Knut MÃ¼ller-Caspary

List of Publications by Year
in descending order

76 papers	2,054 citations	218677 26 h-index	254184 43 g-index
83 all docs	83 docs citations	83 times ranked	2283 citing authors

#	Article	IF	Citations
1	Measurement of specimen thickness and composition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si20.gif" overflow="scroll"><mml:msub><mml:mrow><mml:mi>Al</mml:mi></mml:mrow><mml:mrow><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="normal">N</mml:mi><mml:mo>/</mml:mo><mml:mi>GaN</mml:mi></mml:mrow> using high-angle annular dark field images. Ultramicroscopy, 2009, 109, 1171-1182.	1.9	168
2	Composition mapping in InGaN by scanning transmission electron microscopy. Ultramicroscopy, 2011, 111, 1316-1327.	1.9	156
3	Measurement of atomic electric fields and charge densities from average momentum transfers using scanning transmission electron microscopy. Ultramicroscopy, 2017, 178, 62-80.	1.9	106
4	A pnCCD-based, fast direct single electron imaging camera for TEM and STEM. Journal of Instrumentation, 2016, 11, P04006-P04006.	1.2	97
5	Demonstration of a 2â€Ã—â€2 programmable phase plate for electrons. Ultramicroscopy, 2018, 190, 58-65.	1.9	80
6	Determination of the chemical composition of GaNAs using STEM HAADF imaging and STEM strain state analysis. Ultramicroscopy, 2012, 117, 15-23.	1.9	79
7	Scanning transmission electron microscopy strain measurement from millisecond frames of a direct electron charge coupled device. Applied Physics Letters, 2012, 101, 212110.	3.3	63
8	Citric Acid Based Carbon Dots with Amine Type Stabilizers: pH-Specific Luminescence and Quantum Yield Characteristics. Journal of Physical Chemistry C, 2020, 124, 8894-8904.	3.1	63
9	Strain Measurement in Semiconductor Heterostructures by Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2012, 18, 995-1009.	0.4	62
10	Metalâ€“insulator-transition engineering by modulation tilt-control in perovskite nickelates for room temperature optical switching. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9515-9520.	7.1	56
11	Effects of instrument imperfections on quantitative scanning transmission electron microscopy. Ultramicroscopy, 2016, 161, 146-160.	1.9	55
12	Synthesis Route for the Self-Assembly of Submicrometer-Sized Colloidosomes with Tailorable Nanopores. Chemistry of Materials, 2013, 25, 3464-3471.	6.7	47
13	Sample tilt effects on atom column position determination in ABFâ€“STEM imaging. Ultramicroscopy, 2016, 160, 110-117.	1.9	47
14	Theoretical study of precision and accuracy of strain analysis by nano-beam electron diffraction. Ultramicroscopy, 2015, 158, 38-48.	1.9	43
15	Nanoscopic Insights into InGaN/GaN Coreâ€“Shell Nanorods: Structure, Composition, and Luminescence. Nano Letters, 2016, 16, 5340-5346.	9.1	43
16	Two-dimensional strain mapping in semiconductors by nano-beam electron diffraction employing a delay-line detector. Applied Physics Letters, 2015, 107, .	3.3	38
17	Atomic-scale quantification of charge densities in two-dimensional materials. Physical Review B, 2018, 98, .	3.2	36
18	Wrinkling of Atomic Planes in Ultrathin Au Nanowires. Nano Letters, 2014, 14, 4859-4866.	9.1	35

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19	Nanostructured Praseodymium Oxide: Correlation Between Phase Transitions and Catalytic Activity. ChemCatChem, 2010, 2, 694-704.	3.7	33
20	Materials characterisation by angle-resolved scanning transmission electron microscopy. Scientific Reports, 2016, 6, 37146.	3.3	33
21	Quantitative measurements of internal electric fields with differential phase contrast microscopy on InGaN/GaN quantum well structures. Physica Status Solidi (B): Basic Research, 2016, 253, 140-144.	1.5	31
22	Ultrathin Au-Alloy Nanowires at the Liquidâ€“Liquid Interface. Nano Letters, 2018, 18, 1903-1907.	9.1	31
23	Electrical Polarization in AlN/GaN Nanodisks Measured by Momentum-Resolved 4D Scanning Transmission Electron Microscopy. Physical Review Letters, 2019, 122, 106102.	7.8	31
24	Highâ€‹T_C Interfacial Ferromagnetism in SrMnO₃/LaMnO₃ Superlattices. Advanced Functional Materials, 2020, 30, 1808270.	14.9	31
25	Quantitative chemical evaluation of dilute GaNAs using ADF STEM: Avoiding surface strain induced artifacts. Ultramicroscopy, 2013, 129, 1-9.	1.9	29
26	Comparison of first moment STEM with conventional differential phase contrast and the dependence on electron dose. Ultramicroscopy, 2019, 203, 95-104.	1.9	29
27	LiberTEM: Software platform for scalable multidimensional data processing in transmission electron microscopy. Journal of Open Source Software, 2020, 5, 2006.	4.6	26
28	Comparison of intensity and absolute contrast of simulated and experimental high-resolution transmission electron microscopy images for different multislice simulation methods. Ultramicroscopy, 2013, 134, 94-101.	1.9	25
29	Direct Measurement of Polarization-Induced Fields in GaN/AlN by Nano-Beam Electron Diffraction. Scientific Reports, 2016, 6, 28459.	3.3	25
30	Influence of plasmon excitations on atomic-resolution quantitative 4D scanning transmission electron microscopy. Scientific Reports, 2020, 10, 17890.	3.3	21
31	Simultaneous Quantification of Indium and Nitrogen Concentration in InGaNAs Using HAADF-STEM. Microscopy and Microanalysis, 2014, 20, 1740-1752.	0.4	20
32	Quantitative Characterization of Nanometer-Scale Electric Fields via Momentum-Resolved STEM. Nano Letters, 2021, 21, 2018-2025.	9.1	20
33	Structural and emission properties of InGaAs/GaAs quantum dots emitting at 1.3â€‰Î¼m. Applied Physics Letters, 2014, 105, 152102.	3.3	19
34	Spectroscopic coincidence experiments in transmission electron microscopy. Applied Physics Letters, 2019, 114, .	3.3	19
35	Measurement of indium concentration profiles and segregation efficiencies from high-angle annular dark field-scanning transmission electron microscopy images. Ultramicroscopy, 2013, 131, 1-9.	1.9	18
36	Near-surface depletion of antimony during the growth of GaAsSb and GaAs/GaAsSb nanowires. Journal of Applied Physics, 2014, 116, 144303.	2.5	18

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37	Quantitative HAADF STEM of SiGe in presence of amorphous surface layers from FIB preparation. Ultramicroscopy, 2018, 184, 29-36.	1.9	17
38	Strain analysis from nano-beam electron diffraction: Influence of specimen tilt and beam convergence. Ultramicroscopy, 2018, 190, 45-57.	1.9	17
39	Ultrasmooth Ru(0001) Films as Templates for Ceria Nanoarchitectures. Crystal Growth and Design, 2016, 16, 4216-4224.	3.0	15
40	Influence of distortions of recorded diffraction patterns on strain analysis by nano-beam electron diffraction. Ultramicroscopy, 2019, 196, 74-82.	1.9	15
41	Direct measurement of electrostatic potentials at the atomic scale: A conceptual comparison between electron holography and scanning transmission electron microscopy. Ultramicroscopy, 2020, 210, 112926.	1.9	15
42	Atom column detection from simultaneously acquired ABF and ADF STEM images. Ultramicroscopy, 2020, 219, 113046.	1.9	15
43	Homogeneity and composition of AlInGaN: A multiprobe nanostructure study. Ultramicroscopy, 2015, 156, 29-36.	1.9	14
44	Optimization of NBED simulations for disc-detection measurements. Ultramicroscopy, 2017, 181, 50-60.	1.9	13
45	Live Processing of Momentum-Resolved STEM Data for First Moment Imaging and Ptychography. Microscopy and Microanalysis, 2021, 27, 1078-1092.	0.4	13
46	Refinement of the 200 structure factor for GaAs using parallel and convergent beam electron nanodiffraction data. Ultramicroscopy, 2009, 109, 802-814.	1.9	11
47	Influence of Static Atomic Displacements on Composition Quantification of AlGaN/GaN Heterostructures from HAADF-STEM Images. Microscopy and Microanalysis, 2014, 20, 1463-1470.	0.4	11
48	Bulk and Surface Excitons in Alloyed and Phase-Separated ZnOâ€“MgO Particulate Systems. ACS Applied Materials & Interfaces, 2012, 4, 2490-2497.	8.0	10
49	Measurement of local crystal lattice strain variations in dealloyed nanoporous gold. Materials Research Letters, 2018, 6, 84-92.	8.7	10
50	Accurate measurement of strain at interfaces in 4D-STEM: A comparison of various methods. Ultramicroscopy, 2021, 221, 113196.	1.9	10
51	Coincidence Detection of EELS and EDX Spectral Events in the Electron Microscope. Applied Sciences (Switzerland), 2021, 11, 9058.	2.5	10
52	Selfâ€Assembly of Atomically Thin Chiral Copper Heterostructures Templated by Black Phosphorus. Advanced Functional Materials, 2019, 29, 1903120.	14.9	9
53	4D-STEM at interfaces to GaN: Centre-of-mass approach & NBED-disc detection. Ultramicroscopy, 2021, 228, 113321.	1.9	9
54	Angle-resolved STEM using an iris aperture: Scattering contributions and sources of error for the quantitative analysis in Si. Ultramicroscopy, 2021, 221, 113175.	1.9	8

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55	Precise measurement of the electron beam current in a TEM. Ultramicroscopy, 2021, 223, 113221.	1.9	8
56	A study of the initial stages of the growth of Au-assisted epitaxial Ge nanowires on a clean Ge(100) surface. CrystEngComm, 2014, 16, 2486.	2.6	7
57	A nanocrystalline Hilbert phase-plate for phase-contrast transmission electron microscopy. Ultramicroscopy, 2014, 139, 29-37.	1.9	7
58	Nano scale phase separation in Au-Ge system on ultra clean Si(100) surfaces. Journal of Applied Physics, 2012, 111, 104319.	2.5	6
59	Continuous illumination picosecond imaging using a delay line detector in a transmission electron microscope. Ultramicroscopy, 2022, 233, 113392.	1.9	5
60	Dynamical diffraction of high-energy electrons investigated by focal series momentum-resolved scanning transmission electron microscopy at atomic resolution. Ultramicroscopy, 2022, 233, 113425.	1.9	5
61	Microstructural and compositional analyses of GaNâ€based nanostructures. Physica Status Solidi (B): Basic Research, 2011, 248, 1822-1836.	1.5	4
62	DC heating induced shape transformation of Ge structures on ultraclean Si(5 5 12) surfaces. Journal of Physics Condensed Matter, 2011, 23, 135002.	1.8	4
63	Angle-dependence of ADF-STEM intensities for chemical analysis of InGaN/GaN. Ultramicroscopy, 2022, 238, 113535.	1.9	4
64	Toward Simultaneous Assessment of In and N in InGaAsN Alloys by Quantitative STEM-ADF Imaging. Microscopy and Microanalysis, 2011, 17, 1862-1863.	0.4	3
65	The microstructure, local indium composition and photoluminescence in greenâ€emitting InGaN/GaN quantum wells. Journal of Microscopy, 2017, 268, 305-312.	1.8	3
66	Spatially resolved luminescence properties of non- and semi-polar InGaN quantum wells on GaN microrods. Journal Physics D: Applied Physics, 2018, 51, 355102.	2.8	2
67	Visibility and Apparent Size of NÃ©el-Type Magnetic Skyrmions in Fresnel Defocus Images of Multilayer Films. Microscopy and Microanalysis, 0, , 1-10.	0.4	2
68	Direct Mapping of Electrostatic Potentials by Momentum-resolved STEM and Electron Holography - A Conceptual Comparison. Microscopy and Microanalysis, 2020, 26, 18-20.	0.4	1
69	Automated mapping of the crystallographic sample orientation from diffraction patterns in momentum-resolved STEM. Microscopy and Microanalysis, 2021, 27, 1444-1445.	0.4	1
70	Messung atomarer elektrischer Felder. Physik in Unserer Zeit, 2015, 46, 110-111.	0.0	0
71	STEM Strain Measurement From a Stream of Diffraction Patterns Recorded on a Pixel-Free Delay-Line Detector. Microscopy and Microanalysis, 2016, 22, 520-521.	0.4	0
72	Composition analysis of coaxially grown InGaN multi quantum wells using scanning transmission electron microscopy. Journal of Applied Physics, 2016, 119, 175701.	2.5	0

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73	Quantitative STEM: Comparative Studies of Composition and Optical Properties of Semiconductor Quantum Structures. Microscopy and Microanalysis, 2017, 23, 1690-1691.	0.4	0
74	Quantitative Simulation of Four-dimensional STEM Datasets. Microscopy and Microanalysis, 2020, 26, 250-251.	0.4	0
75	Quantitative characterization of nanometer-scale electric fields via momentum-resolved STEM. Microscopy and Microanalysis, 2021, 27, 2206-2207.	0.4	0
76	Matching different symmetries with an atomically sharp interface: Epitaxial <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ba</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> on Si(001). Physical Review Materials, 2020, 4, .	2.4	0