

# Dirk LÃ¼tzenkirchen-Hecht

## List of Publications by Year in descending order

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126  
papers

3,646  
citations

201674

27  
h-index

144013

57  
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126  
all docs

126  
docs citations

126  
times ranked

5279  
citing authors

#	ARTICLE	IF	CITATIONS
1	Time-Resolved Grazing Incidence X-Ray Absorption Spectroscopy for the In Situ Investigation of the Initial Stages of Sputter-Deposited Copper Thin Films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2022, 219, 2100514.	1.8	3
2	Pressure-induced and flaring photocatalytic diversity of ZnO particles hallmarked by finely tuned pathways. <i>Journal of Alloys and Compounds</i> , 2022, 894, 162444.	5.5	2
3	Insight into the Growth Mechanism and Photocatalytic Behavior of Tubular Hierarchical ZnO Structures: An Integrated Experimental and Theoretical Approach. <i>Inorganic Chemistry</i> , 2022, 61, 2962-2979.	4.0	10
4	Manipulating the electronic configuration of Fe <sup>N<sub>4</sub></sup> sites by an electron-withdrawing/donating strategy with improved oxygen electroreduction performance. <i>Materials Chemistry Frontiers</i> , 2022, 6, 1209-1217.	5.9	10
5	Surface graphitization of diamond nanotips induced by field-emission current. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	6
6	Carbon single-electron point source controlled by Coulomb blockade. <i>Carbon</i> , 2021, 171, 154-160.	10.3	13
7	Preconditioning of AISI 304 stainless steel surfaces in the presence of flavins <sup>TM</sup> Part II: Effect on biofilm formation and microbially influenced corrosion processes. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2021, 72, 983-994.	1.5	4
8	High-temperature treatments of niobium under high vacuum, dilute air- and nitrogen-atmospheres as investigated by <i>in situ</i> X-ray absorption spectroscopy. <i>Journal of Synchrotron Radiation</i> , 2021, 28, 266-277.	2.4	6
9	Coulomb blockade in field electron emission from carbon nanotubes. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	5
10	Structural Behavior and Spin-State Features of BaAl <sub>2</sub> O <sub>4</sub> Scaled through Tuned Co <sup>3+</sup> Doping. <i>Inorganic Chemistry</i> , 2021, 60, 8475-8488.	4.0	2
11	EXAFS investigations of cobalt electrodeposition. <i>Radiation Physics and Chemistry</i> , 2020, 175, 108113.	2.8	0
12	Boosting Oxygen Reduction of Single Iron Active Sites via Geometric and Electronic Engineering: Nitrogen and Phosphorus Dual Coordination. <i>Journal of the American Chemical Society</i> , 2020, 142, 2404-2412.	13.7	680
13	Preliminary investigation of chlorine speciation in zirconolite glass-ceramics for plutonium residues by analysis of Cl K-edge XANES. <i>MRS Advances</i> , 2020, 5, 37-43.	0.9	1
14	Laser-processing of grinded and mechanically abraded Nb-surfaces. <i>Journal of Laser Applications</i> , 2020, 32, 042009.	1.7	0
15	Abundance of Fe(III) during cultivation affects the microbiologically influenced corrosion (MIC) behaviour of iron reducing bacteria <i>Shewanella putrefaciens</i> . <i>Corrosion Science</i> , 2020, 174, 108855.	6.6	14
16	Response to <sup>TM</sup> Comment on <sup>TM</sup> Advanced field emission measurement techniques for research on modern cold cathode materials and their applications for transmission-type x-ray sources <sup>TM</sup> . [Rev. Sci. Instrum. 91, 107101 (2020)]. <i>Review of Scientific Instruments</i> , 2020, 91, 107102.	1.3	1
17	Advanced field emission measurement techniques for research on modern cold cathode materials and their applications for transmission-type x-ray sources. <i>Review of Scientific Instruments</i> , 2020, 91, 083906.	1.3	11
18	Field emission and electron energy distributions from point-type triangular-shaped emitters made of thin graphene films. <i>Journal of Applied Physics</i> , 2020, 127, 185302.	2.5	13

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19	Trained to corrode: Cultivation in the presence of Fe(III) increases the electrochemical activity of iron reducing bacteria – An in situ electrochemical XANES study. <i>Electrochemistry Communications</i> , 2020, 112, 106673.	4.7	5
20	Coulomb blockade and quantum confinement in field electron emission from heterostructured nanotips. <i>Physical Review B</i> , 2020, 102, .	3.2	11
21	Copper uptake, tissue partitioning and biotransformation evidence by XANES in cowpea ( <i>Vigna</i> ) Tj ETQq1 1 0.784314 rgBT /Overlock Nanotechnology, Monitoring and Management, 2019, 12, 100231.	2.9	13
22	A Comparative Study of Field Emission From Pristine, Ion-Treated and Tungsten Nanoparticle-Decorated p-type Silicon Tips. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1800646.	1.5	4
23	The quick EXAFS setup at beamline P64 at PETRA III for up to 200 spectra per second. <i>AIP Conference Proceedings</i> , 2019, , .	0.4	15
24	Field emission from laser-processed niobium (110) single crystals. <i>Physical Review Accelerators and Beams</i> , 2019, 22, .	1.6	4
25	Performance of nearly fixed offset asymmetric channel-cut crystals for X-ray monochromators. <i>Journal of Synchrotron Radiation</i> , 2019, 26, 1879-1886.	2.4	3
26	Environment of the Eu <sup>3+</sup> Ion within Nanocrystalline Eu-Doped BaAl <sub>2</sub> O <sub>4</sub> : Correlation of X-ray Diffraction, Mössbauer Spectroscopy, X-ray Absorption Spectroscopy, and Photoluminescence Investigations. <i>Inorganic Chemistry</i> , 2018, 57, 1744-1756.	4.0	15
27	Synergetic Contribution of Boron and Fe-N Species in Porous Carbons toward Efficient Electrocatalysts for Oxygen Reduction Reaction. <i>ACS Energy Letters</i> , 2018, 3, 252-260.	17.4	269
28	A Comparative Study of Field Emission From Semiconducting and Metallic Single-Walled Carbon Nanotube Planar Emitters. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1700268.	1.5	17
29	Field Electron Emission From CVD Nanocarbon Films Containing Scrolled Graphene Structures. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1700270.	1.5	11
30	Laser treatment of niobium surfaces for SRF applications. <i>Journal of Physics: Conference Series</i> , 2018, 1067, 082011.	0.4	1
31	Evidence for single-electron tunneling in electron energy spectra of diamond tip field emitter. , 2018, , .		0
32	Graphene paper as an emitter for low-power X-ray sources. , 2018, , .		1
33	The effect of the deposition conditions on the structure, composition and morphology of electrodeposited cobalt materials. <i>Thin Solid Films</i> , 2018, 667, 11-20.	1.8	12
34	Extraction of the current distribution out of saturated integral measurement data of p-type silicon field emitter arrays. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2018, 36, .	1.2	2
35	Photoinduced effects in field electron emission from diamond needles. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	14
36	Extraction of the characteristics of current-limiting elements from field emission measurement data. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2017, 35, .	1.2	13

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37	Electron emission from flat Boron-doped diamond under high electric field and pulsed tunable laser illumination. , 2017, , .		0
38	Field emission properties of p-type silicon tips decorated with tungsten nanoparticles. , 2017, , .		0
39	Depth distribution of secondary phases in kesterite Cu <sub>2</sub> ZnSnS <sub>4</sub> by angle-resolved X-ray absorption spectroscopy. APL Materials, 2017, 5, .	5.1	14
40	Yoneda-XAFS with Area X-Ray Detectors. Journal of Physics: Conference Series, 2016, 712, 012028.	0.4	3
41	XAFS data acquisition with 2D-detectors: Transmission mode XAFS and grazing incidence EXAFS spectroscopy. Journal of Physics: Conference Series, 2016, 712, 012147.	0.4	1
42	XAFS at the new materials science beamline 10 at the DELTA storage ring. Journal of Physics: Conference Series, 2016, 712, 012026.	0.4	0
43	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
44	Photosensitivity of p-type black Si field emitter arrays. Journal of Applied Physics, 2016, 119, .	2.5	9
45	Laser-initiated explosive electron emission from flat germanium crystals. Journal of Applied Physics, 2016, 120, .	2.5	1
46	Compositional dependence of charge carrier transport in kesterite Cu <sub>2</sub> ZnSnS <sub>4</sub> solar cells. Journal of Applied Physics, 2016, 120, 225703.	2.5	11
47	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
48	Coulomb blockade modulated current-voltage characteristic of a diamond field emitter. , 2016, , .		1
49	Design of weak link channel-cut crystals for fast QEXAFS monochromators. AIP Conference Proceedings, 2016, , .	0.4	0
50	Quick-EXAFS setup at the SuperXAS beamline for <i>in situ</i> X-ray absorption spectroscopy with 10 <sup>−6</sup> ms time resolution. Journal of Synchrotron Radiation, 2016, 23, 260-266.	2.4	158
51	Quick scanning monochromator for millisecond <i>in situ</i> and <i>in operando</i> X-ray absorption spectroscopy. Review of Scientific Instruments, 2015, 86, 093905.	1.3	32
52	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
53	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
54	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

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55	Field emission spectroscopy evidence for dual-barrier electron tunnelling in nanographite. Applied Physics Letters, 2015, 106, .	3.3	18
56	Low-voltage high-current field emission from a simple pointed graphite emitter tested in a transmission-type X-ray demonstrator. , 2015, , .		0
57	Highly sensitive spectrometer for field emission cathodes under pulsed tunable laser illumination. , 2015, , .		0
58	Chromium Environment within Cr-Doped BaAl <sub>2</sub> O <sub>4</sub> : Correlation of X-ray Diffraction and X-ray Absorption Spectroscopy Investigations. Inorganic Chemistry, 2015, 54, 11127-11135.	4.0	14
59	Photoemission properties of LaB <sub>6</sub> thin films for the use in PIDs. , 2014, , .		2
60	Analysis of engine motor oils by X-ray absorption and X-ray fluorescence spectroscopies. X-Ray Spectrometry, 2014, 43, 221-227.	1.4	8
61	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
62	Near surface silicide formation after off-normal Fe-implantation of Si(001) surfaces. Journal of Applied Physics, 2014, 116, 024301.	2.5	16
63	The multi-purpose hard X-ray beamline BL10 at the DELTA storage ring. Journal of Synchrotron Radiation, 2014, 21, 819-826.	2.4	23
64	Depth profile investigation of the incorporated iron atoms during Kr <sup>+</sup> ion beam sputtering on Si (001). Thin Solid Films, 2013, 527, 349-353.	1.8	12
65	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
66	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
67	Gridded Ionization Chambers for Time Resolved X-Ray Absorption Spectroscopy. Journal of Physics: Conference Series, 2013, 425, 092010.	0.4	19
68	Quick-Scanning QEXAFS in grazing incidence: Surface science in sub-seconds. Journal of Physics: Conference Series, 2013, 430, 012124.	0.4	6
69	Photosensitivity of electron field emission from B-doped Si-tip arrays. , 2012, , .		3
70	Crystallization behaviour of TiO <sub>2</sub> –ZrO <sub>2</sub> composite nanoparticles. Journal of Sol-Gel Science and Technology, 2012, 64, 27-35.	2.4	7
71	Optimization of ion-track etching and electrochemical Cu nanocone deposition for field emission cathodes. , 2012, , .		1
72	T-REX: new software for advanced QEXAFS data analysis. Journal of Synchrotron Radiation, 2012, 19, 920-929.	2.4	6

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73	Electron spectrometer in adjustable triode configuration for photo-induced field emission measurements. <i>Review of Scientific Instruments</i> , 2012, 83, 013302.	1.3	10
74	Anodic Silver Oxide (AgO) Layers by XPS. <i>Surface Science Spectra</i> , 2011, 18, 102-109.	1.3	12
75	Determination of secondary phases in kesterite Cu <sub>2</sub> ZnSnS <sub>4</sub> thin films by x-ray absorption near edge structure analysis. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	109
76	A new stand-alone QEXAFS data acquisition system for in situ studies. <i>Journal of Synchrotron Radiation</i> , 2011, 18, 165-175.	2.4	18
77	Inverted Organic Solar Cells with Sol-gel Processed High Work Function Vanadium Oxide Hole-Extraction Layers. <i>Advanced Functional Materials</i> , 2011, 21, 4776-4783.	14.9	213
78	Structural properties of fluorozirconate-based glass ceramics doped with multivalent europium. <i>Journal of Applied Physics</i> , 2011, 110, 113527-113527.	2.5	7
79	XANES studies of the formation of Ag-nanoparticles in LbL deposited polyelectrolyte thin films. <i>Surface and Coatings Technology</i> , 2010, 205, 2113-2119.	4.8	7
80	A new flexible monochromator setup for quick scanning x-ray absorption spectroscopy. <i>Review of Scientific Instruments</i> , 2010, 81, 073109.	1.3	30
81	QEXAFS and UV/Vis Simultaneous Monitoring of the TiO <sub>2</sub> -Nanoparticles Formation by Hydrolytic Sol-gel Route. <i>Journal of Physical Chemistry C</i> , 2010, 114, 6228-6236.	3.1	25
82	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. <i>Corrosion Science</i> , 2010, 52, 1305-1316.	6.6	28
83	Advancing Time-resolved Methods in Monitoring and Characterization of Catalysts. <i>Synchrotron Radiation News</i> , 2009, 22, 6-11.	0.8	14
84	Anodic silver (II) oxides investigated by combined electrochemistry, <i>ex situ</i> XPS and <i>in situ</i> X-ray absorption spectroscopy. <i>Surface and Interface Analysis</i> , 2009, 41, 820-829.	1.8	51
85	The materials science X-ray beamline BL8 at the DELTA storage ring. <i>Journal of Synchrotron Radiation</i> , 2009, 16, 264-272.	2.4	32
86	Surface-sensitive reflection-mode EXAFS from layered sample systems: the influence of surface and interface roughness. <i>Journal of Synchrotron Radiation</i> , 2009, 16, 443-454.	2.4	15
87	In-situ X-ray investigations of quench-condensed thin gold films. <i>Thin Solid Films</i> , 2009, 517, 3389-3397.	1.8	4
88	Study of atomic clusters in neutron irradiated reactor pressure vessel surveillance samples by extended X-ray absorption fine structure spectroscopy. <i>Journal of Nuclear Materials</i> , 2009, 385, 319-324.	2.7	10
89	In-situ investigation of Bi thin film condensation by surface sensitive X-ray absorption spectroscopy at cryogenic temperatures. <i>Journal of Physics: Conference Series</i> , 2009, 190, 012114.	0.4	1
90	Structural changes of noble metal catalysts during ignition and extinction of the partial oxidation of methane studied by advanced QEXAFS techniques. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 8779.	2.8	48

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91	The electronic structure and ionic diffusion of nanoscale LiTiO <sub>2</sub> anatase. Physical Chemistry Chemical Physics, 2009, 11, 5742.	2.8	130
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	Proof of Supervalent Doping in Olivine LiFePO <sub>4</sub> . Chemistry of Materials, 2008, 20, 6313-6315.	6.7	223
94	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
95	In-situ investigations of magnetron sputtering processes with laboratory X-ray equipment. Thin Solid Films, 2007, 515, 5597-5600.	1.8	3
96	XPS investigations of inkjet printed paper. Surface and Interface Analysis, 2007, 39, 845-851.	1.8	11
97	The anodic oxidation of silver in 1M NaOH: electrochemistry, ex situ XPS and in situ X-ray absorption spectroscopy. Surface and Interface Analysis, 2006, 38, 686-690.	1.8	14
98	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
99	In situ electrochemical lithium intercalation into amorphous oxide thin films. Surface and Interface Analysis, 2006, 38, 330-334.	1.8	6
100	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
101	A Kinetic Two-Phase and Equilibrium Solid Solution in Spinel Li <sub>4+x</sub> Ti <sub>5</sub> O <sub>12</sub> . Advanced Materials, 2006, 18, 3169-3173.	21.0	206
102	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
103	Grazing incidence XAFS under non-specular conditions. Physica B: Condensed Matter, 2005, 357, 1-5.	2.7	4
104	Reflection mode X-ray absorption spectroscopy: new applications in surface science research. Physica B: Condensed Matter, 2005, 357, 213-217.	2.7	10
105	A new cell for temperature-dependent X-ray absorption spectroscopy of liquid solutions: application to PbBr <sub>2</sub> solutions in diethylene glycol. Journal of Synchrotron Radiation, 2005, 12, 216-223.	2.4	5
106	Selective study of atoms in rough surfaces by means of off-specular grazing incidence XAFS. Europhysics Letters, 2005, 71, 77-83.	2.0	13
107	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
108	Time-Resolved Study of the Oxidation of Ethanol by Cerium(IV) Using Combined Quick-XANES, UV-Vis, and Raman Spectroscopies. Journal of Physical Chemistry A, 2005, 109, 320-329.	2.5	61

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109	Atomic and Electronic Bulk versus Surface Structure: Lithium Intercalation in Anatase TiO <sub>2</sub> . Journal of Physical Chemistry B, 2004, 108, 12456-12464.	2.6	63
110	Ex situ reflection mode EXAFS at the Ti K-edge of lithium intercalated TiO <sub>2</sub> rutile. Surface Science, 2003, 538, 10-22.	1.9	29
111	Quasi-in-situ reflection mode XANES at the Ti K-edge of lithium intercalated TiO <sub>2</sub> rutile and anatase. Physica B: Condensed Matter, 2003, 336, 118-123.	2.7	16
112	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
113	A novel crystal bender for x-ray synchrotron radiation monochromators. Review of Scientific Instruments, 2002, 73, 1564-1567.	1.3	8
114	Piezo-XAFS time-resolved x-ray absorption spectroscopy. Review of Scientific Instruments, 2002, 73, 1668-1670.	1.3	35
115	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
116	Corrosion of Mo in KOH: Time Resolved XAFS Investigations. Journal of Physical Chemistry B, 2001, 105, 9988-9993.	2.6	29
117	XAFS investigations of tin nitrides. Journal of Synchrotron Radiation, 2001, 8, 698-700.	2.4	12
118	Piezo-QEXAFS: advances in time-resolved X-ray absorption spectroscopy. Journal of Synchrotron Radiation, 2001, 8, 354-356.	2.4	42
119	Piezo-QEXAFS with fluorescence detection: fast time-resolved investigations of dilute specimens. Journal of Synchrotron Radiation, 2001, 8, 6-9.	2.4	29
120	Reflection mode XAFS investigations of reactively sputtered thin films. Journal of Synchrotron Radiation, 2001, 8, 478-480.	2.4	16
121	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
122	A new approach for QEXAFS data acquisition. Journal of Synchrotron Radiation, 1999, 6, 209-211.	2.4	26
123	Time-resolved EXAFS investigations of the anodic dissolution of Mo. Journal of Synchrotron Radiation, 1999, 6, 591-593.	2.4	8
124	Surface analytical investigations of the electrochemical double layer on silver electrodes in alkaline media. Electrochimica Acta, 1998, 43, 2957-2968.	5.2	48
125	Bromide adsorption on silver in alkaline solution: A surface analytical study. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1998, 102, 826-832.	0.9	17
126	An in situ exafs-study of corrosion products. Corrosion Science, 1998, 40, 1037-1041.	6.6	19