

# Damien McGrouther

## List of Publications by Year in descending order

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100  
papers

3,052  
citations

172457

29  
h-index

168389

53  
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103  
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103  
docs citations

103  
times ranked

3649  
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase domain boundary motion and memristance in gradient-doped FeRh nanopillars induced by spin injection. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	6
2	Atomic resolution HOLZ-STEM imaging of atom position modulation in oxide heterostructures. <i>Ultramicroscopy</i> , 2021, 226, 113296.	1.9	4
3	Quantifying the performance of a hybrid pixel detector with GaAs:Cr sensor for transmission electron microscopy. <i>Ultramicroscopy</i> , 2021, 227, 113298.	1.9	12
4	Sub-100 nanosecond temporally resolved imaging with the Medipix3 direct electron detector. <i>Ultramicroscopy</i> , 2020, 210, 112917.	1.9	10
5	Effect of annealing on the magnetic states of FEBID-grown cobalt nanopatterns examined by off-axis electron holography. <i>Journal of Microscopy</i> , 2020, 279, 217-221.	1.8	2
6	Spontaneous creation and annihilation dynamics and strain-limited stability of magnetic skyrmions. <i>Nature Communications</i> , 2020, 11, 3536.	12.8	10
7	Fast Pixelated Detectors in Scanning Transmission Electron Microscopy. Part I: Data Acquisition, Live Processing, and Storage. <i>Microscopy and Microanalysis</i> , 2020, 26, 653-666.	0.4	39
8	Asymmetric magnetic relaxation behavior of domains and domain walls observed through the FeRh first-order metamagnetic phase transition. <i>Physical Review B</i> , 2020, 102, .	3.2	8
9	A Comparison of a Direct Electron Detector and a High-Speed Video Camera for a Scanning Precession Electron Diffraction Phase and Orientation Mapping. <i>Microscopy and Microanalysis</i> , 2020, 26, 1110-1116.	0.4	16
10	Fast Pixelated Detectors in Scanning Transmission Electron Microscopy. Part II: Post-Acquisition Data Processing, Visualization, and Structural Characterization. <i>Microscopy and Microanalysis</i> , 2020, 26, 944-963.	0.4	24
11	Control of binary states of ferroic orders in bi-domain BiFeO <sub>3</sub> nanoislands. <i>Applied Physics Letters</i> , 2020, 116, 192904.	3.3	2
12	Controlled Individual Skyrmion Nucleation at Artificial Defects Formed by Ion Irradiation. <i>Small</i> , 2020, 16, e1907450.	10.0	27
13	Direct visualization of the magnetostructural phase transition in nanoscale FeRh thin films using differential phase contrast imaging. <i>Physical Review Materials</i> , 2020, 4, .	2.4	10
14	Sputter-engineering a first-order magnetic phase transition in sub-15-nm-thick single-crystal FeRh films. <i>Physical Review Materials</i> , 2020, 4, .	2.4	4
15	Focused Electron-Beam Induced Deposition, In Situ TEM And Off-Axis Electron Holography Investigation of Bi-Magnetic Core-Shell Nanostructures. <i>Microscopy and Microanalysis</i> , 2019, 25, 56-57.	0.4	0
16	Strain Anisotropy and Magnetic Domains in Embedded Nanomagnets. <i>Small</i> , 2019, 15, e1904738.	10.0	30
17	Prospects for out-of-plane magnetic field measurements through interference of electron vortex modes in the TEM. <i>Journal of Optics (United Kingdom)</i> , 2019, 21, 124002.	2.2	4
18	Differential Phase Contrast Imaging of the Magnetostructural Transition and Phase Boundary Motion in Uniform and Gradient-doped FeRh-based Thin Films. <i>Microscopy and Microanalysis</i> , 2019, 25, 1836-1837.	0.4	0

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19	Holographic imaging of electromagnetic fields via electron-light quantum interference. <i>Science Advances</i> , 2019, 5, eaav8358.	10.3	58
20	Ultrafast generation and control of an electron vortex beam via chiral plasmonic near fields. <i>Nature Materials</i> , 2019, 18, 573-579.	27.5	120
21	Nanomagnets: Strain Anisotropy and Magnetic Domains in Embedded Nanomagnets (Small 52/2019). <i>Small</i> , 2019, 15, 1970287.	10.0	1
22	Three-dimensional subnanoscale imaging of unit cell doubling due to octahedral tilting and cation modulation in strained perovskite thin films. <i>Physical Review Materials</i> , 2019, 3, .	2.4	12
23	A transmission electron microscope study of Néel skyrmion magnetic textures in multilayer thin film systems with large interfacial chiral interaction. <i>Scientific Reports</i> , 2018, 8, 5703.	3.3	38
24	Laser-Induced Skyrmion Writing and Erasing in an Ultrafast Cryo-Lorentz Transmission Electron Microscope. <i>Physical Review Letters</i> , 2018, 120, 117201.	7.8	115
25	Attosecond coherent control of free-electron wave functions using semi-infinite light fields. <i>Nature Communications</i> , 2018, 9, 2694.	12.8	136
26	Imaging Structure and Magnetisation in New Ways Using 4D STEM. <i>Microscopy and Microanalysis</i> , 2018, 24, 180-181.	0.4	1
27	Quantitative Differential Phase Contrast Imaging of the Magnetostructural Transition and Current-driven Motion of Domain Walls in FeRh Thin Films. <i>Microscopy and Microanalysis</i> , 2018, 24, 936-937.	0.4	3
28	Investigating Skyrmions Using Lorentz Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2018, 24, 932-933.	0.4	1
29	Modified cantilevers to probe unambiguously out-of-plane piezoresponse. <i>Physical Review Materials</i> , 2018, 2, .	2.4	2
30	Antiferromagnetic-ferromagnetic phase domain development in nanopatterned FeRh islands. <i>Physical Review Materials</i> , 2018, 2, .	2.4	13
31	Magnetic scanning gate microscopy of CoFeB lateral spin valve. <i>AIP Advances</i> , 2017, 7, .	1.3	4
32	Characterisation of the Medipix3 detector for 60 and 80 keV electrons. <i>Ultramicroscopy</i> , 2017, 182, 44-53.	1.9	77
33	Probing microwave fields and enabling in-situ experiments in a transmission electron microscope. <i>Scientific Reports</i> , 2017, 7, 11064.	3.3	6
34	TEM characterization of GaSb grown on single crystal offcut Silicon (001). <i>Microscopy and Microanalysis</i> , 2017, 23, 1476-1477.	0.4	0
35	Preparation of high-quality planar FeRh thin films for <i>in situ</i> TEM investigations. <i>Journal of Physics: Conference Series</i> , 2017, 903, 012022.	0.4	11
36	Back-scattered electron visualization of ferroelectric domains in a BiFeO <sub>3</sub> epitaxial film. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	6

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37	Synthetic ferrimagnet nanowires with very low critical current density for coupled domain wall motion. <i>Scientific Reports</i> , 2017, 7, 1640.	3.3	28
38	Quantitative TEM imaging of the magnetostructural and phase transitions in FeRh thin film systems. <i>Scientific Reports</i> , 2017, 7, 17835.	3.3	23
39	Developing Rapid and Advanced Visualisation of Magnetic Structures Using 2-D Pixelated STEM Detectors. <i>Microscopy and Microanalysis</i> , 2016, 22, 530-531.	0.4	3
40	Pixelated detectors and improved efficiency for magnetic imaging in STEM differential phase contrast. <i>Ultramicroscopy</i> , 2016, 165, 42-50.	1.9	109
41	Chiral Surface Twists and Skyrmion Stability in Nanolayers of Cubic Helimagnets. <i>Physical Review Letters</i> , 2016, 117, 087202.	7.8	109
42	Imaging and controlling plasmonic interference fields at buried interfaces. <i>Nature Communications</i> , 2016, 7, 13156.	12.8	58
43	Internal structure of hexagonal skyrmion lattices in cubic helimagnets. <i>New Journal of Physics</i> , 2016, 18, 095004.	2.9	82
44	High Resolution Quantitative Lorentz Microscopy. <i>Journal of Physics: Conference Series</i> , 2015, 644, 012026.	0.4	0
45	Use of a hybrid silicon pixel (Medipix) detector as a STEM detector. <i>Microscopy and Microanalysis</i> , 2015, 21, 1595-1596.	0.4	12
46	Magnetic Dynamics Studied by Time-Resolved Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2015, 21, 649-650.	0.4	0
47	Filming the formation and fluctuation of skyrmion domains by cryo-Lorentz transmission electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 14212-14217.	7.1	68
48	Magnetic microscopy and topological stability of homochiral Néel domain walls in a Pt/Co/AlO <sub>x</sub> trilayer. <i>Nature Communications</i> , 2015, 6, 8957.	12.8	117
49	Magnetic soliton confinement and discretization effects arising from macroscopic coherence in a chiral spin soliton lattice. <i>Physical Review B</i> , 2015, 92, .	3.2	102
50	Aberration corrected Lorentz scanning transmission electron microscopy. <i>Ultramicroscopy</i> , 2015, 152, 57-62.	1.9	74
51	Concentric 360° domain wall nesting in magnetic tunnel junction films: a Lorentz TEM study. <i>Journal Physics D: Applied Physics</i> , 2015, 48, 055001.	2.8	6
52	Core-shell GaN/ZnO moth-eye nanostructure arrays grown on a-SiO <sub>2</sub> /Si (1 1 1) as a basis for improved InGaN-based photovoltaics and LEDs. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2015, 15, 53-58.	2.0	4
53	On the origin of differential phase contrast at a locally charged and globally charge-compensated domain boundary in a polar-ordered material. <i>Ultramicroscopy</i> , 2015, 154, 57-63.	1.9	53
54	Engineering Magnetic Domain-Wall Structure in Permalloy Nanowires. <i>Physical Review Applied</i> , 2015, 3, .	3.8	13

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55	Nanoscale Mapping of the Magnetic Properties of (111)-Oriented $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ . Nano Letters, 2015, 15, 5868-5874.	9.1	16
56	Beam-Induced Fe Nanopillars as Tunable Domain-Wall Pinning Sites. Advanced Functional Materials, 2014, 24, 3508-3514.	14.9	24
57	Controlling magnetic anisotropy in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ nanostructures. Applied Physics Letters, 2014, 104, 052408.	3.3	6
58	Measuring and tailoring the Dzyaloshinskii-Moriya interaction in perpendicularly magnetized thin films. Physical Review B, 2014, 90, .	3.2	351
59	Fabrication of high quality plan-view TEM specimens using the focused ion beam. Micron, 2014, 66, 9-15.	2.2	19
60	Nanocharacterisation of precipitates in austenite high manganese steels with advanced techniques: HRSTEM and DualEELS mapping. Journal of Physics: Conference Series, 2014, 522, 012031.	0.4	2
61	Effect of substrate temperature on the magnetic properties of epitaxial sputter-grown Co/Pt. Applied Physics Letters, 2013, 103, .	3.3	11
62	Mask assisted fabrication of nanoislands of $\text{BiFeO}_3$ by ion beam milling. Journal of Applied Physics, 2013, 113, .	2.5	20
63	Graphene Network Organisation in Conductive Polymer Composites. Macromolecular Chemistry and Physics, 2012, 213, 1251-1258.	2.2	41
64	Reproducible domain wall pinning by linear non-topographic features in a ferromagnetic nanowire. Applied Physics Letters, 2012, 100, 232402.	3.3	25
65	Investigation of Microstructural and Electrochemical Properties of Impregnated $(\text{La,Sr})(\text{Ti,Mn})\text{O}_{3\pm\delta}$ as a Potential Anode Material in High-Temperature Solid Oxide Fuel Cells. Chemistry of Materials, 2011, 23, 3841-3847.	6.7	36
66	Direct comparison of domain wall behavior in permalloy nanowires patterned by electron beam lithography and focused ion beam milling. Journal of Applied Physics, 2011, 110, 083904.	2.5	22
67	Quantification of Subsurface Damage in a Brittle Insulating Ceramic by Three-Dimensional Focused Ion Beam Tomography. Microscopy and Microanalysis, 2011, 17, 240-245.	0.4	3
68	Formation of Magnetic Structure by Domain Wall Confinement in Nanoconstriction. IEEE Transactions on Magnetics, 2011, 47, 2511-2514.	2.1	8
69	Use of PLD-grown Moth-eye ZnO Nanostructures as Templates for MOVPE Growth of InGaN-Based Photovoltaics. , 2011, , .		0
70	Medipix2 as a highly flexible scanning/imaging detector for transmission electron microscopy. Journal of Instrumentation, 2011, 6, C01047-C01047.	1.2	11
71	Medipix2/Timepix detector for time resolved Transmission Electron Microscopy. Journal of Instrumentation, 2011, 6, C12052-C12052.	1.2	17
72	Use of PLD-grown Moth-eye ZnO Nanostructures as Templates for MOVPE Growth of InGaN-Based Photovoltaics. , 2011, , .		0

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73	Epitaxial MOVPE growth of highly c-axis oriented InGaN/GaN films on ZnO-buffered Si (111) substrates. Proceedings of SPIE, 2010, , .	0.8	5
74	The Effect of Substrate Surface Oxides on the Bonding of NiCr Alloy Particles HVOF Thermally Sprayed onto Aluminum Substrates. Journal of Thermal Spray Technology, 2010, 19, 1024-1031.	3.1	7
75	Spin-transfer torque efficiency measured using a Permalloy nanobridge. Applied Physics Letters, 2010, 97, 202505.	3.3	15
76	Dependence of domain wall pinning potential landscapes on domain wall chirality and pinning site geometry in planar nanowires. Physical Review B, 2009, 79, .	3.2	135
77	Vortex domain wall chirality rectification due to the interaction with end domain spin structures in permalloy nanowires. Applied Physics Letters, 2009, 95, .	3.3	14
78	Microstructural compositional, and optical characterization of GaN grown by metal organic vapor phase epitaxy on ZnO epilayers. Journal of Vacuum Science & Technology B, 2009, 27, 1655.	1.3	5
79	Growth of GaN by metal organic vapor phase epitaxy on ZnO-buffered c-sapphire substrates. Journal of Crystal Growth, 2008, 310, 944-947.	1.5	30
80	Direct observation of domain wall structures in curved permalloy wires containing an antinotch. Journal of Applied Physics, 2008, 103, .	2.5	39
81	Comment on "Three-Dimensional, Spin-Resolved Structure of Magnetic Vortex and Antivortex States in Patterned Co Films Using Scanning Ion Microscopy with Polarization Analysis" Physical Review Letters, 2008, 100, 029703.	7.8	7
82	Controlled domain wall injection into ferromagnetic nanowires from an optimized pad geometry. Applied Physics Letters, 2007, 91, 022506.	3.3	51
83	Use of ZnO thin films as sacrificial templates for metal organic vapor phase epitaxy and chemical lift-off of GaN. Applied Physics Letters, 2007, 91, 071120.	3.3	93
84	Bridging the Gap: Polymer Nanowire Devices. Advanced Materials, 2007, 19, 2634-2638.	21.0	54
85	Imaging and analysis of 3-D structure using a dual beam FIB. Microscopy Research and Technique, 2007, 70, 186-194.	2.2	11
86	Three dimensional imaging of deformation modes in TiN-based thin film coatings. Thin Solid Films, 2007, 515, 3190-3195.	1.8	23
87	Site-specific specimen preparation for atom probe tomography of grain boundaries. Physica B: Condensed Matter, 2007, 394, 267-269.	2.7	30
88	Atom probe specimen fabrication methods using a dual FIB/SEM. Ultramicroscopy, 2007, 107, 756-760.	1.9	71
89	Preparation of Site Specific Atom Probe Tips using Focused Ion Beam Technology. Microscopy and Microanalysis, 2006, 12, 1296-1297.	0.4	1
90	Effect of Substrate Hardness on Splat Morphology in High-Velocity Thermal Spray Coatings. Journal of Thermal Spray Technology, 2006, 15, 663-669.	3.1	37

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91	Investigating Large Area Fabrication of Silicon Quantum Dots in a Nitride Matrix for Photovoltaic Applications. , 2006, , .		2
92	Three-dimensional study of indentation-induced cracks in an amorphous carbon coating on a steel substrate. Journal of Materials Research, 2006, 21, 2600-2605.	2.6	14
93	Atom Probe Specimen Fabrication Methods using a Dual FIB/SEM. , 2006, , .		0
94	Investigation of the origin of the decrease in exchange biasing in Ga <sup>+</sup> ion irradiated CoFe <sup>+</sup> IrMn films. Journal of Applied Physics, 2006, 100, 073901.	2.5	3
95	Structural analysis of ion irradiated polycrystalline NiFe/FeMn exchange bias systems. European Physical Journal B, 2005, 45, 213-218.	1.5	4
96	Modification of the magnetic properties of exchange coupled NiFe/FeMn films by Ga <sup>+</sup> ion irradiation. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 731-734.	2.3	19
97	Focused ion beam irradiation of ferromagnetic thin films in the presence of an applied field. Journal Physics D: Applied Physics, 2005, 38, 3348-3353.	2.8	8
98	Nanopatterning of a thin ferromagnetic CoFe film by focused-ion-beam irradiation. Applied Physics Letters, 2005, 87, 022507.	3.3	40
99	Microstructural characterization of a carbonitrided heat resisting alloy using focused ion beam-based techniques. Materials at High Temperatures, 2005, 22, 351-358.	1.0	6
100	Effect of Ga <sup>+</sup> ion irradiation on the structural and magnetic properties of CoFe/IrMn exchange biased bilayers. Journal of Applied Physics, 2004, 95, 7772-7778.	2.5	39