

Volker Rose

List of Publications by Year in descending order

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papers

3,151
citations

201575

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77
all docs

77
docs citations

77
times ranked

3355
citing authors

#	ARTICLE	IF	CITATIONS
1	Evolution of surface and sub-surface morphology and chemical state of exsolved Ni nanoparticles. Faraday Discussions, 2022, 236, 141-156.	1.6	6
2	Stressing Halide Perovskites with Light and Electric Fields. ACS Energy Letters, 2022, 7, 2211-2218.	8.8	16
3	Impact of Transition Metal Doping on the Structural and Optical Properties of Halide Perovskites. Chemistry of Materials, 2021, 33, 6099-6107.	3.2	3
4	Investigating the effect of electric fields on lead halide perovskites by scanning tunneling microscopy. Journal of Applied Physics, 2020, 128, .	1.1	13
5	Effects of X-rays on Perovskite Solar Cells. Journal of Physical Chemistry C, 2020, 124, 17949-17956.	1.5	21
6	Mapping Competitive Reduction upon Charging in $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$ Primary Particles. Chemistry of Materials, 2020, 32, 6161-6175.	3.2	5
7	XTIP – the world's first beamline dedicated to the synchrotron X-ray scanning tunneling microscopy technique. Journal of Synchrotron Radiation, 2020, 27, 836-843.	1.0	14
8	A variable X-ray chopper system for phase-sensitive detection in synchrotron X-ray scanning tunneling microscopy. Journal of Synchrotron Radiation, 2020, 27, 1382-1387.	1.0	2
9	Multi-scale observations of structure and chemical composition changes of portland cement systems during hydration. Construction and Building Materials, 2019, 212, 486-499.	3.2	19
10	X-ray Assisted Scanning Tunneling Microscopy and Its Applications for Materials Science: The First Results on Cu Doped ZrTe_3 Crystals, 2019, 9, 588.	1.0	4
11	Solubility and Diffusivity: Important Metrics in the Search for the Root Cause of Light- and Elevated Temperature-Induced Degradation. IEEE Journal of Photovoltaics, 2018, 8, 448-455.	1.5	23
12	Distribution and Charge State of Iron Impurities in Intentionally Contaminated Lead Halide Perovskites. IEEE Journal of Photovoltaics, 2018, 8, 156-161.	1.5	8
13	Charge Collection in Hybrid Perovskite Solar Cells: Relation to the Nanoscale Elemental Distribution. IEEE Journal of Photovoltaics, 2017, 7, 590-597.	1.5	45
14	Controlled modulation of hard and soft X-ray induced tunneling currents utilizing coaxial metal-insulator-metal probe tips. Journal of Applied Physics, 2017, 121, .	1.1	5
15	Engineering solar cells based on correlative X-ray microscopy. Journal of Materials Research, 2017, 32, 1825-1854.	1.2	61
16	Grain engineering: How nanoscale inhomogeneities can control charge collection in solar cells. Nano Energy, 2017, 32, 488-493.	8.2	40
17	The Role of Water in the Reversible Optoelectronic Degradation of Hybrid Perovskites at Low Pressure. Journal of Physical Chemistry C, 2017, 121, 25659-25665.	1.5	19
18	Detecting element specific electrons from a single cobalt nanocluster with synchrotron x-ray scanning tunneling microscopy. Applied Physics Letters, 2017, 111, 103102.	1.5	13

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19	X-ray fluorescence at nanoscale resolution for multicomponent layered structures: a solar cell case study. <i>Journal of Synchrotron Radiation</i> , 2017, 24, 288-295.	1.0	27
20	X-Ray Beam Induced Voltage: A Novel Technique for Electrical Nanocharacterization of Solar Cells. , 2017, , .		4
21	Synchrotron X-ray Scanning Tunneling Microscopy: A Novel Approach for the Nanoscale Characterization of Functional Magnetic Materials with Chemical Contrast. , 2016, , .		0
22	Imaging trace element distributions in single organelles and subcellular features. <i>Scientific Reports</i> , 2016, 6, 21437.	1.6	39
23	Synchrotron x-ray characterization of alkali elements at grain boundaries in Cu(In, Ga)Se ₂ solar cells. , 2016, , .		4
24	Elemental distribution and charge collection at the nanoscale on perovskite solar cells. , 2016, , .		8
25	Direct measurements of 3d structure, chemistry and mass density during the induction period of C3s hydration. <i>Cement and Concrete Research</i> , 2016, 89, 14-26.	4.6	44
26	Direct three-dimensional observation of the microstructure and chemistry of C3S hydration. <i>Cement and Concrete Research</i> , 2016, 88, 157-169.	4.6	54
27	Spatially Heterogeneous Chlorine Incorporation in Organic-Inorganic Perovskite Solar Cells. <i>Chemistry of Materials</i> , 2016, 28, 6536-6543.	3.2	39
28	Ultra-high vacuum compatible optical chopper system for synchrotron x-ray scanning tunneling microscopy. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	1
29	Local X-ray magnetic circular dichroism study of Fe/Cu(111) using a tunneling smart tip. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 574-578.	1.0	7
30	Fabrication and Characterization of CNT-Based Smart Tips for Synchrotron Assisted STM. <i>Journal of Nanomaterials</i> , 2015, 2015, 1-7.	1.5	2
31	Hard X-ray beam damage study of monolayer Ni islands using SX-STM. <i>Materials Research Society Symposia Proceedings</i> , 2015, 1754, 135-140.	0.1	1
32	Correlation between grain composition and charge carrier collection in Cu(In,Ga)Se ₂ solar cells. , 2015, , .		9
33	Latest developments in the x-ray based characterization of thin-film solar cells. , 2015, , .		15
34	Efficient Cisplatin Prodrug Delivery Visualized with Sub-100 nm Resolution: Interfacing Engineered Thermosensitive Magnetomicelles with a Living System. <i>Advanced Materials Interfaces</i> , 2014, 1, 1400182.	1.9	22
35	The fate of iron in blast furnace slag particles during alkali-activation. <i>Materials Chemistry and Physics</i> , 2014, 146, 1-5.	2.0	36
36	A Next-Generation Hard X-Ray Nanoprobe Beamline for In Situ Studies of Energy Materials and Devices. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 85-97.	1.1	14

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37	Combined three-dimensional structure and chemistry imaging with nanoscale resolution. <i>Acta Materialia</i> , 2014, 77, 173-182.	3.8	29
38	Elemental Fingerprinting of Materials with Sensitivity at the Atomic Limit. <i>Nano Letters</i> , 2014, 14, 6499-6504.	4.5	36
39	Nanoscale Hard X-Ray Microscopy Methods for Materials Studies. <i>Annual Review of Materials Research</i> , 2013, 43, 183-211.	4.3	150
40	High-resolution fluorescence mapping of impurities in historical zinc oxide pigments: hard X-ray nanoprobe applications to the paints of Pablo Picasso. <i>Applied Physics A: Materials Science and Processing</i> , 2013, 111, 1-8.	1.1	52
41	Nanostructural characterization of geopolymers by advanced beamline techniques. <i>Cement and Concrete Composites</i> , 2013, 36, 56-64.	4.6	33
42	Synchrotron X-ray Scanning Tunneling Microscopy: Fingerprinting Near to Far Field Transitions on Cu(111) Induced by Synchrotron Radiation. <i>Advanced Functional Materials</i> , 2013, 23, 2646-2652.	7.8	25
43	A next-generation in-situ nanoprobe beamline for the Advanced Photon Source. <i>Proceedings of SPIE</i> , 2013, , .	0.8	2
44	An easy-to-implement filter for separating photo-excited signals from topography in scanning tunneling microscopy. <i>Review of Scientific Instruments</i> , 2013, 84, 063704.	0.6	18
45	Synchrotron X-ray Scanning Tunneling Microscopy: Fingerprinting Near to Far Field Transitions on Cu(111) Induced by Synchrotron Radiation (<i>Adv. Funct. Mater.</i> 20/2013). <i>Advanced Functional Materials</i> , 2013, 23, 2664-2664.	7.8	0
46	High-Resolution X-ray Diffraction and Fluorescence Microscopy Characterization of Alkali-Activated Slag-Metakaolin Binders. <i>Journal of the American Ceramic Society</i> , 2013, 96, 1951-1957.	1.9	79
47	Spin-dependent synchrotron x-ray excitations studied by scanning tunneling microscopy. <i>Journal of Applied Physics</i> , 2012, 111, 07E304.	1.1	13
48	Nano-XRF and micro-raman studies of metal impurity decoration around dislocations in multicrystalline silicon. , 2012, , .		1
49	A hard X-ray nanoprobe beamline for nanoscale microscopy. <i>Journal of Synchrotron Radiation</i> , 2012, 19, 1056-1060.	1.0	152
50	X-ray microtomography shows pore structure and tortuosity in alkali-activated binders. <i>Cement and Concrete Research</i> , 2012, 42, 855-864.	4.6	394
51	Combining scanning tunneling microscopy and synchrotron radiation for high-resolution imaging and spectroscopy with chemical, electronic, and magnetic contrast. <i>Ultramicroscopy</i> , 2012, 112, 22-31.	0.8	35
52	Spectromicroscopy of tantalum oxide memristors. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	85
53	Synchrotron-based characterization of solar cell nanodefects. , 2011, , .		1
54	Nanoprobe X-ray fluorescence characterization of defects in large-area solar cells. <i>Energy and Environmental Science</i> , 2011, 4, 4252.	15.6	69

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55	Two dimensional hard x-ray nanofocusing with crossed multilayer Laue lenses. Optics Express, 2011, 19, 15069.	1.7	91
56	Hard X-ray nanotomography of amorphous aluminosilicate cements. Scripta Materialia, 2011, 65, 316-319.	2.6	46
57	Evolution of binder structure in sodium silicate-activated slag-metakaolin blends. Cement and Concrete Composites, 2011, 33, 46-54.	4.6	513
58	X-ray nanotomography of SiO ₂ -coated Pt ₉₀ Ir ₁₀ tips with sub-micron conducting apex. Applied Physics Letters, 2011, 99, 173102.	1.5	21
59	Nanoscale chemical imaging using synchrotron x-ray enhanced scanning tunneling microscopy. AIP Conference Proceedings, 2010, , .	0.3	9
60	Effect of silicate modulus and metakaolin incorporation on the carbonation of alkali silicate-activated slags. Cement and Concrete Research, 2010, 40, 898-907.	4.6	341
61	New Capabilities at the Interface of X-Rays and Scanning Tunneling Microscopy. , 2010, , 405-431.		6
62	A new concept for quantitative nanoscale imaging with magnetic contrast: Synchrotron x-ray enhanced scanning tunneling microscopy. , 2010, , .		3
63	High-Resolution Nanoprobe X-ray Fluorescence Characterization of Heterogeneous Calcium and Heavy Metal Distributions in Alkali-Activated Fly Ash. Langmuir, 2009, 25, 11897-11904.	1.6	66
64	The band gap of ultrathin amorphous and well-ordered Al ₂ O ₃ films on CoAl(100) measured by scanning tunneling spectroscopy. Journal of Applied Physics, 2009, 105, .	1.1	25
65	X-ray-excited photoelectron detection using a scanning tunneling microscope. Applied Physics Letters, 2008, 92, .	1.5	30
66	The breakdown of the fingerprinting of vortices by hysteresis loops in circular multilayer ring arrays. Applied Physics Letters, 2007, 91, 132501.	1.5	13
67	Thermal stability of Co-core-CoO-shell nanoparticles on an ultrathin γ -Al ₂ O ₃ film support. Journal of Applied Physics, 2007, 101, 086104.	1.1	2
68	Demagnetization protocols for frustrated interacting nanomagnet arrays. Journal of Applied Physics, 2007, 101, 09J104.	1.1	66
69	Two-Dimensional Surface Magnetism in the Bulk Paramagnetic Intermetallic Alloy CoAl(100). Physical Review Letters, 2007, 98, 037202.	2.9	10
70	Growth of Co nanoparticles on a nanostructured γ -Al ₂ O ₃ film on CoAl(100). Surface Science, 2007, 601, 786-791.	0.8	14
71	Study of phase transitions within alumina grown on top of CoAl (100) surface. Surface Science, 2007, 601, 3315-3323.	0.8	4
72	Oxidation-induced high-Curie-temperature ferromagnetism in CoAl(100). Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 4188-4196.	0.8	2

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73	The coexistence of $\hat{\Gamma}^3$ and $\hat{\Gamma}^1$ alumina observed by STM and LEED on top of oxide layer grown on CoAl(100). Applied Surface Science, 2006, 252, 8394-8398.	3.1	5
74	Step flow observed on top of oxidized CoAl(1 0 0) surface. Applied Surface Science, 2006, 253, 1796-1800.	3.1	5
75	Frustrated magnetic vortices in a triad of permalloy rings: Magneto-optical Kerr effect, magnetic force microscopy, and micromagnetic simulations. Physical Review B, 2006, 73, .	1.1	9
76	High temperature oxidation of CoAl(100). Surface Science, 2005, 577, 139-150.	0.8	27
77	Growth of ultra-thin amorphous Al ₂ O ₃ films on CoAl(). Surface Science, 2003, 541, 128-136.	0.8	26