

Henning MarkÃ¸tter

List of Publications by Year in descending order

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80
papers

2,630
citations

159585

30
h-index

197818

49
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80
all docs

80
docs citations

80
times ranked

2298
citing authors

#	ARTICLE	IF	CITATIONS
1	Clarifying the Electro-Chemo-Mechanical Coupling in $\text{Li}_{10}\text{SnP}_2\text{S}_{12}$ based All-Solid-State Batteries. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	33
2	High-speed 4D neutron computed tomography for quantifying water dynamics in polymer electrolyte fuel cells. <i>Nature Communications</i> , 2022, 13, 1616.	12.8	10
3	About the Role of Interfaces on the Fatigue Crack Propagation in Laminated Metallic Composites. <i>Materials</i> , 2021, 14, 2564.	2.9	6
4	Synchrotron X-Ray Tomography for Rechargeable Battery Research: Fundamentals, Setups and Applications. <i>Small Methods</i> , 2021, 5, e2100557.	8.6	38
5	The Neutron Imaging Instrument CONRAD Post-Operational Review. <i>Journal of Imaging</i> , 2021, 7, 11.	3.0	4
6	Morphological Reversibility of Modified Li-Based Anodes for Next-Generation Batteries. <i>ACS Energy Letters</i> , 2020, 5, 152-161.	17.4	53
7	3D classification of polymer electrolyte membrane fuel cell materials from in-situ X-ray tomographic datasets. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 12161-12169.	7.1	7
8	Detailed and Direct Observation of Sulfur Crystal Evolution During <i>Operando</i> Analysis of a Li-S Cell with Synchrotron Imaging. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 5674-5679.	4.6	5
9	4D imaging of lithium-batteries using correlative neutron and X-ray tomography with a virtual unrolling technique. <i>Nature Communications</i> , 2020, 11, 777.	12.8	104
10	Enhanced Water Management in PEMFCs: Perforated Catalyst Layer and Microporous Layers. <i>ChemSusChem</i> , 2020, 13, 2931-2934.	6.8	25
11	Editors' Choice 4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part I. Dynamic Studies of LiSOCl_2 during Discharge. <i>Journal of the Electrochemical Society</i> , 2020, 167, 130545.	2.9	12
12	Editors' Choice 4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part II. Multi-Modal Microscopy of LiSOCl_2 Cells. <i>Journal of the Electrochemical Society</i> , 2020, 167, 140509.	2.9	7
13	Investigation of water generation and accumulation in polymer electrolyte fuel cells using hydro-electrochemical impedance imaging. <i>Journal of Power Sources</i> , 2019, 414, 272-277.	7.8	21
14	Effect of cell compression on the water dynamics of a polymer electrolyte fuel cell using in-plane and through-plane in-operando neutron radiography. <i>Journal of Power Sources</i> , 2019, 439, 227074.	7.8	26
15	Probing the 3D molecular and mineralogical heterogeneity in oil reservoir rocks at the pore scale. <i>Scientific Reports</i> , 2019, 9, 8263.	3.3	7
16	Non-destructive characterization of lithium deposition at the Li/separator and Li/carbon matrix interregion by synchrotron X-ray tomography. <i>Nano Energy</i> , 2019, 62, 11-19.	16.0	26
17	Characterization of the 3D microstructure of Ibuprofen tablets by means of synchrotron tomography. <i>Journal of Microscopy</i> , 2019, 274, 102-113.	1.8	9
18	Influence of Stoichiometry on the Two-Phase Flow Behavior of Proton Exchange Membrane Electrolyzers. <i>Energies</i> , 2019, 12, 350.	3.1	16

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19	Correction approach of detector backlighting in radiography. Review of Scientific Instruments, 2019, 90, 125108.	1.3	14
20	Advancing knowledge of electrochemically generated lithium microstructure and performance decay of lithium ion battery by synchrotron X-ray tomography. Materials Today, 2019, 27, 21-32.	14.2	47
21	Revealing Hidden Facts of Li Anode in Cycled Lithium-Oxygen Batteries through X-ray and Neutron Tomography. ACS Energy Letters, 2019, 4, 306-316.	17.4	61
22	Morphology correction technique for tomographic in-situ and operando studies in energy research. Journal of Power Sources, 2019, 414, 8-12.	7.8	10
23	In-situ and Operando Tracking of Microstructure and Volume Evolution of Silicon Electrodes by using Synchrotron X-ray Imaging. ChemSusChem, 2019, 12, 261-269.	6.8	20
24	Effects of compression on water distribution in gas diffusion layer materials of PEMFC in a point injection device by means of synchrotron X-ray imaging. International Journal of Hydrogen Energy, 2018, 43, 391-406.	7.1	72
25	Correlating Morphological Evolution of Li Electrodes with Degrading Electrochemical Performance of Li/LiCoO ₂ and Li/S Battery Systems: Investigated by Synchrotron X-ray Phase Contrast Tomography. ACS Energy Letters, 2018, 3, 356-365.	17.4	64
26	Unveiling 3D physicochemical changes of sugarcane bagasse during sequential acid/alkali pretreatments by synchrotron phase-contrast imaging. Industrial Crops and Products, 2018, 114, 19-27.	5.2	6
27	Visualizing the morphological and compositional evolution of the interface of InLi-anode thio-LISION electrolyte in an all-solid-state Li-S cell by in operando synchrotron X-ray tomography and energy dispersive diffraction. Journal of Materials Chemistry A, 2018, 6, 22489-22496.	10.3	47
28	Transient limiting current measurements for characterization of gas diffusion layers. Journal of Power Sources, 2018, 402, 237-245.	7.8	26
29	Early detection of fracture failure in SLM AM tension testing with Talbot-Lau neutron interferometry. Additive Manufacturing, 2018, 22, 658-664.	3.0	8
30	Neutron Tomographic Investigation of the Effect of Hydrophobicity Gradients within MPL and MEA on the Spatial Distribution and Transport of Liquid Water in PEMFCs. ECS Transactions, 2018, 85, 927-934.	0.5	3
31	Influence of impurities, strontium addition and cooling rate on microstructure evolution in Al-10Si-0.3Fe casting alloys. Journal of Alloys and Compounds, 2018, 766, 818-827.	5.5	22
32	Neutron Radiographic Investigations on the Effect of Hydrophobicity Gradients within MPL and MEA on Liquid Water Distribution and Transport in PEMFCs. ECS Transactions, 2018, 85, 1013-1021.	0.5	5
33	Nano-scale Monte Carlo study on liquid water distribution within the polymer electrolyte membrane fuel cell microporous layer, catalyst layer and their interfacial region. Journal of Power Sources, 2018, 397, 271-279.	7.8	14
34	Analysis of the 3D microstructure of experimental cathode films for lithium-ion batteries under increasing compaction. Journal of Microscopy, 2018, 272, 96-110.	1.8	20
35	In-situ investigation of water distribution in polymer electrolyte membrane fuel cells using high-resolution neutron tomography with 6.5 Åµm pixel size. AIMS Energy, 2018, 6, 607-614.	1.9	19
36	Complementary X-ray and neutron radiography study of the initial lithiation process in lithium-ion batteries containing silicon electrodes. Applied Surface Science, 2017, 399, 359-366.	6.1	40

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37	Improved Performance of Polymer Electrolyte Membrane Fuel Cells with Modified Microporous Layer Structures. <i>Energy Technology</i> , 2017, 5, 1612-1618.	3.8	25
38	Formation of intermetallic $\hat{\Gamma}$ phase in Al-10Si-0.3Fe alloy investigated by in-situ 4D X-ray synchrotron tomography. <i>Acta Materialia</i> , 2017, 129, 194-202.	7.9	53
39	<i>In Operando</i> Quantification of Three-Dimensional Water Distribution in Nanoporous Carbon-Based Layers in Polymer Electrolyte Membrane Fuel Cells. <i>ACS Nano</i> , 2017, 11, 5944-5949.	14.6	50
40	Study of the Mechanisms of Internal Short Circuit in a Li/Li Cell by Synchrotron X-ray Phase Contrast Tomography. <i>ACS Energy Letters</i> , 2017, 2, 94-104.	17.4	89
41	Neutron radiographic in operando investigation of water transport in polymer electrolyte membrane fuel cells with channel barriers. <i>Energy Conversion and Management</i> , 2017, 148, 604-610.	9.2	52
42	Investigation of Water Transport in Newly Developed Micro Porous Layers for Polymer Electrolyte Membrane Fuel Cells. <i>Applied Microscopy</i> , 2017, 47, 101-104.	1.4	2
43	Synchrotron X-ray Tomographic Study of a Silicon Electrode Before and After Discharge and the Effect of Cavities on Particle Fracturing. <i>ChemElectroChem</i> , 2016, 3, 1170-1177.	3.4	20
44	Investigation of failure mechanisms in silicon based half cells during the first cycle by micro X-ray tomography and radiography. <i>Journal of Power Sources</i> , 2016, 321, 174-184.	7.8	38
45	Characterization of Lithium Ion Batteries with In Situ X-Ray Tomography and Radiography. <i>ECS Transactions</i> , 2016, 72, 3-11.	0.5	0
46	Morphological Evolution of Electrochemically Plated/Stripped Lithium Microstructures Investigated by Synchrotron X-ray Phase Contrast Tomography. <i>ACS Nano</i> , 2016, 10, 7990-7997.	14.6	108
47	Influence of hydrophobic treatment on the structure of compressed gas diffusion layers. <i>Journal of Power Sources</i> , 2016, 324, 625-636.	7.8	29
48	X-ray Tomographic Investigation of Water Distribution in Polymer Electrolyte Membrane Fuel Cells with Different Gas Diffusion Media. <i>ECS Transactions</i> , 2016, 72, 99-106.	0.5	16
49	<i>In Situ</i> Radiographic Investigation of (De)Lithiation Mechanisms in a Tin Electrode Lithium-Ion Battery. <i>ChemSusChem</i> , 2016, 9, 946-950.	6.8	27
50	Investigation of water transport dynamics in polymer electrolyte membrane fuel cells based on high porous micro porous layers. <i>Energy</i> , 2016, 102, 161-165.	8.8	51
51	Three-Dimensional Visualization of Gas Evolution and Channel Formation inside a Lithium-Ion Battery. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 7156-7164.	8.0	39
52	Effect of ageing of gas diffusion layers on the water distribution in flow field channels of polymer electrolyte membrane fuel cells. <i>Journal of Power Sources</i> , 2016, 301, 386-391.	7.8	39
53	Influence of local carbon fibre orientation on the water transport in the gas diffusion layer of polymer electrolyte membrane fuel cells. <i>Electrochemistry Communications</i> , 2015, 51, 133-136.	4.7	26
54	GDL and MPL Characterization and Their Relevance to Fuel Cell Modelling. <i>ECS Transactions</i> , 2015, 69, 1279-1291.	0.5	4

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55	X-ray Compton line scan tomography*. Materialpruefung/Materials Testing, 2015, 57, 985-991.	2.2	0
56	Preparation and Characterization of Li-Ion Graphite Anodes Using Synchrotron Tomography. Materials, 2014, 7, 4455-4472.	2.9	20
57	Three-dimensional study of compressed gas diffusion layers using synchrotron X-ray imaging. Journal of Power Sources, 2014, 253, 123-131.	7.8	102
58	Synchrotron X-ray radioscopic in situ study of high-temperature polymer electrolyte fuel cells - Effect of operation conditions on structure of membrane. Journal of Power Sources, 2014, 246, 290-298.	7.8	49
59	The influence of porous transport layer modifications on the water management in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2013, 233, 358-368.	7.8	80
60	Investigations on dynamic water transport characteristics in flow field channels using neutron imaging techniques. Journal of Power Sources, 2013, 239, 596-603.	7.8	49
61	Influence of cracks in the microporous layer on the water distribution in a PEM fuel cell investigated by synchrotron radiography. Electrochemistry Communications, 2013, 34, 22-24.	4.7	98
62	Synchrotron radiography and tomography of water transport in perforated gas diffusion media. Journal of Power Sources, 2013, 239, 611-622.	7.8	83
63	Grand canonical Monte Carlo study on water agglomerations within a polymer electrolyte membrane fuel cell gas diffusion layer. Journal of Power Sources, 2013, 239, 628-641.	7.8	21
64	Water Evolution in Direct Methanol Fuel Cell Cathodes Studied by Synchrotron X-Ray Radiography. Fuel Cells, 2013, 13, 371-379.	2.4	6
65	Self-Supporting Microporous Layers (MPLs) for PEM Fuel Cells. ECS Transactions, 2013, 58, 1391-1399.	0.5	3
66	Investigation of Fuel Cell Materials and Liquid Water Transport by Means of Synchrotron Imaging. ECS Transactions, 2013, 45, 195-202.	0.5	0
67	Investigation on Dynamic Water Transport of PEFCs Combining Neutron Radiography and CFD Simulation. ECS Transactions, 2013, 51, 215-226.	0.5	5
68	Tomografische Methoden für die Brennstoffzellenforschung—. Materialpruefung/Materials Testing, 2013, 55, 207-213.	2.2	2
69	Synchrotron-Radiographie und -Tomographie einer PEM-Brennstoffzelle. Materialpruefung/Materials Testing, 2013, 55, 355-360.	2.2	2
70	Combined synchrotron X-ray radiography and tomography study of water transport in gas diffusion layers. Micro and Nano Letters, 2012, 7, 689.	1.3	13
71	Neutron tomographic investigations of water distributions in polymer electrolyte membrane fuel cell stacks. Journal of Power Sources, 2012, 219, 120-125.	7.8	63
72	Visualization of the water distribution in perforated gas diffusion layers by means of synchrotron X-ray radiography. International Journal of Hydrogen Energy, 2012, 37, 7757-7761.	7.1	82

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73	Investigation of the three-dimensional ruthenium distribution in fresh and aged membrane electrode assemblies with synchrotron X-ray absorption edge tomography. <i>Electrochemistry Communications</i> , 2011, 13, 826-829.	4.7	15
74	Investigation of 3D water transport paths in gas diffusion layers by combined in-situ synchrotron X-ray radiography and tomography. <i>Electrochemistry Communications</i> , 2011, 13, 1001-1004.	4.7	95
75	Investigation of Energy-Relevant Materials with Synchrotron X-Rays and Neutrons. <i>Advanced Engineering Materials</i> , 2011, 13, 712-729.	3.5	63
76	Synchrotron X-ray tomography for investigations of water distribution in polymer electrolyte membrane fuel cells. <i>Journal of Power Sources</i> , 2011, 196, 5250-5255.	7.8	131
77	Large area high resolution neutron imaging detector for fuel cell research. <i>Journal of Power Sources</i> , 2011, 196, 4631-4637.	7.8	69
78	Dreidimensionale Untersuchung der Wasserverteilung in einer Miniatur-PEM-Brennstoffzelle. <i>Materialpruefung/Materials Testing</i> , 2010, 52, 712-717.	2.2	2
79	Hochauflösende Synchrotron- Radiografie. <i>Materialpruefung/Materials Testing</i> , 2010, 52, 698-704.	2.2	1
80	Diffraction limited microholographic recording for Terabyte optical disk. , 2009, , .		1