

Derek F Jackson Kimball

List of Publications by Year in descending order

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Version: 2024-02-01

49
papers

3,598
citations

201385

27
h-index

243296

44
g-index

51
all docs

51
docs citations

51
times ranked

2664
citing authors

#	ARTICLE	IF	CITATIONS
1	Search for new physics with atoms and molecules. <i>Reviews of Modern Physics</i> , 2018, 90, .	16.4	902
2	Resonant nonlinear magneto-optical effects in atoms. <i>Reviews of Modern Physics</i> , 2002, 74, 1153-1201.	16.4	643
3	Nonlinear Magneto-optics and Reduced Group Velocity of Light in Atomic Vapor with Slow Ground State Relaxation. <i>Physical Review Letters</i> , 1999, 83, 1767-1770.	2.9	560
4	Can a Quantum Nondemolition Measurement Improve the Sensitivity of an Atomic Magnetometer?. <i>Physical Review Letters</i> , 2004, 93, 173002.	2.9	107
5	Nonlinear Magneto-optical Rotation via Alignment-to-Orientation Conversion. <i>Physical Review Letters</i> , 2000, 85, 2088-2091.	2.9	90
6	The Global Network of Optical Magnetometers for Exotic physics (GNOME): A novel scheme to search for physics beyond the Standard Model. <i>Annalen Der Physik</i> , 2013, 525, 659-670.	0.9	89
7	Search for Axionlike Dark Matter with a Liquid-State Nuclear Spin Comagnetometer. <i>Physical Review Letters</i> , 2019, 122, 191302.	2.9	79
8	Constraints on bosonic dark matter from ultralow-field nuclear magnetic resonance. <i>Science Advances</i> , 2019, 5, eaax4539.	4.7	75
9	Hyperpolarized Xenon Nuclear Spins Detected by Optical Atomic Magnetometry. <i>Physical Review Letters</i> , 2004, 93, 160801.	2.9	70
10	Stochastic fluctuations of bosonic dark matter. <i>Nature Communications</i> , 2021, 12, 7321.	5.8	59
11	Selective Addressing of High-Rank Atomic Polarization Moments. <i>Physical Review Letters</i> , 2003, 90, 253001.	2.9	55
12	Search for Axionlike Dark Matter Using Solid-State Nuclear Magnetic Resonance. <i>Physical Review Letters</i> , 2021, 126, 141802.	2.9	51
13	Application of spin-exchange relaxation-free magnetometry to the Cosmic Axion Spin Precession Experiment. <i>Physics of the Dark Universe</i> , 2018, 19, 27-35.	1.8	50
14	Constraints on exotic spin-dependent interactions between electrons from helium fine-structure spectroscopy. <i>Physical Review A</i> , 2017, 95, .	1.0	49
15	The cosmic axion spin precession experiment (CASPER): a dark-matter search with nuclear magnetic resonance. <i>Quantum Science and Technology</i> , 2018, 3, 014008.	2.6	48
16	Characterization of the global network of optical magnetometers to search for exotic physics (GNOME). <i>Physics of the Dark Universe</i> , 2018, 22, 162-180.	1.8	48
17	Precessing Ferromagnetic Needle Magnetometer. <i>Physical Review Letters</i> , 2016, 116, 190801.	2.9	47
18	Investigation of antirelaxation coatings for alkali-metal vapor cells using surface science techniques. <i>Journal of Chemical Physics</i> , 2010, 133, 144703.	1.2	45

#	ARTICLE	IF	CITATIONS
19	Searching for axion stars and Q -balls with a terrestrial magnetometer network. Physical Review D, 2018, 97, .	1.6	42
20	Search for topological defect dark matter with a global network of optical magnetometers. Nature Physics, 2021, 17, 1396-1401.	6.5	42
21	Constraints on Exotic Dipole-Dipole Couplings between Electrons at the Micrometer Scale. Physical Review Letters, 2015, 115, 081801.	2.9	38
22	Constraints on long-range spin-gravity and monopole-dipole couplings of the proton. Physical Review D, 2017, 96, .	1.6	38
23	Constraints on Exotic Spin-Dependent Interactions Between Matter and Antimatter from Antiprotonic Helium Spectroscopy. Physical Review Letters, 2018, 120, 183002.	2.9	36
24	Dynamics of a Ferromagnetic Particle Levitated over a Superconductor. Physical Review Applied, 2019, 11, .	1.5	32
25	A dual-isotope rubidium comagnetometer to search for anomalous long-range spin-mass (spin-gravity) couplings of the proton. Annalen Der Physik, 2013, 525, 514-528.	0.9	31
26	Overview of the Cosmic Axion Spin Precession Experiment (CASPER). Springer Proceedings in Physics, 2020, , 105-121.	0.1	31
27	Nuclear-Spin Comagnetometer Based on a Liquid of Identical Molecules. Physical Review Letters, 2018, 121, 023202.	2.9	30
28	Analysis method for detecting topological defect dark matter with a global magnetometer network. Physics of the Dark Universe, 2020, 28, 100494.	1.8	23
29	Quantum sensor networks as exotic field telescopes for multi-messenger astronomy. Nature Astronomy, 2021, 5, 150-158.	4.2	21
30	Earth as a transducer for dark-photon dark-matter detection. Physical Review D, 2021, 104, .	1.6	19
31	Gravity Probe Spin: Prospects for measuring general-relativistic precession of intrinsic spin using a ferromagnetic gyroscope. Physical Review D, 2021, 103, .	1.6	18
32	Spectral signatures of axionlike dark matter. Physical Review D, 2022, 105, .	1.6	15
33	Earth as a transducer for axion dark-matter detection. Physical Review D, 2022, 105, .	1.6	15
34	Collisional perturbation of states in atomic ytterbium by helium and neon. Physical Review A, 1999, 60, 1103-1112.	1.0	14
35	Search for dark-photon dark matter in the SuperMAG geomagnetic field dataset. Physical Review D, 2021, 104, .	1.6	13
36	<i>In situ</i> measurement of light polarization with ellipticity-induced nonlinear magneto-optical rotation. Physical Review A, 2017, 96, .	1.0	12

#	ARTICLE	IF	CITATIONS
37	Ferromagnetic gyroscopes for tests of fundamental physics. Quantum Science and Technology, 2021, 6, 024006.	2.6	12
38	Quantum sensitivity limits of nuclear magnetic resonance experiments searching for new fundamental physics. Quantum Science and Technology, 2021, 6, 034007.	2.6	10
39	Surpassing the Energy Resolution Limit with Ferromagnetic Torque Sensors. Physical Review Letters, 2021, 127, 070801.	2.9	10
40	Measurement of the Ratio between g Factors of the Ground States of ^{87}Rb and ^{85}Rb . Annalen Der Physik, 2019, 531, 1800281.	0.9	9
41	A network of superconducting gravimeters as a detector of matter with feeble nongravitational coupling. European Physical Journal D, 2020, 74, 1.	0.6	5
42	Alignment-to-orientation conversion and nuclear quadrupole resonance. Chemical Physics Letters, 2003, 378, 440-448.	1.2	3
43	General principles and characteristics of optical magnetometers. , 2013, , 3-24.		3
44	Optical magnetometry with modulated light. , 0, , 104-124.		2
45	Paper craft. Nature, 2016, 529, 427-428.	13.7	2
46	Wu et al. Reply:. Physical Review Letters, 2019, 123, 169002.	2.9	2
47	Tests of fundamental physics with optical magnetometers. , 0, , 339-368.		1
48	PROSPECTS FOR A GLOBAL NETWORK OF OPTICAL MAGNETOMETERS FOR EXOTIC PHYSICS (GNOME). , 2014, , 115-118.		0
49	Spin Gyroscope is Ready to Look for New Physics. Physics Magazine, 2018, 11, .	0.1	0