

# Mark P Oxley

## List of Publications by Year in descending order

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85  
papers

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117453

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82410

72  
g-index

87  
all docs

87  
docs citations

87  
times ranked

6341  
citing authors

#	ARTICLE	IF	CITATIONS
1	Machine learning in scanning transmission electron microscopy. Nature Reviews Methods Primers, 2022, 2, .	11.8	59
2	Investigating phase transitions from local crystallographic analysis based on statistical learning of atomic environments in 2D MoS <sub>2</sub> -ReS <sub>2</sub> . Applied Physics Reviews, 2021, 8, 011409.	5.5	7
3	Probing atomic-scale symmetry breaking by rotationally invariant machine learning of multidimensional electron scattering. Npj Computational Materials, 2021, 7, .	3.5	15
4	Direct mapping of polarization fields from STEM images: A Deep Learning based exploration of ferroelectrics. Microscopy and Microanalysis, 2021, 27, 2990-2992.	0.2	0
5	Deep learning ferroelectric polarization distributions from STEM data via with and without atom finding. Npj Computational Materials, 2021, 7, .	3.5	5
6	Deep Bayesian local crystallography. Npj Computational Materials, 2021, 7, .	3.5	15
7	The importance of temporal and spatial incoherence in quantitative interpretation of 4D-STEM. Ultramicroscopy, 2020, 215, 113015.	0.8	6
8	Unsupervised Machine Learning to Distill Structural-Property Insights from 4D-STEM. Microscopy and Microanalysis, 2019, 25, 12-13.	0.2	0
9	Direct Cation Exchange in Monolayer $\text{MoS}_2$ via Recombination-Enhanced Migration. Physical Review Letters, 2019, 122, 106101.	2.9	21
10	Accurate Calculation of CBED Patterns for 4D STEM Using Electron Densities Calculated by Density Functional Theory.. Microscopy and Microanalysis, 2018, 24, 116-117.	0.2	2
11	Ultra-high resolution electron microscopy. Reports on Progress in Physics, 2017, 80, 026101.	8.1	21
12	Quantification of Low Voltage Images of 2-dimensional Materials in Aberration Corrected Scanning Transmission Electron Microscopy.. Microscopy and Microanalysis, 2017, 23, 464-465.	0.2	0
13	Identifying Novel Polar Distortion Modes in Engineered Magnetic Oxide Superlattices. Microscopy and Microanalysis, 2017, 23, 1590-1591.	0.2	1
14	Low-Loss Imaging of Defect Structures in Two Dimensional Materials Using Aberration Corrected Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2016, 22, 1410-1411.	0.2	0
15	Single Atom Imaging and Spectroscopy of Impurities in 2D Materials. Microscopy and Microanalysis, 2016, 22, 862-863.	0.2	0
16	Signatures of distinct impurity configurations in atomic-resolution valence electron-energy-loss spectroscopy: Application to graphene. Physical Review B, 2016, 94, .	1.1	8
17	Patterning: Atomic-Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision (Small 44/2015). Small, 2015, 11, 5854-5854.	5.2	2
18	Low-loss electron energy loss spectroscopy: An atomic-resolution complement to optical spectroscopies and application to graphene. Physical Review B, 2015, 92, .	1.1	29

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19	Atomic-Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision. <i>Small</i> , 2015, 11, 5895-5900.	5.2	73
20	Inversion of STEM EELS Data to Obtain Site Occupancy and Near Edge Structure. <i>Microscopy and Microanalysis</i> , 2015, 21, 2251-2252.	0.2	0
21	Local Observation of the Site Occupancy of Mn in a MnFePSi Compound. <i>Physical Review Letters</i> , 2015, 114, 106101.	2.9	20
22	Understanding Individual Defects in CdTe Solar Cells: From Atomic Structure to Electrical Activity. <i>Microscopy and Microanalysis</i> , 2014, 20, 518-519.	0.2	1
23	Atomic Scale Studies of La/Sr Ordering in Colossal Magnetoresistant $\text{La}_{2-x}\text{Sr}_{1+x}\text{Mn}_2\text{O}_7$ Single Crystals. <i>Microscopy and Microanalysis</i> , 2014, 20, 1791-1797.	0.2	9
24	Grain-Boundary-Enhanced Carrier Collection in CdTe Solar Cells. <i>Physical Review Letters</i> , 2014, 112, 156103.	2.9	258
25	Insulating Ferromagnetic $\text{LaCoO}_3$ A Phase Induced by Ordering of Oxygen Vacancies. <i>Physical Review Letters</i> , 2014, 112, .	2.9	61
26	Direct observation of ferroelectric field effect and vacancy-controlled screening at the $\text{BiFeO}_3/\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ interface. <i>Nature Materials</i> , 2014, 13, 1019-1025.	13.3	218
27	Simulation of Probe Position-Dependent Electron Energy-Loss Fine Structure. <i>Microscopy and Microanalysis</i> , 2014, 20, 784-797.	0.2	12
28	Inelastic STEM Imaging Based on Low-Loss Spectroscopy. <i>Microscopy and Microanalysis</i> , 2014, 20, 90-91.	0.2	0
29	Examining the structure and bonding in complex oxides using aberration-corrected imaging and spectroscopy. <i>Physical Review B</i> , 2012, 85, .	1.1	17
30	Single Atom Microscopy. <i>Microscopy and Microanalysis</i> , 2012, 18, 1342-1354.	0.2	63
31	Simulation of Spatially Resolved Electron Energy Loss Near-Edge Structure for Scanning Transmission Electron Microscopy. <i>Physical Review Letters</i> , 2012, 109, 246101.	2.9	21
32	Exploring Mesoscopic Physics of Vacancy-Ordered Systems through Atomic Scale Observations of Topological Defects. <i>Physical Review Letters</i> , 2012, 109, 065702.	2.9	36
33	Simulation and Interpretation of Images. , 2011, , 247-289.		8
34	Applications of Aberration-Corrected Scanning Transmission Electron Microscopy and Electron Energy Loss Spectroscopy to Complex Oxide Materials. , 2011, , 429-466.		5
35	Seeing oxygen disorder in $\text{YSZ}/\text{SrTiO}_3$ colossal ionic conductor heterostructures using EELS. <i>EPJ Applied Physics</i> , 2011, 54, 33507.	0.3	52
36	Atomic-Resolution Imaging of Spin-State Superlattices in Nanopockets within Cobaltite Thin Films. <i>Nano Letters</i> , 2011, 11, 973-976.	4.5	90

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37	Atom-by-atom structural and chemical analysis by annular dark-field electron microscopy. <i>Nature</i> , 2010, 464, 571-574.	13.7	1,138
38	Atomic-Scale Compensation Phenomena at Polar Interfaces. <i>Physical Review Letters</i> , 2010, 105, 197602.	2.9	146
39	Excess carbon in silicon carbide. <i>Journal of Applied Physics</i> , 2010, 108, 123705.	1.1	26
40	Suppression of Octahedral Tilts and Associated Changes in Electronic Properties at Epitaxial Oxide Heterostructure Interfaces. <i>Physical Review Letters</i> , 2010, 105, 087204.	2.9	308
41	Mapping Octahedral Tilts and Polarization Across a Domain Wall in BiFeO <sub>3</sub> from Z-Contrast Scanning Transmission Electron Microscopy Image Atomic Column Shape Analysis. <i>ACS Nano</i> , 2010, 4, 6071-6079.	7.3	150
42	Identification and lattice location of oxygen impurities in $\hat{\Gamma}$ -Si <sub>3</sub> N <sub>4</sub> . <i>Applied Physics Letters</i> , 2009, 95, 164101.	1.5	10
43	Theory of dynamical scattering in near-edge electron energy loss spectroscopy. <i>Physical Review B</i> , 2009, 80, .	1.1	14
44	Aberration-corrected scanning transmission electron microscopy: from atomic imaging and analysis to solving energy problems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2009, 367, 3709-3733.	1.6	89
45	Atomic-resolution imaging of oxidation states in manganites. <i>Physical Review B</i> , 2009, 79, .	1.1	274
46	Atomic-resolution spectroscopic imaging: past, present and future. <i>Journal of Electron Microscopy</i> , 2009, 58, 87-97.	0.9	66
47	Atomic Resolution Mapping of Inequivalent O Sites in Complex Oxides. <i>Microscopy and Microanalysis</i> , 2009, 15, 434-435.	0.2	0
48	The Treatment of Spatial Incoherence in the Aberration Corrected STEM. <i>Microscopy and Microanalysis</i> , 2009, 15, 1468-1469.	0.2	0
49	Structural and Chemical Details of La <sub>0.5</sub> Sr <sub>0.5</sub> CoO <sub>3-<math>\delta</math></sub> Thin Films. <i>Microscopy and Microanalysis</i> , 2009, 15, 440-441.	0.2	0
50	Direct Imaging of Light Elements in Aberration-Corrected Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2009, 15, 1480-1481.	0.2	0
51	Volcano structure in atomic resolution core-loss images. <i>Ultramicroscopy</i> , 2008, 108, 677-687.	0.8	35
52	Image simulation for electron energy loss spectroscopy. <i>Micron</i> , 2008, 39, 676-684.	1.1	18
53	Chapter 9 Materials Applications of Aberration-Corrected Scanning Transmission Electron Microscopy. <i>Advances in Imaging and Electron Physics</i> , 2008, , 327-384.	0.1	19
54	Modeling Atomic-Resolution Scanning Transmission Electron Microscopy Images. <i>Microscopy and Microanalysis</i> , 2008, 14, 48-59.	0.2	28

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55	Spatial Resolution and Information Transfer in Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2008, 14, 36-47.	0.2	27
56	Depth sectioning using electron energy loss spectroscopy. <i>Journal of Physics: Conference Series</i> , 2008, 126, 012037.	0.3	1
57	Interpreting atomic-resolution spectroscopic images. <i>Physical Review B</i> , 2007, 76, .	1.1	64
58	Depth sectioning in scanning transmission electron microscopy based on core-loss spectroscopy. <i>Ultramicroscopy</i> , 2007, 108, 17-28.	0.8	43
59	The spatial resolution of core-loss imaging in the STEM. <i>Journal of Physics: Conference Series</i> , 2006, 26, 13-16.	0.3	1
60	Modelling high-resolution electron microscopy based on core-loss spectroscopy. <i>Ultramicroscopy</i> , 2006, 106, 1001-1011.	0.8	28
61	Three-dimensional ADF imaging of individual atoms by through-focal series scanning transmission electron microscopy. <i>Ultramicroscopy</i> , 2006, 106, 1062-1068.	0.8	122
62	Channeling effects in high-angular-resolution electron spectroscopy. <i>Physical Review B</i> , 2006, 73, .	1.1	18
63	The spatial resolution of imaging using core-loss spectroscopy in the scanning transmission electron microscope. <i>Ultramicroscopy</i> , 2005, 102, 317-326.	0.8	62
64	Modelling imaging based on core-loss spectroscopy in scanning transmission electron microscopy. <i>Ultramicroscopy</i> , 2005, 104, 126-140.	0.8	35
65	Three-dimensional imaging of individual hafnium atoms inside a semiconductor device. <i>Applied Physics Letters</i> , 2005, 87, 034104.	1.5	206
66	Nonlocality in Imaging. <i>Physical Review Letters</i> , 2005, 94, 203906.	2.9	59
67	Investigation of the effects of partial coherence on exit wave reconstruction. <i>Journal of Microscopy</i> , 2004, 216, 70-75.	0.8	13
68	Exit wave reconstruction at atomic resolution. <i>Ultramicroscopy</i> , 2004, 100, 91-104.	0.8	149
69	Spectroscopic Imaging of Single Atoms Within a Bulk Solid. <i>Physical Review Letters</i> , 2004, 92, 095502.	2.9	299
70	Computational aberration determination and correction. <i>Optics Communications</i> , 2003, 216, 89-98.	1.0	10
71	Lattice-resolution contrast from a focused coherent electron probe. Part I. <i>Ultramicroscopy</i> , 2003, 96, 47-63.	0.8	193
72	Lattice-resolution contrast from a focused coherent electron probe. Part II. <i>Ultramicroscopy</i> , 2003, 96, 65-81.	0.8	81

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73	Channelling effects in atomic resolution STEM. <i>Ultramicroscopy</i> , 2003, 96, 299-312.	0.8	58
74	Atomic-Resolution Electron Energy Loss Spectroscopy Imaging in Aberration Corrected Scanning Transmission Electron Microscopy. <i>Physical Review Letters</i> , 2003, 91, 105503.	2.9	101
75	Phase retrieval and aberration correction in the presence of vortices in high-resolution transmission electron microscopy. <i>Ultramicroscopy</i> , 2001, 88, 85-97.	0.8	59
76	Structure determination at the atomic level from dynamical electron diffraction data under systematic row conditions. <i>Ultramicroscopy</i> , 2001, 88, 195-209.	0.8	5
77	Inversion of dynamical electron scattering to obtain the crystal potential using data from two thicknesses. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2001, 57, 473-474.	0.3	14
78	Atomic scattering factors for K-shell electron energy-loss spectroscopy. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2001, 57, 713-728.	0.3	16
79	Phase retrieval from series of images obtained by defocus variation. <i>Optics Communications</i> , 2001, 199, 65-75.	1.0	377
80	Phase retrieval from images in the presence of first-order vortices. <i>Physical Review E</i> , 2001, 63, 037602.	0.8	62
81	Computational Aberration Correction for an Arbitrary Linear Imaging System. <i>Physical Review Letters</i> , 2001, 87, 123902.	2.9	32
82	Atomic scattering factors for K-shell and L-shell ionization by fast electrons. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2000, 56, 470-490.	0.3	39
83	Correction terms and approximations for atom location by channelling enhanced microanalysis. <i>Ultramicroscopy</i> , 1999, 80, 109-124.	0.8	19
84	Impact parameters for ionization by high-energy electrons. <i>Ultramicroscopy</i> , 1999, 80, 125-131.	0.8	14
85	Delocalization of the effective interaction for inner-shell ionization in crystals. <i>Physical Review B</i> , 1998, 57, 3273-3282.	1.1	69