7
27	Search for transient ultralight dark matter signatures with networks of precision measurement devices using a Bayesian statistics method. <i>Physical Review D</i> , <b>2018</b> , 97,	4.9	6
26	Transition rates and radiative lifetimes of Ca I. <i>Atomic Data and Nuclear Data Tables</i> , <b>2018</b> , 119, 263-286	2	6
25	Coupled-cluster calculations of properties of the boron atom as a monovalent system. <i>Physical Review A</i> , <b>2012</b> , 86,	2.6	6

24	Calculation of Stark-induced absorption on the 6s6p P31B̄s2 S10 transition in Hg. <i>Physical Review A</i> , <b>2009</b> , 79,	2.6	6
23	Search for topological defect dark matter with a global network of optical magnetometers.. <i>Nature Physics</i> , <b>2021</b> , 17, 1396-1401	16.2	6
22	Dark forces and atomic electric dipole moments. <i>Physical Review D</i> , <b>2015</b> , 91,	4.9	5
21	Stochastic fluctuations of bosonic dark matter.. <i>Nature Communications</i> , <b>2021</b> , 12, 7321	17.4	5
20	Applying the matched-filter technique to the search for dark matter transients with networks of quantum sensors. <i>EPJ Quantum Technology</i> , <b>2020</b> , 7,	6.9	5
19	Blackbody radiation shift for the ${}^1S_0$ - ${}^3P_0$ optical clock transition in zinc and cadmium atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2019</b> , 52, 215005	1.3	4
18	Possibility of magic trapping of a three-level system for Rydberg blockade implementation. <i>Physical Review A</i> , <b>2012</b> , 85,	2.6	4
17	Relativistic many-body calculation of low-energy dielectronic resonances in Be-like carbon. <i>Physical Review A</i> , <b>2010</b> , 82,	2.6	4
16	Quantum computing with magnetic atoms in optical lattices of reduced periodicity. <i>Physical Review A</i> , <b>2006</b> , 74,	2.6	4
15	Hyperfine-induced quadrupole moments of alkali-metal-atom ground states and their implications for atomic clocks. <i>Physical Review A</i> , <b>2016</b> , 93,	2.6	3
14	Possibility of Stark-insensitive cotrapping of two atomic species in optical lattices. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	3
13	Dual purpose diagnostics of edge plasmas of Tokamaks based on a novel spectroscopic effect. <i>Review of Scientific Instruments</i> , <b>1997</b> , 68, 998-1001	1.7	3
12	van der Waals interactions between molecular hydrogen and alkali-metal atoms. <i>Physical Review A</i> , <b>2002</b> , 65,	2.6	3
11	Ion impacts on moving emitters: A convergent theory of anisotropic broadening in high-temperature plasmas. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , <b>1995</b> , 54, 137-142 <sup>3.1</sup>		3
10	Feasibility of an optical fiber clock. <i>Physical Review A</i> , <b>2017</b> , 96,	2.6	2
9	CP-violating Magnetic Moments of Atoms and Molecules. <i>Advances in Atomic, Molecular and Optical Physics</i> , <b>2010</b> , 58, 77-112	1.7	2
8	Proposed search for T-odd, P-even interactions in spectra of chaotic atoms. <i>Physical Review A</i> , <b>2012</b> , 86,	2.6	2
7	Femtosecond pulses and dynamics of molecular photoexcitation: RbCs example. <i>Physical Review A</i> , <b>2012</b> , 85,	2.6	2

6	Hyperfine structure of Yb+173: Toward resolving the Yb173 nuclear-octupole-moment puzzle. <i>Physical Review A</i> , <b>2020</b> , 102,	2.6	2
5	Precision Measurement Noise Asymmetry and Its Annual Modulation as a Dark Matter Signature. <i>Universe</i> , <b>2021</b> , 7, 50	2.5	2
4	Rydberg atoms in an optical lattice for high precision measurements of blackbody temperatures <b>2011</b> ,		1
3	Simple multi-particle model of ion dynamical broadening. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , <b>1997</b> , 58, 553-558	2.1	1
2	Probing multiple electric-dipole-forbidden optical transitions in highly charged nickel ions. <i>Physical Review A</i> , <b>2021</b> , 103,	2.6	1
1	Atomic Ionization by Scalar Dark Matter and Solar Scalars. <i>Physical Review Letters</i> , <b>2021</b> , 127, 081301	7.4	1