

# Benjamin J McMorran

## List of Publications by Year in descending order

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Version: 2024-02-01

81  
papers

2,680  
citations

393982

19  
h-index

182168

51  
g-index

83  
all docs

83  
docs citations

83  
times ranked

3038  
citing authors

#	ARTICLE	IF	CITATIONS
1	Roadmap on structured light. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 013001.	1.0	888
2	Electron Vortex Beams with High Quanta of Orbital Angular Momentum. <i>Science</i> , 2011, 331, 192-195.	6.0	492
3	Tailoring magnetic energies to form dipole skyrmions and skyrmion lattices. <i>Physical Review B</i> , 2017, 95, .	1.1	160
4	Optimization of Spin-Triplet Supercurrent in Ferromagnetic Josephson Junctions. <i>Physical Review Letters</i> , 2012, 108, 127002.	2.9	117
5	Efficient linear phase contrast in scanning transmission electron microscopy with matched illumination and detector interferometry. <i>Nature Communications</i> , 2016, 7, 10719.	5.8	102
6	Efficient diffractive phase optics for electrons. <i>New Journal of Physics</i> , 2014, 16, 093039.	1.2	67
7	Synthesizing skyrmion bound pairs in Fe-Gd thin films. <i>Applied Physics Letters</i> , 2016, 109, .	1.5	67
8	An electron Talbot interferometer. <i>New Journal of Physics</i> , 2009, 11, 033021.	1.2	61
9	Laguerreâ€“Gauss and Hermiteâ€“Gauss soft X-ray states generated using diffractive optics. <i>Nature Photonics</i> , 2019, 13, 205-209.	15.6	61
10	Observation of nanoscale magnetic fields using twisted electron beams. <i>Nature Communications</i> , 2017, 8, 689.	5.8	47
11	Propagation of vortex electron wave functions in a magnetic field. <i>Physical Review A</i> , 2012, 86, .	1.0	44
12	Resonant properties of dipole skyrmions in amorphous Fe/Gd multilayers. <i>Physical Review B</i> , 2017, 95, .	1.1	44
13	An Integrated Electrochromic Nanoplasmonic Optical Switch. <i>Nano Letters</i> , 2011, 11, 2774-2778.	4.5	41
14	Origins and demonstrations of electrons with orbital angular momentum. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20150434.	1.6	39
15	Efficient sorting of free electron orbital angular momentum. <i>New Journal of Physics</i> , 2017, 19, 023053.	1.2	35
16	Diffraction of 0.5keV electrons from free-standing transmission gratings. <i>Ultramicroscopy</i> , 2006, 106, 356-364.	0.8	30
17	Probing Light Atoms at Subnanometer Resolution: Realization of Scanning Transmission Electron Microscope Holography. <i>Nano Letters</i> , 2018, 18, 7118-7123.	4.5	24
18	Electron interferometry with nanogratings. <i>Physical Review A</i> , 2006, 74, .	1.0	23

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19	Single-Photon Emitters in Boron Nitride Nanococoons. <i>Nano Letters</i> , 2018, 18, 2683-2688.	4.5	20
20	Interpretable and Efficient Interferometric Contrast in Scanning Transmission Electron Microscopy with a Diffraction-Grating Beam Splitter. <i>Physical Review Applied</i> , 2018, 10, .	1.5	20
21	Interaction-Free Measurement with Electrons. <i>Physical Review Letters</i> , 2021, 127, 110401.	2.9	19
22	Model for partial coherence and wavefront curvature in grating interferometers. <i>Physical Review A</i> , 2008, 78, .	1.0	18
23	Path-separated electron interferometry in a scanning transmission electron microscope. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 205104.	1.3	17
24	Aberration corrected STEM by means of diffraction gratings. <i>Ultramicroscopy</i> , 2017, 182, 36-43.	0.8	15
25	Improved control of electron computer-generated holographic grating groove profiles using ion beam gas-assisted etching. <i>Applied Optics</i> , 2020, 59, 1594.	0.9	15
26	Reversal of patterned Co/Pd multilayers with graded magnetic anisotropy. <i>Journal of Applied Physics</i> , 2011, 109, .	1.1	14
27	Streamlined approach to mapping the magnetic induction of skyrmionic materials. <i>Ultramicroscopy</i> , 2017, 177, 78-83.	0.8	14
28	Stern-Gerlach-like approach to electron orbital angular momentum measurement. <i>Physical Review A</i> , 2017, 95, .	1.0	13
29	Magnetization textures in NiPd nanostructures. <i>Physical Review B</i> , 2011, 84, .	1.1	12
30	Electron-Beam Shaping in the Transmission Electron Microscope: Control of Electron-Beam Propagation Along Atomic Columns. <i>Physical Review Applied</i> , 2019, 11, .	1.5	10
31	Exact design of complex amplitude holograms for producing arbitrary scalar fields. <i>Optics Express</i> , 2020, 28, 17334.	1.7	10
32	Measuring the effects of low energy ion milling on the magnetization of Co/Pd multilayers using scanning electron microscopy with polarization analysis. <i>Journal of Applied Physics</i> , 2010, 107, 09D305.	1.1	9
33	High Efficiency Electron Diffractive Optics. <i>Microscopy and Microanalysis</i> , 2013, 19, 1188-1189.	0.2	9
34	The colossal hats (pukao) of monumental statues on Rapa Nui (Easter Island, Chile): Analyses of pukao variability, transport, and emplacement. <i>Journal of Archaeological Science</i> , 2018, 100, 148-157.	1.2	9
35	Beam shaping and probe characterization in the scanning electron microscope. <i>Ultramicroscopy</i> , 2021, 225, 113268.	0.8	9
36	Scanning two-grating free electron Mach-Zehnder interferometer. <i>Physical Review Research</i> , 2021, 3, .	1.3	9

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37	Determination of domain wall chirality using <i>in situ</i> Lorentz transmission electron microscopy. <i>AIP Advances</i> , 2017, 7, .	0.6	8
38	A tunable path-separated electron interferometer with an amplitude-dividing grating beamsplitter. <i>Applied Physics Letters</i> , 2018, 113, 233102.	1.5	8
39	Inelastic Mach-Zehnder Interferometry with Free Electrons. <i>Physical Review Letters</i> , 2022, 128, 147401.	2.9	8
40	Aberration-Corrected STEM by Means of Diffraction Gratings. <i>Microscopy and Microanalysis</i> , 2014, 20, 946-947.	0.2	7
41	Advanced Phase Reconstruction Methods Enabled by Four-Dimensional Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2019, 25, 10-11.	0.2	7
42	Material Sputtering with a Multi-Ion Species Plasma Focused Ion Beam. <i>Advances in Materials Science and Engineering</i> , 2021, 2021, 1-9.	1.0	6
43	Electron holograms encoding amplitude and phase for the generation of arbitrary wavefunctions. <i>Microscopy and Microanalysis</i> , 2015, 21, 503-504.	0.2	5
44	Development of STEM-Holography. <i>Microscopy and Microanalysis</i> , 2016, 22, 506-507.	0.2	5
45	Addition, Subtraction, and Analysis of Orbital Angular Momentum in Electron Vortex Beams. <i>Microscopy and Microanalysis</i> , 2013, 19, 1166-1167.	0.2	3
46	Atomic-resolution Imaging Using Cs-corrected Vortex Beams. <i>Microscopy and Microanalysis</i> , 2014, 20, 84-85.	0.2	3
47	Seeing with Phase: Interferometric Electron Microscopy for Magnetic Materials and Biological Specimens. <i>Microscopy and Microanalysis</i> , 2019, 25, 1210-1211.	0.2	3
48	Average Atomic Number and Electron Backscattering in Compounds. <i>Microscopy and Microanalysis</i> , 2019, 25, 2314-2315.	0.2	3
49	Magnetic Phase Imaging Using Interferometric STEM. <i>Microscopy and Microanalysis</i> , 2020, 26, 2480-2482.	0.2	3
50	Low Energy Electron Holography of Charged Tip. <i>Microscopy and Microanalysis</i> , 2008, 14, 350-351.	0.2	2
51	Electron Laguerre-Gaussian beams. , 2011, , .		2
52	Characterization of Electron Orbital Angular Momentum Transfer to Nanoparticle Plasmon Modes. <i>Microscopy and Microanalysis</i> , 2014, 20, 68-69.	0.2	2
53	Demonstration of STEM Holography Using Diffraction Gratings. <i>Microscopy and Microanalysis</i> , 2018, 24, 200-201.	0.2	2
54	Single Electron Interferometry: A Step Toward Quantum Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2019, 25, 1712-1713.	0.2	2

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55	Lorentz Implementation of STEM Holography. <i>Microscopy and Microanalysis</i> , 2019, 25, 96-97.	0.2	2
56	2-Grating Inelastic Free Electron Interferometry. <i>Microscopy and Microanalysis</i> , 2021, 27, 1474-1477.	0.2	2
57	Chiral spin textures in Fe/Gd based multilayer thin films. <i>Microscopy and Microanalysis</i> , 2021, 27, 2404-2407.	0.2	2
58	Structured Electron Beam Illumination: A New Control Over the Electron Probe Weird Probes and New Experiments. <i>Microscopy and Microanalysis</i> , 2015, 21, 25-26.	0.2	1
59	Propagation of Bessel Beams along Atomic Columns in Crystal: a Bloch Wave and Multi-slice Analysis. <i>Microscopy and Microanalysis</i> , 2015, 21, 1889-1890.	0.2	1
60	Proposal for Magnetic Dichroism With a Standard STEM Probe Beam. <i>Microscopy and Microanalysis</i> , 2016, 22, 1708-1709.	0.2	1
61	Phase Contrast Imaging of Weakly-Scattering Samples with Matched Illumination and Detector Interferometry—Scanning Transmission Electron Microscopy (MIDI—STEM). <i>Microscopy and Microanalysis</i> , 2016, 22, 460-461.	0.2	1
62	Holographically Probing Longitudinal Magnetic Fields with Electron Vortex Beams. <i>Microscopy and Microanalysis</i> , 2018, 24, 938-939.	0.2	1
63	Feasibility of an Electron Orbital Angular Momentum Sorter. <i>Microscopy and Microanalysis</i> , 2019, 25, 90-91.	0.2	1
64	Interaction-free Interferometry with Electrons. <i>Microscopy and Microanalysis</i> , 2020, 26, 1744-1746.	0.2	1
65	A flexible electron interferometer demonstrating live phase imaging and interaction-free measurements. <i>Microscopy and Microanalysis</i> , 2021, 27, 2120-2122.	0.2	1
66	Electron Beams Carrying Quantized Orbital Angular Momentum. , 2011, , , .		1
67	Discretized evolution of solitons in the achiral stripe phase of a Fe/Gd thin film. <i>Physical Review B</i> , 2022, 105, .	1.1	1
68	Measurement of Electron Beam Coherence Using a Lau Interferometer. <i>Microscopy and Microanalysis</i> , 2008, 14, 828-829.	0.2	0
69	Very Low Energy TEM Diffraction of Nanostructures. <i>Microscopy and Microanalysis</i> , 2008, 14, 824-825.	0.2	0
70	Electron Orbital Angular Momentum Transfer to Nanoparticle Plasmon Modes. <i>Microscopy and Microanalysis</i> , 2013, 19, 1186-1187.	0.2	0
71	Propagation of Free Electrons Carrying Orbital Angular Momentum Through Magnetic Lenses. <i>Microscopy and Microanalysis</i> , 2014, 20, 292-293.	0.2	0
72	Efficient Diffractive Phase Optics for Electrons. <i>Microscopy and Microanalysis</i> , 2014, 20, 356-357.	0.2	0

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73	An Orbital Angular Momentum Spectrometer for Electrons. <i>Microscopy and Microanalysis</i> , 2015, 21, 23-24.	0.2	0
74	Spin-Multislice Applied to the Electron Spin Interaction with Materials. <i>Microscopy and Microanalysis</i> , 2015, 21, 1961-1962.	0.2	0
75	Electron Microscopy with Structured Electrons. <i>Microscopy and Microanalysis</i> , 2017, 23, 448-449.	0.2	0
76	Transforming a Thermionic Transmission Electron Microscope into an Electron Interferometer. <i>Microscopy and Microanalysis</i> , 2019, 25, 94-95.	0.2	0
77	Corrected Off-axis Diffraction Holograms for Electrons. <i>Microscopy and Microanalysis</i> , 2020, 26, 426-427.	0.2	0
78	3D Morphology of Magnetic Bubbles in Layered Ferromagnetic Materials. <i>Microscopy and Microanalysis</i> , 2021, 27, 150-152.	0.2	0
79	Optimized Amplitude-Dividing Beam Splitter Gratings for 4D STEM Holography. <i>Microscopy and Microanalysis</i> , 2021, 27, 746-747.	0.2	0
80	Investigation of mechanical torque applied by electron vortex beams in a liquid cell. , 2018, , .		0
81	Quantitative Phase Imaging with an Electron Mach-Zehnder Interferometer. , 2021, , .		0