Dirk LÃ¼tzenkirchen-Hecht

List of Publications by Year
in descending order

126 papers	3,646 citations	201674 27 h-index	144013 57 g-index
126 all docs	126 docs citations	126 times ranked	5279 citing authors

#	Article	IF	Citations
1	Boosting Oxygen Reduction of Single Iron Active Sites via Geometric and Electronic Engineering: Nitrogen and Phosphorus Dual Coordination. Journal of the American Chemical Society, 2020, 142, 2404-2412.	13.7	680
2	Synergetic Contribution of Boron and Feâ€“N_x Species in Porous Carbons toward Efficient Electrocatalysts for Oxygen Reduction Reaction. ACS Energy Letters, 2018, 3, 252-260.	17.4	269
3	Proof of Supervalent Doping in Olivine LiFePO₄. Chemistry of Materials, 2008, 20, 6313-6315.	6.7	223
4	Inverted Organic Solar Cells with Solâ€“Gel Processed High Workâ€Function Vanadium Oxide Holeâ€Extraction Layers. Advanced Functional Materials, 2011, 21, 4776-4783.	14.9	213
5	A Kinetic Two-Phase and Equilibrium Solid Solution in Spinel Li4+xTi5O12. Advanced Materials, 2006, 18, 3169-3173.	21.0	206
6	Quick-EXAFS setup at the SuperXAS beamline forinÂsituX-ray absorption spectroscopy with 10â€…ms time resolution. Journal of Synchrotron Radiation, 2016, 23, 260-266.	2.4	158
7	The electronic structure and ionic diffusion of nanoscale LiTiO2 anatase. Physical Chemistry Chemical Physics, 2009, 11, 5742.	2.8	130
8	Determination of secondary phases in kesterite Cu2ZnSnS4 thin films by x-ray absorption near edge structure analysis. Applied Physics Letters, 2011, 99, .	3.3	109
9	Mapping the chemical states of an element inside a sample using tomographic x-ray absorption spectroscopy. Applied Physics Letters, 2003, 82, 3360-3362.	3.3	89
10	Secondary phases and their influence on the composition of the kesterite phase in CZTS and CZTSe thin films. Physical Chemistry Chemical Physics, 2016, 18, 15988-15994.	2.8	77
11	Atomic and Electronic Bulk versus Surface Structure:Â Lithium Intercalation in Anatase TiO2. Journal of Physical Chemistry B, 2004, 108, 12456-12464.	2.6	63
12	Time-Resolved Study of the Oxidation of Ethanol by Cerium(IV) Using Combined Quick-XANES, UVâ^'Vis, and Raman Spectroscopies. Journal of Physical Chemistry A, 2005, 109, 320-329.	2.5	61
13	Anodic silver (II) oxides investigated by combined electrochemistry, ex situ XPS and in situ Xâ€ray absorption spectroscopy. Surface and Interface Analysis, 2009, 41, 820-829.	1.8	51
14	Surface analytical investigations of the electrochemical double layer on silver electrodes in alkaline media. Electrochimica Acta, 1998, 43, 2957-2968.	5.2	48
15	Structural changes of noble metal catalysts during ignition and extinction of the partial oxidation of methane studied by advanced QEXAFS techniques. Physical Chemistry Chemical Physics, 2009, 11, 8779.	2.8	48
16	Structure of reactively sputter deposited tin-nitride thin films: A combined X-ray photoelectron spectroscopy, in situ X-ray reflectivity and X-ray absorption spectroscopy study. Thin Solid Films, 2005, 493, 67-76.	1.8	47
17	Piezo-QEXAFS: advances in time-resolved X-ray absorption spectroscopy. Journal of Synchrotron Radiation, 2001, 8, 354-356.	2.4	42
18	Piezo X-ray Absorption Spectroscopy for the Investigation of Solid-State Transformations in the Millisecond Range. Journal of Physical Chemistry B, 2001, 105, 5161-5168.	2.6	39

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19	Piezo-XAFSâ€“time-resolved x-ray absorption spectroscopy. Review of Scientific Instruments, 2002, 73, 1668-1670.	1.3	35
20	The materials science X-ray beamline BL8 at the DELTA storage ring. Journal of Synchrotron Radiation, 2009, 16, 264-272.	2.4	32
21	Quick scanning monochromator for millisecond in situ and in operando X-ray absorption spectroscopy. Review of Scientific Instruments, 2015, 86, 093905.	1.3	32
22	A new flexible monochromator setup for quick scanning x-ray absorption spectroscopy. Review of Scientific Instruments, 2010, 81, 073109.	1.3	30
23	Corrosion of Mo in KOH:Â Time Resolved XAFS Investigations. Journal of Physical Chemistry B, 2001, 105, 9988-9993.	2.6	29
24	Piezo-QEXAFS with fluorescence detection: fast time-resolved investigations of dilute specimens. Journal of Synchrotron Radiation, 2001, 8, 6-9.	2.4	29
25	Ex situ reflection mode EXAFS at the Ti K-edge of lithium intercalated TiO2 rutile. Surface Science, 2003, 538, 10-22.	1.9	29
26	Native oxidation of sputter deposited polycrystalline copper thin films during short and long exposure times: Comparative investigation by specular and non-specular grazing incidence X-ray absorption spectroscopy. Corrosion Science, 2010, 52, 1305-1316.	6.6	28
27	Structural investigations of sputter deposited thin films: reflection mode EXAFS, specular and non specular X-ray scattering. Physica B: Condensed Matter, 2000, 283, 108-113.	2.7	27
28	A new approach for QEXAFS data acquisition. Journal of Synchrotron Radiation, 1999, 6, 209-211.	2.4	26
29	QEXAFS and UV/Vis Simultaneous Monitoring of the TiO₂-Nanoparticles Formation by Hydrolytic Solâ^'Gel Route. Journal of Physical Chemistry C, 2010, 114, 6228-6236.	3.1	25
30	The multi-purpose hard X-ray beamline BL10 at the DELTA storage ring. Journal of Synchrotron Radiation, 2014, 21, 819-826.	2.4	23
31	An in situ exafs-study of corrosion products. Corrosion Science, 1998, 40, 1037-1041.	6.6	19
32	Gridded Ionization Chambers for Time Resolved X-Ray Absorption Spectroscopy. Journal of Physics: Conference Series, 2013, 425, 092010.	0.4	19
33	A new stand-alone QEXAFS data acquisition system forin situstudies. Journal of Synchrotron Radiation, 2011, 18, 165-175.	2.4	18
34	Microwave-assisted synthesis of water-soluble, fluorescent gold nanoclusters capped with small organic molecules and a revealing fluorescence and X-ray absorption study. Nanoscale, 2015, 7, 4978-4983.	5.6	18
35	Field emission spectroscopy evidence for dual-barrier electron tunnelling in nanographite. Applied Physics Letters, 2015, 106, .	3.3	18
36	Bromide adsorption on silver in alkaline solution: A surface analytical study. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1998, 102, 826-832.	0.9	17

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37	Sensitive fast electron spectrometer in adjustable triode configuration with pulsed tunable laser for research on photo-induced field emission cathodes. Review of Scientific Instruments, 2015, 86, 043307.	1.3	17
38	A Comparative Study of Field Emission From Semiconducting and Metallic Singleâ€Walled Carbon Nanotube Planar Emitters. Physica Status Solidi (B): Basic Research, 2018, 255, 1700268.	1.5	17
39	Reflection mode XAFS investigations of reactively sputtered thin films. Journal of Synchrotron Radiation, 2001, 8, 478-480.	2.4	16
40	Quasi-in-situ reflection mode XANES at the Ti K-edge of lithium intercalated TiO2 rutile and anatase. Physica B: Condensed Matter, 2003, 336, 118-123.	2.7	16
41	Near surface silicide formation after off-normal Fe-implantation of Si(001) surfaces. Journal of Applied Physics, 2014, 116, 024301.	2.5	16
42	Surface-sensitive reflection-mode EXAFS from layered sample systems: the influence of surface and interface roughness. Journal of Synchrotron Radiation, 2009, 16, 443-454.	2.4	15
43	Environment of the Eu³⁺ Ion within Nanocrystalline Eu-Doped BaAl₂O₄: Correlation of X-ray Diffraction, MÃ¶ssbauer Spectroscopy, X-ray Absorption Spectroscopy, and Photoluminescence Investigations. Inorganic Chemistry, 2018, 57, 1744-1756.	4.0	15
44	The quick EXAFS setup at beamline P64 at PETRA III for up to 200 spectra per second. AIP Conference Proceedings, 2019, , .	0.4	15
45	Miniaturized multipurpose cell for in situ investigation of sputtered thin films with x-ray techniques. Review of Scientific Instruments, 2005, 76, 073905.	1.3	14
46	The anodic oxidation of silver in 1M NaOH: electrochemistry,ex situ XPS andin situ X-ray absorption spectroscopy. Surface and Interface Analysis, 2006, 38, 686-690.	1.8	14
47	Advancing Time-resolved Methods in Monitoring and Characterization of Catalysts. Synchrotron Radiation News, 2009, 22, 6-11.	0.8	14
48	Chromium Environment within Cr-Doped BaAl₂O₄: Correlation of X-ray Diffraction and X-ray Absorption Spectroscopy Investigations. Inorganic Chemistry, 2015, 54, 11127-11135.	4.0	14
49	Photoinduced effects in field electron emission from diamond needles. Applied Physics Letters, 2017, 110, .	3.3	14
50	Depth distribution of secondary phases in kesterite Cu2ZnSnS4 by angle-resolved X-ray absorption spectroscopy. APL Materials, 2017, 5, .	5.1	14
51	Abundance of Fe(III) during cultivation affects the microbiologically influenced corrosion (MIC) behaviour of iron reducing bacteria Shewanella putrefaciens. Corrosion Science, 2020, 174, 108855.	6.6	14
52	Selective study of atoms in rough surfaces by means of off-specular grazing incidence XAFS. Europhysics Letters, 2005, 71, 77-83.	2.0	13
53	Extraction of the characteristics of current-limiting elements from field emission measurement data. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	1.2	13
54	Copper uptake, tissue partitioning and biotransformation evidence by XANES in cowpea (Vigna) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6 Nanotechnology, Monitoring and Management, 2019, 12, 100231.	2.9	13

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55	Field emission and electron energy distributions from point-type triangular-shaped emitters made of thin graphene films. Journal of Applied Physics, 2020, 127, 185302.	2.5	13
56	Carbon single-electron point source controlled by Coulomb blockade. Carbon, 2021, 171, 154-160.	10.3	13
57	XAFS investigations of tin nitrides. Journal of Synchrotron Radiation, 2001, 8, 698-700.	2.4	12
58	Anodic Silver Oxide (AgO) Layers by XPS. Surface Science Spectra, 2011, 18, 102-109.	1.3	12
59	Depth profile investigation of the incorporated iron atoms during Kr+ ion beam sputtering on Si (001). Thin Solid Films, 2013, 527, 349-353.	1.8	12
60	The effect of the deposition conditions on the structure, composition and morphology of electrodeposited cobalt materials. Thin Solid Films, 2018, 667, 11-20.	1.8	12
61	XPS investigations of inkâ€jet printed paper. Surface and Interface Analysis, 2007, 39, 845-851.	1.8	11
62	Compositional dependence of charge carrier transport in kesterite Cu2ZnSnS4solar cells. Journal of Applied Physics, 2016, 120, 225703.	2.5	11
63	Field Electron Emission From CVD Nanocarbon Films Containing Scrolled Graphene Structures. Physica Status Solidi (B): Basic Research, 2018, 255, 1700270.	1.5	11
64	Advanced field emission measurement techniques for research on modern cold cathode materials and their applications for transmission-type x-ray sources. Review of Scientific Instruments, 2020, 91, 083906.	1.3	11
65	Coulomb blockade and quantum confinement in field electron emission from heterostructured nanotips. Physical Review B, 2020, 102, .	3.2	11
66	Reflection mode X-ray absorption spectroscopy: new applications in surface science research. Physica B: Condensed Matter, 2005, 357, 213-217.	2.7	10
67	Structural and electrical properties of thin d.c. magnetron-sputtered gold films deposited on float glass. Surface and Interface Analysis, 2006, 38, 715-718.	1.8	10
68	Study of atomic clusters in neutron irradiated reactor pressure vessel surveillance samples by extended X-ray absorption fine structure spectroscopy. Journal of Nuclear Materials, 2009, 385, 319-324.	2.7	10
69	Electron spectrometer in adjustable triode configuration for photo-induced field emission measurements. Review of Scientific Instruments, 2012, 83, 013302.	1.3	10
70	Thermal anti-oxidation treatment of CrNi-steels as studied by EXAFS in reflection mode: the influence of monosilane additions in the gas atmosphere of a continuous annealing furnace. Journal of Materials Science, 2014, 49, 5454-5461.	3.7	10
71	Insight into the Growth Mechanism and Photocatalytic Behavior of Tubular Hierarchical ZnO Structures: An Integrated Experimental and Theoretical Approach. Inorganic Chemistry, 2022, 61, 2962-2979.	4.0	10
72	Manipulating the electronic configuration of Feâ€“N‹sub›4‹/sub›sites by an electron-withdrawing/donating strategy with improved oxygen electroreduction performance. Materials Chemistry Frontiers, 2022, 6, 1209-1217.	5.9	10

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73	Photosensitivity of p-type black Si field emitter arrays. Journal of Applied Physics, 2016, 119, .	2.5	9
74	Time-resolved EXAFS investigations of the anodic dissolution of Mo. Journal of Synchrotron Radiation, 1999, 6, 591-593.	2.4	8
75	A novel crystal bender for x-ray synchrotron radiation monochromators. Review of Scientific Instruments, 2002, 73, 1564-1567.	1.3	8
76	Analysis of engine motor oils by X-ray absorption and X-ray fluorescence spectroscopies. X-Ray Spectrometry, 2014, 43, 221-227.	1.4	8
77	XANES studies of the formation of Ag-nanoparticles in LbL deposited polyelectrolyte thin films. Surface and Coatings Technology, 2010, 205, 2113-2119.	4.8	7
78	Structural properties of fluorozirconate-based glass ceramics doped with multivalent europium. Journal of Applied Physics, 2011, 110, 113527-1135275.	2.5	7
79	Crystallization behaviour of TiO2â€“ZrO2 composite nanoparticles. Journal of Sol-Gel Science and Technology, 2012, 64, 27-35.	2.4	7
80	In situ electrochemical lithium intercalation into amorphous oxide thin films. Surface and Interface Analysis, 2006, 38, 330-334.	1.8	6
81	Combining non-specular X-ray scattering and X-ray absorption spectroscopy for the investigation of buried layers. Surface Science, 2007, 601, 4232-4235.	1.9	6
82	T-REX: new software for advanced QEXAFS data analysis. Journal of Synchrotron Radiation, 2012, 19, 920-929.	2.4	6
83	Quick-Scanning QEXAFS in grazing incidence: Surface science in sub-seconds. Journal of Physics: Conference Series, 2013, 430, 012124.	0.4	6
84	High-temperature treatments of niobium under high vacuum, dilute air- and nitrogen-atmospheres as investigated by in situ X-ray absorption spectroscopy. Journal of Synchrotron Radiation, 2021, 28, 266-277.	2.4	6
85	Surface graphitization of diamond nanotips induced by field-emission current. Applied Physics Letters, 2022, 120, .	3.3	6
86	A new cell for temperature-dependent X-ray absorption spectroscopy of liquid solutions: application to PbBr2solutions in diethylene glycol. Journal of Synchrotron Radiation, 2005, 12, 216-223.	2.4	5
87	Time-resolved in situ investigations of reactive sputtering processes by grazing incidence X-ray absorption spectroscopy. Surface Science, 2006, 600, 4380-4384.	1.9	5
88	Trained to corrode: Cultivation in the presence of Fe(III) increases the electrochemical activity of iron reducing bacteria â€“ An in situ electrochemical XANES study. Electrochemistry Communications, 2020, 112, 106673.	4.7	5
89	Coulomb blockade in field electron emission from carbon nanotubes. Applied Physics Letters, 2021, 118, .	3.3	5
90	Grazing incidence XAFS under non-specular conditions. Physica B: Condensed Matter, 2005, 357, 1-5.	2.7	4

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91	In-situ X-ray investigations of quench-condensed thin gold films. Thin Solid Films, 2009, 517, 3389-3397.	1.8	4
92	XAS at the materials science X-ray beamline BL8 at the DELTA storage ring. Journal of Physics: Conference Series, 2009, 190, 012040.	0.4	4
93	Hard disk drive based microsecond x-ray chopper for characterization of ionization chambers and photodiodes. Review of Scientific Instruments, 2015, 86, 035105.	1.3	4
94	A Comparative Study of Field Emission From Pristine, Ionâ€Treated and Tungsten Nanoparticleâ€Decorated pâ€Type Silicon Tips. Physica Status Solidi (B): Basic Research, 2019, 256, 1800646.	1.5	4
95	Preconditioning of AISI 304 stainless steel surfaces in the presence of flavinsâ€”Part II: Effect on biofilm formation and microbially influenced corrosion processes. Materials and Corrosion - Werkstoffe Und Korrosion, 2021, 72, 983-994.	1.5	4
96	Field emission from laser-processed niobium (110) single crystals. Physical Review Accelerators and Beams, 2019, 22, .	1.6	4
97	In-situ investigations of magnetron sputtering processes with laboratory X-ray equipment. Thin Solid Films, 2007, 515, 5597-5600.	1.8	3
98	Photosensitivity of electron field emission from B-doped Si-tip arrays. , 2012, , .		3
99	Grazing incidence X-ray absorption spectroscopy under non-ambient conditions: Investigations of liquid surfaces at DELTA beamline 8. Journal of Physics: Conference Series, 2013, 425, 132006.	0.4	3
100	Surface science in sub-seconds by a combination of grazing incidence geometry and QEXAFS. Journal of Physics: Conference Series, 2013, 425, 092001.	0.4	3
101	Yoneda-XAFS with Area X-Ray Detectors. Journal of Physics: Conference Series, 2016, 712, 012028.	0.4	3
102	Timeâ€Resolved Grazing Incidence Xâ€Ray Absorption Spectroscopy for the In Situ Investigation of the Initial Stages of Sputterâ€Deposited Copper Thin Films. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, 2100514.	1.8	3
103	Performance of nearly fixed offset asymmetric channel-cut crystals for X-ray monochromators. Journal of Synchrotron Radiation, 2019, 26, 1879-1886.	2.4	3
104	Photoemission properties of LaB<inf>6</inf> thin films for the use in PIDs. , 2014, , .		2
105	Extraction of the current distribution out of saturated integral measurement data of p-type silicon field emitter arrays. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	1.2	2
106	Structural Behavior and Spin-State Features of BaAl₂O₄ Scaled through Tuned Co³⁺ Doping. Inorganic Chemistry, 2021, 60, 8475-8488.	4.0	2
107	Pressure-induced and flaring photocatalytic diversity of ZnO particles hallmarked by finely tuned pathways. Journal of Alloys and Compounds, 2022, 894, 162444.	5.5	2
108	In-situ investigation of Bi thin film condensation by surface sensitive X-ray absorption spectroscopy at cryogenic temperatures. Journal of Physics: Conference Series, 2009, 190, 012114.	0.4	1

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109	Optimization of ion-track etching and electrochemical Cu nanocone deposition for field emission cathodes. , 2012, , .		1
110	XAFS data acquisition with 2D-detectors: Transmission mode XAFS and grazing incidence EXAFS spectroscopy. Journal of Physics: Conference Series, 2016, 712, 012017.	0.4	1
111	Laser-initiated explosive electron emission from flat germanium crystals. Journal of Applied Physics, 2016, 120, .	2.5	1
112	Coulomb blockade modulated current-voltage characteristic of a diamond field emitter. , 2016, , .		1
113	Laser treatment of niobium surfaces for SRF applications. Journal of Physics: Conference Series, 2018, 1067, 082011.	0.4	1
114	Graphene paper as an emitter for low-power X-ray sources. , 2018, , .		1
115	Preliminary investigation of chlorine speciation in zirconolite glass-ceramics for plutonium residues by analysis of Cl K-edge XANES. MRS Advances, 2020, 5, 37-43.	0.9	1
116	Response to â€œComment on â€˜Advanced field emission measurement techniques for research on modern cold cathode materials and their applications for transmission-type x-ray sourcesâ€™â€•[Rev. Sci. Instrum. 91, 107101 (2020)]. Review of Scientific Instruments, 2020, 91, 107102.	1.3	1
117	Low-voltage high-curent field emission from a simple pointed graphite emitter tested in a transmission-type X-ray demonstator. , 2015, , .		0
118	Highly sensitive spectrometer for field emission cathodes under pulsed tunable laser illumination. , 2015, , .		0
119	XAFS at the new materials science beamline 10 at the DELTA storage ring. Journal of Physics: Conference Series, 2016, 712, 012026.	0.4	0
120	XAFS data acquisition with 2D-detectors: Transmission mode XAFS and grazing incidence EXAFS spectroscopy. Journal of Physics: Conference Series, 2016, 712, 012147.	0.4	0
121	Design of weak link channel-cut crystals for fast QEXAFS monochromators. AIP Conference Proceedings, 2016, , .	0.4	0
122	Electron emission from flat Boron-doped diamond under high electric field and pulsed tunable laser illumination. , 2017, , .		0
123	Field emission properties of p-type silicon tips decorated with tungsten nanoparticles. , 2017, , .		0
124	Evidence for single-electron tunneling in electron energy spectra of diamond tip field emitter. , 2018, , .		0
125	EXAFS investigations of cobalt electrodeposition. Radiation Physics and Chemistry, 2020, 175, 108113.	2.8	0
126	Laser-processing of grinded and mechanically abraded Nb-surfaces. Journal of Laser Applications, 2020, 32, 042009.	1.7	0