

Volker Rose

List of Publications by Year in descending order

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77
papers

3,151
citations

201575

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h-index

155592

55
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77
all docs

77
docs citations

77
times ranked

3355
citing authors

#	ARTICLE	IF	CITATIONS
1	Evolution of binder structure in sodium silicate-activated slag-metakaolin blends. Cement and Concrete Composites, 2011, 33, 46-54.	4.6	513
2	X-ray microtomography shows pore structure and tortuosity in alkali-activated binders. Cement and Concrete Research, 2012, 42, 855-864.	4.6	394
3	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
4	A hard X-ray nanoprobe beamline for nanoscale microscopy. Journal of Synchrotron Radiation, 2012, 19, 1056-1060.	1.0	152
5	Nanoscale Hard X-Ray Microscopy Methods for Materials Studies. Annual Review of Materials Research, 2013, 43, 183-211.	4.3	150
6	Two dimensional hard x-ray nanofocusing with crossed multilayer Laue lenses. Optics Express, 2011, 19, 15069.	1.7	91
7	Spectromicroscopy of tantalum oxide memristors. Applied Physics Letters, 2011, 98, .	1.5	85
8	High-Resolution X-ray Diffraction and Fluorescence Microscopy Characterization of Alkali-Activated Slag-Metakaolin Binders. Journal of the American Ceramic Society, 2013, 96, 1951-1957.	1.9	79
9	Nanoprobe X-ray fluorescence characterization of defects in large-area solar cells. Energy and Environmental Science, 2011, 4, 4252.	15.6	69
10	Demagnetization protocols for frustrated interacting nanomagnet arrays. Journal of Applied Physics, 2007, 101, 09J104.	1.1	66
11	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
12	Engineering solar cells based on correlative X-ray microscopy. Journal of Materials Research, 2017, 32, 1825-1854.	1.2	61
13	Direct three-dimensional observation of the microstructure and chemistry of C3S hydration. Cement and Concrete Research, 2016, 88, 157-169.	4.6	54
14	High-resolution fluorescence mapping of impurities in historical zinc oxide pigments: hard X-ray nanoprobe applications to the paints of Pablo Picasso. Applied Physics A: Materials Science and Processing, 2013, 111, 1-8.	1.1	52
15	Hard X-ray nanotomography of amorphous aluminosilicate cements. Scripta Materialia, 2011, 65, 316-319.	2.6	46
16	Charge Collection in Hybrid Perovskite Solar Cells: Relation to the Nanoscale Elemental Distribution. IEEE Journal of Photovoltaics, 2017, 7, 590-597.	1.5	45
17	Direct measurements of 3d structure, chemistry and mass density during the induction period of C3s hydration. Cement and Concrete Research, 2016, 89, 14-26.	4.6	44
18	Grain engineering: How nanoscale inhomogeneities can control charge collection in solar cells. Nano Energy, 2017, 32, 488-493.	8.2	40

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19	Imaging trace element distributions in single organelles and subcellular features. Scientific Reports, 2016, 6, 21437.	1.6	39
20	Spatially Heterogeneous Chlorine Incorporation in Organic-Inorganic Perovskite Solar Cells. Chemistry of Materials, 2016, 28, 6536-6543.	3.2	39
21	The fate of iron in blast furnace slag particles during alkali-activation. Materials Chemistry and Physics, 2014, 146, 1-5.	2.0	36
22	Elemental Fingerprinting of Materials with Sensitivity at the Atomic Limit. Nano Letters, 2014, 14, 6499-6504.	4.5	36
23	Combining scanning tunneling microscopy and synchrotron radiation for high-resolution imaging and spectroscopy with chemical, electronic, and magnetic contrast. Ultramicroscopy, 2012, 112, 22-31.	0.8	35
24	Nanostructural characterization of geopolymers by advanced beamline techniques. Cement and Concrete Composites, 2013, 36, 56-64.	4.6	33
25	X-ray-excited photoelectron detection using a scanning tunneling microscope. Applied Physics Letters, 2008, 92, .	1.5	30
26	Combined three-dimensional structure and chemistry imaging with nanoscale resolution. Acta Materialia, 2014, 77, 173-182.	3.8	29
27	High temperature oxidation of CoAl(100). Surface Science, 2005, 577, 139-150.	0.8	27
28	X-ray fluorescence at nanoscale resolution for multicomponent layered structures: a solar cell case study. Journal of Synchrotron Radiation, 2017, 24, 288-295.	1.0	27
29	Growth of ultra-thin amorphous Al ₂ O ₃ films on CoAl(). Surface Science, 2003, 541, 128-136.	0.8	26
30	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
31	Synchrotron X-ray Scanning Tunneling Microscopy: Fingerprinting Near to Far Field Transitions on Cu(111) Induced by Synchrotron Radiation. Advanced Functional Materials, 2013, 23, 2646-2652.	7.8	25
32	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
33	Efficient Cisplatin Prodrug Delivery Visualized with Sub-100 nm Resolution: Interfacing Engineered Thermosensitive Magnetomicelles with a Living System. Advanced Materials Interfaces, 2014, 1, 1400182.	1.9	22
34	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
35	Effects of X-rays on Perovskite Solar Cells. Journal of Physical Chemistry C, 2020, 124, 17949-17956.	1.5	21
36	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

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37	Multi-scale observations of structure and chemical composition changes of portland cement systems during hydration. <i>Construction and Building Materials</i> , 2019, 212, 486-499.	3.2	19
38	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
39	Stressing Halide Perovskites with Light and Electric Fields. <i>ACS Energy Letters</i> , 2022, 7, 2211-2218.	8.8	16
40	Latest developments in the x-ray based characterization of thin-film solar cells. , 2015, , .		15
41	Growth of Co nanoparticles on a nanostructured $\hat{\Gamma}$ -Al ₂ O ₃ film on CoAl(100). <i>Surface Science</i> , 2007, 601, 786-791.	0.8	14
42	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
43	XTIP – the world's first beamline dedicated to the synchrotron X-ray scanning tunneling microscopy technique. <i>Journal of Synchrotron Radiation</i> , 2020, 27, 836-843.	1.0	14
44	The breakdown of the fingerprinting of vortices by hysteresis loops in circular multilayer ring arrays. <i>Applied Physics Letters</i> , 2007, 91, 132501.	1.5	13
45	Spin-dependent synchrotron x-ray excitations studied by scanning tunneling microscopy. <i>Journal of Applied Physics</i> , 2012, 111, 07E304.	1.1	13
46	Detecting element specific electrons from a single cobalt nanocluster with synchrotron x-ray scanning tunneling microscopy. <i>Applied Physics Letters</i> , 2017, 111, 103102.	1.5	13
47	Investigating the effect of electric fields on lead halide perovskites by scanning tunneling microscopy. <i>Journal of Applied Physics</i> , 2020, 128, .	1.1	13
48	Two-Dimensional Surface Magnetism in the Bulk Paramagnetic Intermetallic Alloy CoAl(100). <i>Physical Review Letters</i> , 2007, 98, 037202.	2.9	10
49	Frustrated magnetic vortices in a triad of permalloy rings: Magneto-optical Kerr effect, magnetic force microscopy, and micromagnetic simulations. <i>Physical Review B</i> , 2006, 73, .	1.1	9
50	Nanoscale chemical imaging using synchrotron x-ray enhanced scanning tunneling microscopy. <i>AIP Conference Proceedings</i> , 2010, , .	0.3	9
51	Correlation between grain composition and charge carrier collection in Cu(In,Ga)Se ₂ solar cells. , 2015, , .		9
52	Elemental distribution and charge collection at the nanoscale on perovskite solar cells. , 2016, , .		8
53	Distribution and Charge State of Iron Impurities in Intentionally Contaminated Lead Halide Perovskites. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 156-161.	1.5	8
54	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

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55	New Capabilities at the Interface of X-Rays and Scanning Tunneling Microscopy. , 2010, , 405-431.		6
56	Evolution of surface and sub-surface morphology and chemical state of exsolved Ni nanoparticles. Faraday Discussions, 2022, 236, 141-156.	1.6	6
57	The coexistence of γ -Al ₂ O ₃ and δ -Al ₂ O ₃ 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
58	Step flow observed on top of oxidized CoAl(1 0 0) surface. Applied Surface Science, 2006, 253, 1796-1800.	3.1	5
59	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
60	Mapping Competitive Reduction upon Charging in LiNi _{0.8} Co _{0.15} Al _{0.05} O ₂ Primary Particles. Chemistry of Materials, 2020, 32, 6161-6175.	3.2	5
61	Study of phase transitions within alumina grown on top of CoAl (100) surface. Surface Science, 2007, 601, 3315-3323.	0.8	4
62	Synchrotron x-ray characterization of alkali elements at grain boundaries in Cu(In, Ga)Se ₂ solar cells. , 2016, , .		4
63	X-Ray Beam Induced Voltage: A Novel Technique for Electrical Nanocharacterization of Solar Cells. , 2017, , .		4
64	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
65	A new concept for quantitative nanoscale imaging with magnetic contrast: Synchrotron x-ray enhanced scanning tunneling microscopy. , 2010, , .		3
66	Impact of Transition Metal Doping on the Structural and Optical Properties of Halide Perovskites. Chemistry of Materials, 2021, 33, 6099-6107.	3.2	3
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	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
69	A next-generation in-situ nanoprobe beamline for the Advanced Photon Source. Proceedings of SPIE, 2013, , .	0.8	2
70	Fabrication and Characterization of CNT-Based Smart Tips for Synchrotron Assisted STM. Journal of Nanomaterials, 2015, 2015, 1-7.	1.5	2
71	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
72	Synchrotron-based characterization of solar cell nanodefects. , 2011, , .		1

#	ARTICLE	IF	CITATIONS
73	Nano-XRF and micro-raman studies of metal impurity decoration around dislocations in multicrystalline silicon. , 2012, , .		1
74	Hard X-ray beam damage study of monolayer Ni islands using SX-STM. Materials Research Society Symposia Proceedings, 2015, 1754, 135-140.	0.1	1
75	Ultra-high vacuum compatible optical chopper system for synchrotron x-ray scanning tunneling microscopy. AIP Conference Proceedings, 2016, , .	0.3	1
76	Synchrotron X-ray Scanning Tunneling Microscopy: Synchrotron X-ray Scanning Tunneling Microscopy: Fingerprinting Near to Far Field Transitions on Cu(111) Induced by Synchrotron Radiation (Adv. Funct. Mater. 20/2013). Advanced Functional Materials, 2013, 23, 2664-2664.	7.8	0
77	Synchrotron X-ray Scanning Tunneling Microscopy: A Novel Approach for the Nanoscale Characterization of Functional Magnetic Materials with Chemical Contrast. , 2016, , .		0