

# Henning MarkÃ¸tter

## List of Publications by Year in descending order

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Version: 2024-02-01

80  
papers

2,630  
citations

159585

30  
h-index

197818

49  
g-index

80  
all docs

80  
docs citations

80  
times ranked

2298  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	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
4	Three-dimensional study of compressed gas diffusion layers using synchrotron X-ray imaging. <i>Journal of Power Sources</i> , 2014, 253, 123-131.	7.8	102
5	Influence of cracks in the microporous layer on the water distribution in a PEM fuel cell investigated by synchrotron radiography. <i>Electrochemistry Communications</i> , 2013, 34, 22-24.	4.7	98
6	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
7	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
8	Synchrotron radiography and tomography of water transport in perforated gas diffusion media. <i>Journal of Power Sources</i> , 2013, 239, 611-622.	7.8	83
9	Visualization of the water distribution in perforated gas diffusion layers by means of synchrotron X-ray radiography. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 7757-7761.	7.1	82
10	The influence of porous transport layer modifications on the water management in polymer electrolyte membrane fuel cells. <i>Journal of Power Sources</i> , 2013, 233, 358-368.	7.8	80
11	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. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 391-406.	7.1	72
12	Large area high resolution neutron imaging detector for fuel cell research. <i>Journal of Power Sources</i> , 2011, 196, 4631-4637.	7.8	69
13	Correlating Morphological Evolution of Li Electrodes with Degrading Electrochemical Performance of Li/LiCoO <sub>2</sub> and Li/S Battery Systems: Investigated by Synchrotron X-ray Phase Contrast Tomography. <i>ACS Energy Letters</i> , 2018, 3, 356-365.	17.4	64
14	Investigation of Energy-Relevant Materials with Synchrotron X-rays and Neutrons. <i>Advanced Engineering Materials</i> , 2011, 13, 712-729.	3.5	63
15	Neutron tomographic investigations of water distributions in polymer electrolyte membrane fuel cell stacks. <i>Journal of Power Sources</i> , 2012, 219, 120-125.	7.8	63
16	Revealing Hidden Facts of Li Anode in Cycled Lithium-Oxygen Batteries through X-ray and Neutron Tomography. <i>ACS Energy Letters</i> , 2019, 4, 306-316.	17.4	61
17	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
18	Morphological Reversibility of Modified Li-Based Anodes for Next-Generation Batteries. <i>ACS Energy Letters</i> , 2020, 5, 152-161.	17.4	53

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19	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
20	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
21	<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
22	Investigations on dynamic water transport characteristics in flow field channels using neutron imaging techniques. <i>Journal of Power Sources</i> , 2013, 239, 596-603.	7.8	49
23	Synchrotron X-ray radioscopic in situ study of high-temperature polymer electrolyte fuel cells - Effect of operation conditions on structure of membrane. <i>Journal of Power Sources</i> , 2014, 246, 290-298.	7.8	49
24	Visualizing the morphological and compositional evolution of the interface of InLi-anode   thio-LISiON electrolyte in an all-solid-state Li <sup>+</sup> S cell by <i>in operando</i> synchrotron X-ray tomography and energy dispersive diffraction. <i>Journal of Materials Chemistry A</i> , 2018, 6, 22489-22496.	10.3	47
25	Advancing knowledge of electrochemically generated lithium microstructure and performance decay of lithium ion battery by synchrotron X-ray tomography. <i>Materials Today</i> , 2019, 27, 21-32.	14.2	47
26	Complementary X-ray and neutron radiography study of the initial lithiation process in lithium-ion batteries containing silicon electrodes. <i>Applied Surface Science</i> , 2017, 399, 359-366.	6.1	40
27	Three-Dimensional Visualization of Gas Evolution and Channel Formation inside a Lithium-Ion Battery. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 7156-7164.	8.0	39
28	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
29	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
30	Synchrotron X-Ray Tomography for Rechargeable Battery Research: Fundamentals, Setups and Applications. <i>Small Methods</i> , 2021, 5, e2100557.	8.6	38
31	Clarifying the Electro-Chemo-Mechanical Coupling in Li <sub>10</sub> SnP <sub>2</sub> S <sub>12</sub> based All-Solid-State Batteries. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	33
32	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
33	<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
34	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
35	Transient limiting current measurements for characterization of gas diffusion layers. <i>Journal of Power Sources</i> , 2018, 402, 237-245.	7.8	26
36	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

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37	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
38	Improved Performance of Polymer Electrolyte Membrane Fuel Cells with Modified Microporous Layer Structures. <i>Energy Technology</i> , 2017, 5, 1612-1618.	3.8	25
39	Enhanced Water Management in PEMFCs: Perforated Catalyst Layer and Microporous Layers. <i>ChemSusChem</i> , 2020, 13, 2931-2934.	6.8	25
40	Influence of impurities, strontium addition and cooling rate on microstructure evolution in Al-10Si-0.3Fe casting alloys. <i>Journal of Alloys and Compounds</i> , 2018, 766, 818-827.	5.5	22
41	Grand canonical Monte Carlo study on water agglomerations within a polymer electrolyte membrane fuel cell gas diffusion layer. <i>Journal of Power Sources</i> , 2013, 239, 628-641.	7.8	21
42	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
43	Preparation and Characterization of Li-Ion Graphite Anodes Using Synchrotron Tomography. <i>Materials</i> , 2014, 7, 4455-4472.	2.9	20
44	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
45	Analysis of the 3D microstructure of experimental cathode films for lithium-ion batteries under increasing compaction. <i>Journal of Microscopy</i> , 2018, 272, 96-110.	1.8	20
46	In-situ and Operando Tracking of Microstructure and Volume Evolution of Silicon Electrodes by using Synchrotron X-ray Imaging. <i>ChemSusChem</i> , 2019, 12, 261-269.	6.8	20
47	In-situ investigation of water distribution in polymer electrolyte membrane fuel cells using high-resolution neutron tomography with 6.5 Åµm pixel size. <i>AIMS Energy</i> , 2018, 6, 607-614.	1.9	19
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	Influence of Stoichiometry on the Two-Phase Flow Behavior of Proton Exchange Membrane Electrolyzers. <i>Energies</i> , 2019, 12, 350.	3.1	16
50	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
51	Nano-scale Monte Carlo study on liquid water distribution within the polymer electrolyte membrane fuel cell microporous layer, catalyst layer and their interfacial region. <i>Journal of Power Sources</i> , 2018, 397, 271-279.	7.8	14
52	Correction approach of detector backlighting in radiography. <i>Review of Scientific Instruments</i> , 2019, 90, 125108.	1.3	14
53	Combined synchrotron X-ray radiography and tomography study of water transport in gas diffusion layers. <i>Micro and Nano Letters</i> , 2012, 7, 689.	1.3	13
54	Editors' Choice 4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part I. Dynamic Studies of LiSOCl <sub>2</sub> during Discharge. <i>Journal of the Electrochemical Society</i> , 2020, 167, 130545.	2.9	12

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55	Morphology correction technique for tomographic in-situ and operando studies in energy research. <i>Journal of Power Sources</i> , 2019, 414, 8-12.	7.8	10
56	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
57	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
58	Early detection of fracture failure in SLM AM tension testing with Talbot-Lau neutron interferometry. <i>Additive Manufacturing</i> , 2018, 22, 658-664.	3.0	8
59	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
60	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
61	Editors' Choice 4D Neutron and X-ray Tomography Studies of High Energy Density Primary Batteries: Part II. Multi-Modal Microscopy of LiSOCl <sub>2</sub> Cells. <i>Journal of the Electrochemical Society</i> , 2020, 167, 140509.	2.9	7
62	Water Evolution in Direct Methanol Fuel Cell Cathodes Studied by Synchrotron X-Ray Radiography. <i>Fuel Cells</i> , 2013, 13, 371-379.	2.4	6
63	Unveiling 3D physicochemical changes of sugarcane bagasse during sequential acid/alkali pretreatments by synchrotron phase-contrast imaging. <i>Industrial Crops and Products</i> , 2018, 114, 19-27.	5.2	6
64	About the Role of Interfaces on the Fatigue Crack Propagation in Laminated Metallic Composites. <i>Materials</i> , 2021, 14, 2564.	2.9	6
65	Investigation on Dynamic Water Transport of PEFCs Combining Neutron Radiography and CFD Simulation. <i>ECS Transactions</i> , 2013, 51, 215-226.	0.5	5
66	Neutron Radiographic Investigations on the Effect of Hydrophobicity Gradients within MPL and MEA on Liquid Water Distribution and Transport in PEMFCs. <i>ECS Transactions</i> , 2018, 85, 1013-1021.	0.5	5
67	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
68	GDL and MPL Characterization and Their Relevance to Fuel Cell Modelling. <i>ECS Transactions</i> , 2015, 69, 1279-1291.	0.5	4
69	The Neutron Imaging Instrument CONRAD Post-Operational Review. <i>Journal of Imaging</i> , 2021, 7, 11.	3.0	4
70	Self-Supporting Microporous Layers (MPLs) for PEM Fuel Cells. <i>ECS Transactions</i> , 2013, 58, 1391-1399.	0.5	3
71	Neutron Tomographic Investigation of the Effect of Hydrophobicity Gradients within MPL and MEA on the Spatial Distribution and Transport of Liquid Water in PEMFCs. <i>ECS Transactions</i> , 2018, 85, 927-934.	0.5	3
72	Tomografische Methoden für die Brennstoffzellenforschung. <i>Materialprüfung/Materials Testing</i> , 2013, 55, 207-213.	2.2	2

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73	Synchrotron-Radiographie und -Tomographie einer PEM-Brennstoffzelle. Materialprüfung/Materials Testing, 2013, 55, 355-360.	2.2	2
74	Dreidimensionale Untersuchung der Wasserverteilung in einer Miniatur-PEM-Brennstoffzelle. Materialprüfung/Materials Testing, 2010, 52, 712-717.	2.2	2
75	Investigation of Water Transport in Newly Developed Micro Porous Layers for Polymer Electrolyte Membrane Fuel Cells. Applied Microscopy, 2017, 47, 101-104.	1.4	2
76	Diffraction limited microholographic recording for Terabyte optical disk. , 2009, , .		1
77	Hochauflösende Synchrotron- Radiografie. Materialprüfung/Materials Testing, 2010, 52, 698-704.	2.2	1
78	Investigation of Fuel Cell Materials and Liquid Water Transport by Means of Synchrotron Imaging. ECS Transactions, 2013, 45, 195-202.	0.5	0
79	Characterization of Lithium Ion Batteries with In Situ X-Ray Tomography and Radiography. ECS Transactions, 2016, 72, 3-11.	0.5	0
80	X-ray Compton line scan tomography*. Materialprüfung/Materials Testing, 2015, 57, 985-991.	2.2	0