

Andrei Derevianko

List of Publications by Year in Descending Order

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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	Stochastic fluctuations of bosonic dark matter.. <i>Nature Communications</i> , 2021 , 12, 7321	17.4	5
112	Search for topological defect dark matter with a global network of optical magnetometers.. <i>Nature Physics</i> , 2021 , 17, 1396-1401	16.2	6
111	Quantum sensor networks as exotic field telescopes for multi-messenger astronomy. <i>Nature Astronomy</i> , 2021 , 5, 150-158	12.1	7
110	Probing multiple electric-dipole-forbidden optical transitions in highly charged nickel ions. <i>Physical Review A</i> , 2021 , 103,	2.6	1
109	Precision Measurement Noise Asymmetry and Its Annual Modulation as a Dark Matter Signature. <i>Universe</i> , 2021 , 7, 50	2.5	2
108	Atomic Ionization by Scalar Dark Matter and Solar Scalars. <i>Physical Review Letters</i> , 2021 , 127, 081301	7.4	1
107	Applying the matched-filter technique to the search for dark matter transients with networks of quantum sensors. <i>EPJ Quantum Technology</i> , 2020 , 7,	6.9	5
106	Atomic Physics Studies at the Gamma Factory at CERN. <i>Annalen Der Physik</i> , 2020 , 532, 2000204	2.6	14
105	Hyperfine structure of Yb+173: Toward resolving the Yb173 nuclear-octupole-moment puzzle. <i>Physical Review A</i> , 2020 , 102,	2.6	2
104	Precision Metrology Meets Cosmology: Improved Constraints on Ultralight Dark Matter from Atom-Cavity Frequency Comparisons. <i>Physical Review Letters</i> , 2020 , 125, 201302	7.4	37
103	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> , 2019 , 52, 215005	1.3	4
102	Searching for Ultralight Dark Matter with Optical Cavities. <i>Physical Review Letters</i> , 2019 , 123, 031304	7.4	27
101	SAGE: A proposal for a space atomic gravity explorer. <i>European Physical Journal D</i> , 2019 , 73, 1	1.3	37
100	Search for transient ultralight dark matter signatures with networks of precision measurement devices using a Bayesian statistics method. <i>Physical Review D</i> , 2018 , 97,	4.9	6
99	Detecting dark-matter waves with a network of precision-measurement tools. <i>Physical Review A</i> , 2018 , 97,	2.6	35
98	Transition rates and radiative lifetimes of Ca I. <i>Atomic Data and Nuclear Data Tables</i> , 2018 , 119, 263-286	2	6
97	Search for new physics with atoms and molecules. <i>Reviews of Modern Physics</i> , 2018 , 90,	40.5	501

96	Efficient repumping of a Ca magneto-optical trap. <i>Physical Review A</i> , 2017 , 96,	2.6	7
95	Feasibility of an optical fiber clock. <i>Physical Review A</i> , 2017 , 96,	2.6	2
94	Search for domain wall dark matter with atomic clocks on board global positioning system satellites. <i>Nature Communications</i> , 2017 , 8, 1195	17.4	64
93	Coherence Preservation of a Single Neutral Atom Qubit Transferred between Magic-Intensity Optical Traps. <i>Physical Review Letters</i> , 2016 , 117, 123201	7.4	36
92	Hyperfine-induced quadrupole moments of alkali-metal-atom ground states and their implications for atomic clocks. <i>Physical Review A</i> , 2016 , 93,	2.6	3
91	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> , 2016 , 49, 144004	1.3	9
90	Sensitivity of Atom Interferometry to Ultralight Scalar Field Dark Matter. <i>Physical Review Letters</i> , 2016 , 117, 261301	7.4	32
89	Quantum Network of Atom Clocks: A Possible Implementation with Neutral Atoms. <i>Physical Review Letters</i> , 2016 , 117, 060506	7.4	19
88	Effects of molecular resonances on Rydberg blockade. <i>Physical Review A</i> , 2015 , 92,	2.6	23
87	A data archive for storing precision measurements. <i>Physics Today</i> , 2015 , 68, 10-11	0.9	10
86	Dark forces and atomic electric dipole moments. <i>Physical Review D</i> , 2015 , 91,	4.9	5
85	Hunting for topological dark matter with atomic clocks. <i>Nature Physics</i> , 2014 , 10, 933-936	16.2	249
84	Accurate potential energy, dipole moment curves, and lifetimes of vibrational states of heteronuclear alkali dimers. <i>Journal of Chemical Physics</i> , 2014 , 140, 184315	3.9	21
83	Magnetic-dipole transitions in highly charged ions as a basis of ultraprecise optical clocks. <i>Physical Review Letters</i> , 2014 , 113, 233003	7.4	30
82	Long-range interaction coefficients for ytterbium dimers. <i>Physical Review A</i> , 2014 , 89,	2.6	24
81	Relativistic many-body calculations of van der Waals coefficients for Yb-Li and Yb-Rb dimers. <i>Physical Review A</i> , 2014 , 89,	2.6	9
80	Intensity landscape and the possibility of magic trapping of alkali-metal Rydberg atoms in infrared optical lattices. <i>Physical Review A</i> , 2013 , 88,	2.6	14
79	Coupled-cluster calculations of properties of the boron atom as a monovalent system. <i>Physical Review A</i> , 2012 , 86,	2.6	6

78	Ion clock and search for the variation of the fine-structure constant using optical transitions in Nd13+ and Sm15+. <i>Physical Review A</i> , 2012 , 86,	2.6	28
77	High-precision atomic clocks with highly charged ions: Nuclear-spin-zero f12-shell ions. <i>Physical Review A</i> , 2012 , 86,	2.6	38
76	Single-ion nuclear clock for metrology at the 19th decimal place. <i>Physical Review Letters</i> , 2012 , 108, 120802	7.4	172
75	Highly charged ions as a basis of optical atomic clockwork of exceptional accuracy. <i>Physical Review Letters</i> , 2012 , 109, 180801	7.4	86
74	Proposed search for T-odd, P-even interactions in spectra of chaotic atoms. <i>Physical Review A</i> , 2012 , 86,	2.6	2
73	Femtosecond pulses and dynamics of molecular photoexcitation: RbCs example. <i>Physical Review A</i> , 2012 , 85,	2.6	2
72	Possibility of magic trapping of a three-level system for Rydberg blockade implementation. <i>Physical Review A</i> , 2012 , 85,	2.6	4
71	Colloquium: Physics of optical lattice clocks. <i>Reviews of Modern Physics</i> , 2011 , 83, 331-347	40.5	159
70	Resolving all-order method convergence problems for atomic physics applications. <i>Physical Review A</i> , 2011 , 83,	2.6	9
69	Possibility of Stark-insensitive cotrapping of two atomic species in optical lattices. <i>Physical Review A</i> , 2011 , 83,	2.6	3
68	Differential light-shift cancellation in a magnetic-field-insensitive transition of 87rb. <i>Physical Review Letters</i> , 2011 , 106, 063002	7.4	24
67	Rydberg atoms in an optical lattice for high precision measurements of blackbody temperatures 2011 ,		1
66	Theory of magic optical traps for Zeeman-insensitive clock transitions in alkali-metal atoms. <i>Physical Review A</i> , 2010 , 81,	2.6	30
65	Entangling the lattice clock: Towards Heisenberg-limited timekeeping. <i>Physical Review A</i> , 2010 , 81,	2.6	12
64	"Doubly magic" conditions in magic-wavelength trapping of ultracold alkali-metal atoms. <i>Physical Review Letters</i> , 2010 , 105, 033002	7.4	25
63	CP-violating Magnetic Moments of Atoms and Molecules. <i>Advances in Atomic, Molecular and Optical Physics</i> , 2010 , 58, 77-112	1.7	2
62	Precision determination of weak charge of Cs133 from atomic parity violation. <i>Physical Review D</i> , 2010 , 82,	4.9	74
61	Axio-electric effect. <i>Physical Review D</i> , 2010 , 82,	4.9	46

60	Relativistic many-body calculation of low-energy dielectronic resonances in Be-like carbon. <i>Physical Review A</i> , 2010 , 82,	2.6	4
59	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> , 2010 , 96, 323-331	2	102
58	Calculations of the neutron skin and its effect in atomic parity violation. <i>Physical Review C</i> , 2009 , 79,	2.7	44
57	ac Stark shift of the Cs microwave atomic clock transitions. <i>Physical Review A</i> , 2009 , 79,	2.6	48
56	Micromagic clock: microwave clock based on atoms in an engineered optical lattice. <i>Physical Review Letters</i> , 2009 , 102, 120801	7.4	19
55	Calculation of Stark-induced absorption on the $6s6p\ ^3P^o_1-6s^2\ ^1S^o_0$ transition in Hg. <i>Physical Review A</i> , 2009 , 79,	2.6	6
54	Mapping out atom-wall interaction with atomic clocks. <i>Physical Review Letters</i> , 2009 , 103, 133201	7.4	27
53	Upper limit on the magnetic dipole contribution to the $5p^3\ ^3P^o_1$ transition in Rb by use of ultracold atom spectroscopy. <i>Physical Review A</i> , 2009 , 80,	2.6	7
52	Precision determination of electroweak coupling from atomic parity violation and implications for particle physics. <i>Physical Review Letters</i> , 2009 , 102, 181601	7.4	186
51	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> , 2009 , 87, 67-74	1.1	16
50	Trapping of neutral mercury atoms and prospects for optical lattice clocks. <i>Physical Review Letters</i> , 2008 , 100, 053001	7.4	110
49	Nuclear magnetic octupole moment and the hyperfine structure of the $5D_{3/2,5/2}$ states of the Ba ⁺ ion. <i>Physical Review A</i> , 2008 , 77,	2.6	13
48	Hyperfine structure of the metastable $^3P^o_2$ state of alkaline-earth-metal atoms as an accurate probe of nuclear magnetic octupole moments. <i>Physical Review A</i> , 2008 , 77,	2.6	20
47	Second-order effects on the hyperfine structure of P states of alkali-metal atoms. <i>Physical Review A</i> , 2008 , 78,	2.6	11
46	Convergence of all-order many-body methods: Coupled-cluster study for Li. <i>Physical Review A</i> , 2008 , 78,	2.6	23
45	Magic frequencies for cesium primary-frequency standard. <i>Physical Review Letters</i> , 2008 , 101, 220801	7.4	45
44	Application of the dual-kinetic-balance sets in the relativistic many-body problem of atomic structure. <i>Computer Physics Communications</i> , 2008 , 179, 310-319	4.2	32
43	Theoretical overview of atomic parity violation. <i>European Physical Journal A</i> , 2007 , 32, 517-523	2.5	27

42	High-accuracy calculation of the blackbody radiation shift in the ^{133}Cs primary frequency standard. <i>Physical Review Letters</i> , 2006 , 97, 040801	7.4	71
41	Triple excitations in the relativistic coupled-cluster formalism and calculation of Na properties. <i>Physical Review A</i> , 2006 , 73,	2.6	29
40	Quantum computing with magnetic atoms in optical lattices of reduced periodicity. <i>Physical Review A</i> , 2006 , 74,	2.6	4
39	Multipolar theory of blackbody radiation shift of atomic energy levels and its implications for optical lattice clocks. <i>Physical Review A</i> , 2006 , 74,	2.6	179
38	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> , 2006 , 102, 195-205	1	91
37	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> , 2005 , 71,	2.6	18
36	Molecular CP-violating magnetic moment. <i>Physical Review A</i> , 2005 , 72,	2.6	7
35	Atomic CP-violating polarizability. <i>Physical Review A</i> , 2005 , 72,	2.6	9
34	Complete fourth-order relativistic many-body calculations for atoms. <i>Physical Review A</i> , 2004 , 69,	2.6	14
33	Accurate relativistic many-body calculations of van der Waals coefficients C8 and C10 for alkali-metal dimers. <i>Journal of Chemical Physics</i> , 2003 , 119, 844-850	3.9	102
32	Ultracold collision properties of metastable alkaline-earth atoms. <i>Physical Review Letters</i> , 2003 , 90, 063002	2.6	52
31	Observation of the nuclear magnetic octupole moment of ^{133}Cs . <i>Physical Review Letters</i> , 2003 , 91, 072501	2.6	57
30	Fourth-order perturbative extension of the single-double excitation coupled-cluster method. <i>Physical Review A</i> , 2002 , 66,	2.6	26
29	High-accuracy relativistic many-body calculations of van der Waals coefficients C6 for alkaline-earth-metal atoms. <i>Physical Review A</i> , 2002 , 65,	2.6	75
28	Reevaluation of the role of nuclear uncertainties in experiments on atomic parity violation with isotopic chains. <i>Physical Review A</i> , 2002 , 65,	2.6	24
27	van der Waals interactions between molecular hydrogen and alkali-metal atoms. <i>Physical Review A</i> , 2002 , 65,	2.6	3
26	Correlated many-body treatment of the Breit interaction with application to cesium atomic properties and parity violation. <i>Physical Review A</i> , 2001 , 65,	2.6	57
25	Interaction potentials of LiH, NaH, KH, RbH, and CsH. <i>Journal of Chemical Physics</i> , 2001 , 115, 5984-5988	3.9	39

24	High-precision calculations of van der Waals coefficients for heteronuclear alkali-metal dimers. <i>Physical Review A</i> , 2001 , 63,	2.6	137
23	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> , 2000 , 65, 543-571	2.1	33
22	Electric-octupole and pure-electric-quadrupole effects in soft-X-Ray photoemission. <i>Physical Review Letters</i> , 2000 , 84, 2116-9	7.4	81
21	Reconciliation of the measurement of parity nonconservation in Cs with the standard model. <i>Physical Review Letters</i> , 2000 , 85, 1618-21	7.4	105
20	Relativistic Many-Body Calculations of Magnetic Dipole Transitions in Be-Like Ions. <i>Physica Scripta</i> , 1999 , 60, 46-53	2.6	34
19	Relativistic Many-Body Calculations of Transition Probabilities for the $2l12l2[LSJ]-2l32l4[L'S'J']$ Lines in Be-like Ions. <i>Physica Scripta</i> , 1999 , 59, 286-295	2.6	56
18	Relativistic many-body calculations of transition probabilities for the $2l12l2[LSJ]-2l33l4[LSJ']$ lines in Be-like ions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1999 , 32, 3527-3545	1.3	46
17	Ab initio calculations of off-diagonal hyperfine interaction in cesium. <i>Physical Review A</i> , 1999 , 60, R1741-R17428		
16	Nondipole effects in the photoionization of neon: Random-phase approximation. <i>Physical Review A</i> , 1999 , 59, 3609-3613	2.6	38
15	Higher-order Stark effect on an excited helium atom. <i>Physical Review A</i> , 1999 , 60, 986-995	2.6	18
14	Large Contributions of Negative-Energy States to Forbidden Magnetic-Dipole Transition Amplitudes in Alkali-Metal Atoms. <i>Physical Review Letters</i> , 1999 , 83, 2914-2917	7.4	26
13	Fine-structure effects in relativistic calculations of the static polarizability of the helium atom. <i>Journal of Experimental and Theoretical Physics</i> , 1999 , 88, 272-277	1	12
12	NON-DIPOLE EFFECTS IN PHOTOELECTRON ANGULAR DISTRIBUTIONS FOR RARE GAS ATOMS. <i>Atomic Data and Nuclear Data Tables</i> , 1999 , 73, 153-211	2	105
11	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> , 1999 , 60, 4476-4487	2.6	245
10	High-Precision Calculations of Dispersion Coefficients, Static Dipole Polarizabilities, and Atom-Wall Interaction Constants for Alkali-Metal Atoms. <i>Physical Review Letters</i> , 1999 , 82, 3589-3592	7.4	269
9	Negative-energy contributions to transition amplitudes in heliumlike ions. <i>Physical Review A</i> , 1998 , 58, 4453-4461	2.6	47
8	Relativistic many-body calculations of energy levels, hyperfine constants, and transition rates for sodiumlike ions, $Z=11-16$. <i>Physical Review A</i> , 1998 , 58, 1016-1028	2.6	80
7	Many-body calculations of the static atom-wall interaction potential for alkali-metal atoms. <i>Physical Review A</i> , 1998 , 57, 2629-2634	2.6	13

6	Dual purpose diagnostics of edge plasmas of Tokamaks based on a novel spectroscopic effect. <i>Review of Scientific Instruments</i> , 1997 , 68, 998-1001	1.7	3
5	Two-photon decay of 21S0 and 23S1 states of heliumlike ions. <i>Physical Review A</i> , 1997 , 56, 1288-1294	2.6	81
4	Simple multi-particle model of ion dynamical broadening. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1997 , 58, 553-558	2.1	1
3	Ion impacts on moving emitters: A convergent theory of anisotropic broadening in high-temperature plasmas. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1995 , 54, 137-142 ^{3.1}		3
2	A generalized theory of stark broadening of hydrogen-like spectral lines in dense plasmas. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1995 , 54, 307-315	2.1	14
1	Generalized theory of ion impact broadening in magnetized plasmas and its applications for tokamaks. <i>Physical Review Letters</i> , 1994 , 73, 2059-2062	7.4	19