

Jabez J Mcclelland

List of Publications by Year in descending order

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96
papers

3,775
citations

126708

33
h-index

128067

60
g-index

97
all docs

97
docs citations

97
times ranked

2466
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron Vortex Beams with High Quanta of Orbital Angular Momentum. <i>Science</i> , 2011, 331, 192-195.	6.0	492
2	Laser-Focused Atomic Deposition. <i>Science</i> , 1993, 262, 877-880.	6.0	372
3	Replica molding using polymeric materials: A practical step toward nanomanufacturing. <i>Advanced Materials</i> , 1997, 9, 147-149.	11.1	285
4	Microlithography by using neutral metastable atoms and self-assembled monolayers. <i>Science</i> , 1995, 269, 1255-1257.	6.0	212
5	Laser Cooling without Repumping: A Magneto-Optical Trap for Erbium Atoms. <i>Physical Review Letters</i> , 2006, 96, 143005.	2.9	159
6	Nanofabrication of a two-dimensional array using laser-focused atomic deposition. <i>Applied Physics Letters</i> , 1995, 67, 1378-1380.	1.5	106
7	Superelastic scattering of spin-polarized electrons from sodium. <i>Physical Review A</i> , 1989, 40, 2321-2329.	1.0	88
8	Laser focusing of atoms: a particle-optics approach. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1991, 8, 1974.	0.9	88
9	Atom-optical properties of a standing-wave light field. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1995, 12, 1761.	0.9	83
10	Minimizing feature width in atom optically fabricated chromium nanostructures. <i>Physical Review A</i> , 1999, 59, 2476-2485.	1.0	79
11	Improved low-energy diffuse scattering electron spin polarization analyzer. <i>Review of Scientific Instruments</i> , 1989, 60, 1-11.	0.6	75
12	Detailed look at aspects of optical pumping in sodium. <i>Physical Review A</i> , 1985, 31, 3704-3710.	1.0	73
13	Raman-Induced Avoided Crossings in Adiabatic Optical Potentials: Observation of $\pi/8$ Spatial Frequency in the Distribution of Atoms. <i>Physical Review Letters</i> , 1996, 76, 4689-4692.	2.9	66
14	Cold atomic beam ion source for focused ion beam applications. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	61
15	Fast, bias-free algorithm for tracking single particles with variable size and shape. <i>Optics Express</i> , 2008, 16, 14064.	1.7	59
16	Magneto-Optical-Trap-Based, High Brightness Ion Source for Use as a Nanoscale Probe. <i>Nano Letters</i> , 2008, 8, 2844-2850.	4.5	54
17	Spontaneous current constriction in threshold switching devices. <i>Nature Communications</i> , 2019, 10, 1628.	5.8	51
18	Spin Dependence in Superelastic Electron Scattering from Na(3P). <i>Physical Review Letters</i> , 1985, 55, 688-691.	2.9	50

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19	Nanostructure fabrication via laser-focused atomic deposition (invited). Journal of Applied Physics, 1996, 79, 6079.	1.1	50
20	Self-assembled monolayers exposed by metastable argon and metastable helium for neutral atom lithography and atomic beam imaging. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1997, 15, 1805.	1.6	50
21	Magneto-optical trapping of chromium atoms. Physical Review A, 2000, 61, .	1.0	46
22	Narrow-Line Magneto-Optical Cooling and Trapping of Strongly Magnetic Atoms. Physical Review Letters, 2008, 100, 113002.	2.9	46
23	3D Particle Trajectories Observed by Orthogonal Tracking Microscopy. ACS Nano, 2009, 3, 609-614.	7.3	44
24	Laser collimation of a chromium beam. Physical Review A, 1997, 55, 1331-1338.	1.0	43
25	Atoms on demand: Fast, deterministic production of single Cr atoms. Applied Physics Letters, 2003, 82, 3128-3130.	1.5	43
26	Spin-Dependent Superelastic Scattering from Pure Angular Momentum States of Na(3P). Physical Review Letters, 1986, 56, 1362-1365.	2.9	42
27	Laser-cooled atoms as a focused ion-beam source. Physical Review A, 2006, 74, .	1.0	41
28	Bright focused ion beam sources based on laser-cooled atoms. Applied Physics Reviews, 2016, 3, 011302.	5.5	41
29	Spin-resolved superelastic scattering from sodium at 10 and 40 eV. Journal of Physics B: Atomic, Molecular and Optical Physics, 1991, 24, L653-L659.	0.6	40
30	Accuracy of nanoscale pitch standards fabricated by laser-focused atomic deposition. Journal of Research of the National Institute of Standards and Technology, 2003, 108, 99.	0.4	39
31	Nanoscale focused ion beam from laser-cooled lithium atoms. New Journal of Physics, 2011, 13, 103035.	1.2	35
32	Scanning ion microscopy with low energy lithium ions. Ultramicroscopy, 2014, 142, 24-31.	0.8	35
33	Sub-Doppler laser cooling and magnetic trapping of erbium. Physical Review A, 2007, 76, .	1.0	33
34	Analysis of collisional alignment and orientation studied by scattering of spin-polarized electrons from laser excited atoms. Zeitschrift für Physik D-Atoms Molecules and Clusters, 1987, 6, 163-183.	1.0	32
35	Laser cooling transitions in atomic erbium. Optics Express, 2005, 13, 3185.	1.7	32
36	Nanofabrication via atom optics. Applied Surface Science, 1999, 141, 210-218.	3.1	31

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37	Patterning of hydrogen-passivated Si(100) using Ar(3P _{0,2}) metastable atoms. Applied Physics Letters, 1999, 74, 2239-2241.	1.5	28
38	Stateful characterization of resistive switching TiO ₂ with electron beam induced currents. Nature Communications, 2017, 8, 1972.	5.8	28
39	Determination of complex scattering amplitudes in low-energy elastic electron-sodium scattering. Physical Review A, 1992, 46, 6079-6082.	1.0	26
40	Electron Correlation and Binding Effects in Measured Electron-Scattering Cross Sections of CO ₂ . Physical Review Letters, 1985, 54, 2218-2221.	2.9	24
41	Spin-Orbit and Exchange Effects in Elastic Scattering of Spin-Polarized Electrons from Spin-Polarized Na Atoms. Physical Review Letters, 1987, 58, 2198-2200.	2.9	23
42	High-brightness Cs focused ion beam from a cold-atomic-beam ion source. Nano Futures, 2017, 1, 015005.	1.0	23
43	Focused chromium ion beam. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C6F1-C6F5.	0.6	22
44	Correlation effects in neon studied by elastic and inelastic high-energy electron scattering. Physical Review A, 1985, 31, 1328-1335.	1.0	20
45	Use of thorium as a target in electron spin analyzers. Review of Scientific Instruments, 1989, 60, 683-687.	0.6	20
46	Spin-resolved elastic scattering of electrons from sodium below the inelastic threshold. Physical Review Letters, 1991, 67, 3761-3763.	2.9	19
47	Nanotechnology with atom optics. Science and Technology of Advanced Materials, 2004, 5, 575-580.	2.8	19
48	Surface growth in laser-focused atomic deposition. Physical Review B, 1999, 60, 1543-1546.	1.1	18
49	Patterning of octadecylsiloxane self-assembled monolayers on Si(100) using Ar([sup 3]P[sub 0,2]) atoms. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 1087.	1.6	17
50	Large-angle superelastic electron scattering from Na(3P). Journal of Physics B: Atomic and Molecular Physics, 1987, 20, L385-L388.	1.6	16
51	Imaging nanophotonic modes of microresonators using a focused ion beam. Nature Photonics, 2016, 10, 35-39.	15.6	16
52	Using laser-cooled atoms as a focused ion beam source. Journal of Vacuum Science & Technology B, 2006, 24, 2907.	1.3	15
53	Inter-ion coulomb interactions in a magneto-optical trap ion source. Journal of Applied Physics, 2011, 109, .	1.1	15
54	Fabrication and domain imaging of iron magnetic nanowire arrays. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1998, 16, 1817-1819.	0.9	15

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55	Laser-focused atomic deposition “ nanofabrication via atom optics. <i>Thin Solid Films</i> , 2000, 367, 25-27.	0.8	14
56	Spin-resolved superelastic electron scattering from laser-excited chromium atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1993, 26, L753-L758.	0.6	13
57	Simple, compact, high-purity Cr evaporator for ultrahigh vacuum. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1993, 11, 2863-2864.	0.9	13
58	Natural linewidth of the 401 nm laser-cooling transition in Er. <i>Physical Review A</i> , 2006, 73, .	1.0	13
59	Giant Surface Conductivity Enhancement in a Carbon Nanotube Composite by Ultraviolet Light Exposure. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 23230-23235.	4.0	13
60	Nanostructure fabrication by reactive-ion etching of laser-focused chromium on silicon. <i>Applied Physics B: Lasers and Optics</i> , 1998, 66, 95-98.	1.1	12
61	Laser-focused nanofabrication: Beating of two atomic resonances. <i>Applied Physics Letters</i> , 2002, 80, 4443-4445.	1.5	12
62	Editors' Choice Communication “Comparison of Nanoscale Focused Ion Beam and Electrochemical Lithiation in I^2Sn Microspheres. <i>Journal of the Electrochemical Society</i> , 2016, 163, A1010-A1012.	1.3	11
63	Infrared laser-emission study in a resonantly excited sodium vapor. <i>Applied Physics B, Photophysics and Laser Chemistry</i> , 1983, 31, 131-134.	1.5	10
64	Nanostructure fabrication via direct writing with atoms focused in laser fields. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1994, 12, 1847.	1.6	10
65	Two-dimensional imaging and modification of nanophotonic resonator modes using a focused ion beam. <i>Optica</i> , 2017, 4, 1444.	4.8	10
66	Search for a joint spin-orbit and exchange asymmetry in elastic electron scattering from spin-polarised sodium. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1990, 23, L21-L24.	0.6	9
67	Cure temperature influences composite electrical properties by carbon nanotube-rich domain formation. <i>Composites Science and Technology</i> , 2016, 133, 23-32.	3.8	9
68	Multimodal Characterization of the Morphology and Functional Interfaces in Composite Electrodes for Li-S Batteries by Li Ion and Electron Beams. <i>Langmuir</i> , 2017, 33, 9361-9377.	1.6	9
69	Spin-resolved elastic scattering of electrons from sodium. <i>Physical Review A</i> , 1993, 47, 3000-3006.	1.0	8
70	Theoretical model of errors in micromirror-based three-dimensional particle tracking. <i>Optics Letters</i> , 2010, 35, 1905.	1.7	8
71	Characterization of a high-brightness, laser-cooled Li^+ ion source. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	8
72	Mutual control of stochastic switching for two electrically coupled superparamagnetic tunnel junctions. <i>Physical Review B</i> , 2021, 104, .	1.1	8

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73	Measurements and calculations of the anomalous energy broadening of a 300 eV electron beam. Journal of Applied Physics, 1981, 52, 7039-7043.	1.1	6
74	Direct-Write Lithiation of Silicon Using a Focused Ion Beam of Li ⁺ . ACS Nano, 2019, 13, 8012-8022.	7.3	6
75	Optical State-Preparation of Atoms. Experimental Methods in the Physical Sciences, 1996, , 145-170.	0.1	4
76	Performance of a feedback-controlled, deterministic source of single chromium atoms. Journal of the Optical Society of America B: Optical Physics, 2004, 21, 473.	0.9	4
77	Defect Evolution of Ion-Exposed Single-Wall Carbon Nanotubes. Journal of Physical Chemistry C, 2019, 123, 2496-2505.	1.5	4
78	<title>Nanofabrication via atom optics with chromium</title>. , 1997, 2995, 90.		3
79	Impact ionization-induced bistability in CMOS transistors at cryogenic temperatures for capacitorless memory applications. Applied Physics Letters, 2021, 119, .	1.5	3
80	Implementation of a Binary Neural Network on a Passive Array of Magnetic Tunnel Junctions. Physical Review Applied, 2022, 18, .	1.5	3
81	Spin-Dependent Superelastic Scattering from Pure Angular Momentum States of Na(3P). Physical Review Letters, 1986, 56, 2771-2771.	2.9	2
82	Electron Laguerre-Gaussian beams. , 2011, , .		2
83	MOTIS: A Focused Ion Beam Source Based On Laser-Cooled Atoms. AIP Conference Proceedings, 2011, , .	0.3	2
84	Spin sensitivity of a channel electron multiplier. Review of Scientific Instruments, 1988, 59, 506-508.	0.6	1
85	Uncertainty intervals for polarized beam scattering asymmetry statistics. Review of Scientific Instruments, 1993, 64, 1888-1894.	0.6	1
86	Imaging of Carbon Nanotubes Embedded in Polymer Composites via Low Energy Scanning Electron Microscopy and Scanning Lithium Ion Microscopy. Microscopy and Microanalysis, 2015, 21, 513-514.	0.2	1
87	Transport dynamics in a high-brightness magneto-optical-trap Li ion source. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	0.6	1
88	Atom Optics: Using Light to Position Atoms. , 1999, , 403-423.		1
89	Electron Beams Carrying Quantized Orbital Angular Momentum. , 2011, , .		1
90	<title>Laser-focused atomic deposition</title>. , 1994, , .		0

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91	Direct imaging of nanophotonic cavity modes using Li ion microscope. , 2014, , .		0
92	Using Atom Optics to Fabricate Nanostructures. , 1995, , 75-78.		0
93	Focused Ion Beams for Lithiation of High Capacity Host Materials for Negative Electrodes. ECS Meeting Abstracts, 2016, , .	0.0	0
94	Focused Ion and Electron Beam Nanometrologies for Probing Structures and Properties of Sulfur Copolymer-Based Nanocomposite Cathodes for Next Generation of High-Energy Density Li-S Batteries. ECS Meeting Abstracts, 2016, , .	0.0	0
95	Uncovering Structural Organization of a Solid Electrolyte Interphase Using Thin Window Si Membrane Negative Electrodes. ECS Meeting Abstracts, 2017, , .	0.0	0
96	Nanoscale Electrochemistry Via Lithium Focused Ion Beam. ECS Meeting Abstracts, 2017, , .	0.0	0