

# Axel Lubk

## List of Publications by Year in descending order

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99  
papers

2,614  
citations

218592

26  
h-index

189801

50  
g-index

99  
all docs

99  
docs citations

99  
times ranked

3564  
citing authors

#	ARTICLE	IF	CITATIONS
1	Flexoelectric rotation of polarization in ferroelectric thin films. Nature Materials, 2011, 10, 963-967.	13.3	503
2	First-principles study of ferroelectric domain walls in multiferroic bismuth ferrite. Physical Review B, 2009, 80, .	1.1	236
3	Chemical Aspects of the Candidate Antiferromagnetic Topological Insulator $\text{MnBi}_2\text{Te}_4$ . Chemistry of Materials, 2019, 31, 2795-2806.	3.2	203
4	Atomic Resolution Analysis of Silver Ion-Exchanged Zeolite-A. Angewandte Chemie - International Edition, 2011, 50, 11230-11233.	7.2	83
5	Electromechanical Coupling among Edge Dislocations, Domain Walls, and Nanodomains in $\text{BiFeO}_3$ Revealed by Unit-Cell-Wise Strain and Polarization Maps. Nano Letters, 2013, 13, 1410-1415.	4.5	76
6	Differential phase contrast: An integral perspective. Physical Review A, 2015, 91, .	1.0	67
7	3D Magnetic Induction Maps of Nanoscale Materials Revealed by Electron Holographic Tomography. Chemistry of Materials, 2015, 27, 6771-6778.	3.2	64
8	Off-axis and inline electron holography: A quantitative comparison. Ultramicroscopy, 2010, 110, 460-471.	0.8	63
9	Weighted simultaneous iterative reconstruction technique for single-axis tomography. Ultramicroscopy, 2014, 136, 15-25.	0.8	61
10	Off-axis and inline electron holography: Experimental comparison. Ultramicroscopy, 2010, 110, 472-482.	0.8	59
11	Towards automated electron holographic tomography for 3D mapping of electrostatic potentials. Ultramicroscopy, 2010, 110, 390-399.	0.8	57
12	Electron holographic tomography. Current Opinion in Solid State and Materials Science, 2013, 17, 126-134.	5.6	50
13	Holographic vector field electron tomography of three-dimensional nanomagnets. Communications Physics, 2019, 2, .	2.0	45
14	Unveiling the three-dimensional magnetic texture of skyrmion tubes. Nature Nanotechnology, 2022, 17, 250-255.	15.6	45
15	Transport of Intensity Phase Retrieval of Arbitrary Wave Fields Including Vortices. Physical Review Letters, 2013, 111, 173902.	2.9	44
16	Elastic Scattering of Electron Vortex Beams in Magnetic Matter. Physical Review Letters, 2016, 116, 127203.	2.9	44
17	Synthesis and Three-Dimensional Magnetic Field Mapping of $\text{Co}_2\text{FeGa}$ Heusler Nanowires at 5 nm Resolution. Nano Letters, 2016, 16, 114-120.	4.5	39
18	The effect of dynamical scattering in off-axis holographic mean inner potential and inelastic mean free path measurements. Ultramicroscopy, 2010, 110, 438-446.	0.8	38

#	ARTICLE	IF	CITATIONS
19	Chromium Trihalides Cr <sub>3</sub> X <sub>3</sub> (X = Cl, Br, I): Direct Deposition of Micro- and Nanosheets on Substrates by Chemical Vapor Transport. <i>Advanced Materials Interfaces</i> , 2019, 6, 1901410.	1.9	37
20	Electron holography for fields in solids: Problems and progress. <i>Ultramicroscopy</i> , 2013, 134, 126-134.	0.8	36
21	Chemical vapor growth and delamination of RuCl <sub>3</sub> nanosheets down to the monolayer limit. <i>Nanoscale</i> , 2018, 10, 19014-19022.	2.8	36
22	Topological analysis of paraxially scattered electron vortex beams. <i>Physical Review A</i> , 2013, 87, .	1.0	33
23	Direct Observation of Plasmon Band Formation and Delocalization in Quasi-Infinite Nanoparticle Chains. <i>Nano Letters</i> , 2019, 19, 3854-3862.	4.5	32
24	Dynamic scattering theory for dark-field electron holography of 3D strain fields. <i>Ultramicroscopy</i> , 2014, 136, 42-49.	0.8	31
25	Noise estimation for off-axis electron holography. <i>Ultramicroscopy</i> , 2014, 144, 32-42.	0.8	31
26	Nanometer-scale tomographic reconstruction of three-dimensional electrostatic potentials in GaAs/AlGaAs core-shell nanowires. <i>Physical Review B</i> , 2014, 90, .	1.1	28
27	Three-Dimensional Composition and Electric Potential Mapping of III-V Core-Shell Nanowires by Correlative STEM and Holographic Tomography. <i>Nano Letters</i> , 2018, 18, 4777-4784.	4.5	27
28	Induction Mapping of the 3D-Modulated Spin Texture of Skyrmions in Thin Helimagnets. <i>Physical Review Letters</i> , 2018, 120, 217201.	2.9	26
29	Optimal principal component analysis of STEM XEDS spectrum images. <i>Advanced Structural and Chemical Imaging</i> , 2019, 5, 4.	4.0	26
30	Tomographic investigation of fermi level pinning at focused ion beam milled semiconductor surfaces. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	23
31	Magnetic Nanoparticle Chains in Gelatin Ferrogels: Bioinspiration from Magnetotactic Bacteria. <i>Advanced Functional Materials</i> , 2019, 29, 1905996.	7.8	23
32	A new linear transfer theory and characterization method for image detectors. Part II: Experiment. <i>Ultramicroscopy</i> , 2012, 115, 78-87.	0.8	22
33	Transfer and reconstruction of the density matrix in off-axis electron holography. <i>Ultramicroscopy</i> , 2014, 146, 103-116.	0.8	21
34	Spectral field mapping in plasmonic nanostructures with nanometer resolution. <i>Nature Communications</i> , 2018, 9, 4207.	5.8	21
35	Additive-controlled synthesis of monodisperse single crystalline gold nanoparticles: interplay of shape and surface plasmon resonance. <i>Journal of Materials Chemistry C</i> , 2020, 8, 10844-10851.	2.7	21
36	Nanoscale three-dimensional reconstruction of electric and magnetic stray fields around nanowires. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	20

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37	A new linear transfer theory and characterization method for image detectors. Part I: Theory. Ultramicroscopy, 2012, 115, 68-77.	0.8	19
38	Dynamical effects in strain measurements by dark-field electron holography. Ultramicroscopy, 2014, 147, 70-85.	0.8	19
39	Ferroelectric effects in individual BaTiO <sub>3</sub> nanocrystals investigated by electron holography. Physical Review B, 2012, 85, .	1.1	18
40	Retro-fitting an older (S)TEM with two C <sub>s</sub> aberration correctors for 80 kV and 60 kV operation. Journal of Microscopy, 2013, 249, 87-92.	0.8	18
41	Phase-space foundations of electron holography. Physical Review A, 2015, 92, .	1.0	17
42	Electron Microscopy of Probability Currents at Atomic Resolution. Physical Review Letters, 2015, 115, 176101.	2.9	17
43	Domain matching epitaxy of BaBiO <sub>3</sub> on SrTiO <sub>3</sub> with structurally modified interface. Applied Physics Letters, 2018, 112, 141601.	1.5	17
44	Vacuum processed large area doped thin-film crystals: A new approach for high-performance organic electronics. Materials Today Physics, 2021, 17, 100352.	2.9	15
45	Exploiting Combinatorics to Investigate Plasmonic Properties in Heterogeneous Ag <sub>13</sub> Au Nanosphere Chain Assemblies. Advanced Optical Materials, 2021, 9, 2001983.	3.6	14
46	Nanoscale three-dimensional reconstruction of elastic and inelastic mean free path lengths by electron holographic tomography. Applied Physics Letters, 2014, 105, .	1.5	13
47	Spiral phase plate contrast in optical and electron microscopy. Physical Review A, 2016, 94, .	1.0	13
48	Morphogenesis of Magnetite Mesocrystals: Interplay between Nanoparticle Morphology and Solvation Shell. Chemistry of Materials, 2021, 33, 9119-9130.	3.2	11
49	Quantitative determination of elastic and inelastic attenuation coefficients by off-axis electron holography. Ultramicroscopy, 2016, 171, 26-33.	0.8	9
50	Nanomorphology Effects in Semiconductors with Native Ferromagnetism: Hierarchical Europium (II) Oxide Tubes Prepared via a Topotactic Nanostructure Transition. Advanced Materials, 2018, 30, 1703612.	11.1	9
51	Observation of fractional spin textures in a Heusler material. Nature Communications, 2022, 13, 2348.	5.8	9
52	Semiclassical TEM image formation in phase space. Ultramicroscopy, 2015, 151, 136-149.	0.8	8
53	3D mapping of nanoscale electric potentials in semiconductor structures using electron-holographic tomography. Journal Physics D: Applied Physics, 2016, 49, 364004.	1.3	8
54	Holography and Tomography with Electrons. Advances in Imaging and Electron Physics, 2018, 206, 1-14.	0.1	8

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55	Layered van der Waals Topological Metals of TaTMTe <sub>4</sub> (TM = Ir, Rh, Ru) Family. Journal of Physical Chemistry Letters, 2021, 12, 6730-6735.	2.1	8
56	Exploring the 3D structure and defects of a self-assembled gold mesocrystal by coherent X-ray diffraction imaging. Nanoscale, 2021, 13, 10425-10435.	2.8	8
57	Long-range correlations in combinatorial synthesis. <a href="http://www.w3.org/1998/Math/MathML">http://www.w3.org/1998/Math/MathML</a> altimg="si0055.gif" overflow="scroll"><mml:msub><mml:mrow><mml:mi>ln</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow><mml:mo>O</mml:mo></mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub><mml:mo>stretchv="false"></mml:mo><mml:mi>ZnO</mml:mi><mml:msub><mml:mrow><mml:mo>Ti FTO</mml:mo>1.10.784314 r&BT /Overlock 10 T	0.8	6
58	A proposal for the holographic correction of incoherent aberrations by tilted reference waves. Ultramicroscopy, 2015, 152, 63-74.	0.8	6
59	Fe <sub>1-x</sub> Ni <sub>x</sub> Alloy Nanoparticles Encapsulated Inside Carbon Nanotubes: Controlled Synthesis, Structure and Magnetic Properties. Nanomaterials, 2018, 8, 576.	1.9	6
60	Tailoring electron beams with high-frequency self-assembled magnetic charged particle micro optics. Nature Communications, 2022, 13, .	5.8	6
61	Paraxial Quantum Mechanics. Advances in Imaging and Electron Physics, 2018, 206, 15-58.	0.1	5
62	Tailoring Plasmonics of Au@Ag Nanoparticles by Silica Encapsulation. Advanced Optical Materials, 2021, 9, 2101221.	3.6	5
63	Autocorrected off-axis holography of two-dimensional materials. Physical Review Research, 2020, 2, .	1.3	5
64	Coherent and incoherent effects on the imaging and scattering process in transmission electron microscopy and off-axis electron holography. Ultramicroscopy, 2010, 110, 1397-1403.	0.8	4
65	Prospects of linear reconstruction in atomic resolution electron holographic tomography. Ultramicroscopy, 2015, 150, 65-70.	0.8	4
66	Three-Dimensional Imaging of Beam-Induced Biasing of InP/GaN Tunnel Diodes. Nano Letters, 2019, 19, 3490-3497.	4.5	4
67	Extraction of physically meaningful endmembers from STEM spectrum-images combining geometrical and statistical approaches. Micron, 2021, 145, 103068.	1.1	4
68	Hard x-ray photoemission spectroscopy of LaVO <sub>3</sub> /SrTiO <sub>3</sub> : Band alignment and electronic reconstruction. Physical Review B, 2021, 103, .	1.1	4
69	Fundamentals of Focal Series Inline Electron Holography. Advances in Imaging and Electron Physics, 2016, 197, 105-147.	0.1	3
70	Axion Mie theory of electron energy loss spectroscopy in topological insulators. SciPost Physics Core, 2021, 4, .	0.9	3
71	Dynamic scattering theory for dark-field electron holography of 3D strain fields. Microscopy and Microanalysis, 2013, 19, 1392-1393.	0.2	2
72	Electronic structure of epitaxial perovskite films in the two-dimensional limit: Role of the surface termination. Applied Physics Letters, 2020, 116, 201601.	1.5	2

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73	Progress in electrons vortex creation and application in a transmission electron microscope. <i>Microscopy and Microanalysis</i> , 2013, 19, 1164-1165.	0.2	1
74	Transport of Intensity Phase Reconstruction Revisited. <i>Microscopy and Microanalysis</i> , 2013, 19, 1378-1379.	0.2	1
75	Electron Holographic Tomography of Mean Free Path Lengths at the nm-scale. <i>Microscopy and Microanalysis</i> , 2014, 20, 270-271.	0.2	1
76	Electron holography: state and prospects. <i>Microscopy and Microanalysis</i> , 2014, 20, 244-245.	0.2	1
77	A Phase Space Perspective on Electron Holography - Building Bridges Between Inline-, Off-axis Holography, Differential Phase Contrast and Diffractive Imaging. <i>Microscopy and Microanalysis</i> , 2015, 21, 2307-2308.	0.2	1
78	Three-dimensional Induction Mapping of Magnetic Nanoscale Materials by Electron Holographic Tomography. <i>Microscopy and Microanalysis</i> , 2016, 22, 1690-1691.	0.2	1
79	Magnetic Configurations in Three-Dimensional Nanomagnets Explored by Electron Holographic Tomography. <i>Microscopy and Microanalysis</i> , 2018, 24, 914-915.	0.2	1
80	Cryogenic TEM Studies of Bloch and Neel Skyrmion Textures in Lacunar Spinels and Cubic Helimagnets. <i>Microscopy and Microanalysis</i> , 2018, 24, 946-947.	0.2	1
81	A Novel Method for Automatic Determination of the Number of Meaningful Components in the PCA Analysis of Spectrum-Images. <i>Microscopy and Microanalysis</i> , 2018, 24, 572-573.	0.2	1
82	Towards Induction Mapping of the 3D Spin Texture of Skyrmions. <i>Microscopy and Microanalysis</i> , 2018, 24, 930-931.	0.2	1
83	Electron Optics in Phase Space. <i>Advances in Imaging and Electron Physics</i> , 2018, 206, 105-140.	0.1	1
84	Electron Holographic Tomography. <i>Advances in Imaging and Electron Physics</i> , 2018, 206, 231-299.	0.1	1
85	Inelastic Momentum Transfer Measurements on Plasmonic Structures in the (S)TEM. <i>Microscopy and Microanalysis</i> , 2019, 25, 632-633.	0.2	1
86	The Dresden in-situ (S)TEM special with a continuous-flow liquid-helium cryostat. <i>Ultramicroscopy</i> , 2019, 203, 12-20.	0.8	1
87	2D and 3D Electron Holography Revealing Complex Magnetic Configurations in CoNi Nanowires. <i>Microscopy and Microanalysis</i> , 2020, 26, 1544-1545.	0.2	1
88	A Hamiltonian mechanics framework for charge particle optics in straight and curved systems. <i>Optik</i> , 2021, 242, 167242.	1.4	1
89	Mapping Intrinsic Electric Fields Through Off-Axis Electron Holography: Prospects and Problems. <i>Microscopy and Microanalysis</i> , 2010, 16, 582-583.	0.2	0
90	Electron Holography at Low Voltages Exemplified by Graphene. <i>Microscopy and Microanalysis</i> , 2013, 19, 1384-1385.	0.2	0

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91	Local Strain Measurements at Dislocations, Disclinations and Domain Boundaries. Microscopy and Microanalysis, 2014, 20, 1044-1045.	0.2	0
92	Spin-Multisllice Applied to the Electron Spin Interaction with Materials. Microscopy and Microanalysis, 2015, 21, 1961-1962.	0.2	0
93	Surface Plasmon Modes in Long Chains of Au Nanoparticles. Microscopy and Microanalysis, 2018, 24, 1748-1749.	0.2	0
94	Tomography. Advances in Imaging and Electron Physics, 2018, 206, 59-104.	0.1	0
95	Magnetism and phonons in transmission electron microscopy. Microscopy and Microanalysis, 2021, 27, 114-116.	0.2	0
96	Correcting STEM distortions in atomically resolved elemental maps. Microscopy and Microanalysis, 2021, 27, 596-598.	0.2	0
97	Correction for linear and non-linear distortions of STEM images. Microscopy and Microanalysis, 2021, 27, 2320-2322.	0.2	0
98	Off-axis Electron Holography on 2D Materials with Small Coherent and Incoherent Aberrations. Microscopy and Microanalysis, 2021, 27, 128-129.	0.2	0
99	Nanoparticle Chains for Plasmonic Band Engineering. Microscopy and Microanalysis, 2021, 27, 880-882.	0.2	0