Juergen Stumper

List of Publications by Year
in descending order

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68 papers	2,567 citations	201575 27 h-index	189801 50 g-index
68 all docs	68 docs citations	68 times ranked	1865 citing authors

#	Article	IF	Citations
1	Microstructured membranes for improving transport resistances in proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2020, 45, 1304-1312.	3.8	19
2	The ex-situ and in-situ gas diffusivities of polymer electrolyte membrane fuel cell catalyst layer and contribution of primary pores, secondary pores, ionomer and water to the total oxygen diffusion resistance. Journal of Power Sources, 2020, 449, 227479.	4.0	29
3	Patterning Catalyst Layers with Microscale Features by Soft Lithography Techniques for Proton Exchange Membrane Fuel Cells. ACS Applied Energy Materials, 2020, 3, 478-486.	2.5	15
4	Effect of compression on pore size distribution and porosity of PEM fuel cell catalyst layers. International Journal of Hydrogen Energy, 2019, 44, 23396-23405.	3.8	33
5	Determination of PEFC Gas Diffusion Layer and Catalyst Layer Porosity Utilizing Archimedes Principle. Journal of the Electrochemical Society, 2019, 166, F1142-F1147.	1.3	18
6	Characterization of Thermal and Electronic Conductivities of Catalyst Layers of Polymer Electrolyte Membrane Fuel Cells. Fuel Cells, 2019, 19, 550-560.	1.5	3
7	Membrane dehydration with increasing current density at high inlet gas relative humidity in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2019, 422, 163-174.	4.0	35
8	Electronic conductivity of catalyst layers of polymer electrolyte membrane fuel cells: Through-plane vs. in-plane. International Journal of Hydrogen Energy, 2019, 44, 3603-3614.	3.8	24
9	4D imaging of polymer electrolyte membrane fuel cell catalyst layers by soft X-ray spectro-tomography. Journal of Power Sources, 2018, 381, 72-83.	4.0	48
10	Effect of UV radiation damage in air on polymer film thickness, studied by soft X-ray spectromicroscopy. Physical Chemistry Chemical Physics, 2018, 20, 16625-16640.	1.3	8
11	High-Resolution Imaging of Polymer Electrolyte Membrane Fuel Cell Cathode Layers by Soft X-ray Spectro-Ptychography. Journal of Physical Chemistry C, 2018, 122, 11709-11719.	1.5	35
12	Direct measurement and modeling relative gas diffusivity of PEMFC catalyst layers: The effect of ionomer to carbon ratio, operating temperature, porosity, and pore size distribution. International Journal of Hydrogen Energy, 2018, 43, 16704-16718.	3.8	37
13	Thermal conductivity of catalyst layer of polymer electrolyte membrane fuel cells: Part 1 â€“ Experimental study. Journal of Power Sources, 2017, 354, 207-214.	4.0	28
14	Thermal conductivity of catalyst layer of polymer electrolyte membrane fuel cells: Part 2 â€“ Analytical modeling. Journal of Power Sources, 2017, 354, 215-228.	4.0	9
15	Optimization of Three-Dimensional (3D) Chemical Imaging by Soft X-Ray Spectro-Tomography Using a Compressed Sensing Algorithm. Microscopy and Microanalysis, 2017, 23, 951-966.	0.2	11
16	Characterization of Inkjet Printed Electrodes with Improved Porosity. ECS Transactions, 2017, 77, 1453-1463.	0.3	3
17	4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning X-Ray Microscopy. Microscopy and Microanalysis, 2017, 23, 1784-1785.	0.2	1
18	Advances in Structural Characterization Using Soft X-ray Scanning Transmission Microscopy (STXM): Mapping and Measuring Porosity in PEM-FC Catalyst Layers. ECS Transactions, 2017, 80, 241-252.	0.3	3

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19	Analysis of Inkjet Printed PEFC Electrodes with Varying Platinum Loading. Journal of the Electrochemical Society, 2016, 163, F677-F687.	1.3	71
20	Evaluating focused ion beam and ultramicrotome sample preparation for analytical microscopies of the cathode layer of a polymer electrolyte membrane fuel cell. Journal of Power Sources, 2016, 312, 23-35.	4.0	22
21	Accurate Ex-situ Measurements of PEM Fuel Cells Catalyst Layer Dry Diffusivity. ECS Transactions, 2015, 69, 419-429.	0.3	4
22	In situ Methods for Analysis of Polymer Electrolyte Membrane Fuel Cell Materials by Soft X-ray Scanning Transmission X-ray Microscopy. Microscopy and Microanalysis, 2014, 20, 1532-1533.	0.2	3
23	Scanning transmission X-ray microscopy of nano structured thin filmÂcatalysts for proton-exchange-membrane fuel cells. Journal of Power Sources, 2014, 263, 163-174.	4.0	32
24	Theoretical analysis of electrochemical surface-area loss in supported nanoparticle catalysts. Physical Chemistry Chemical Physics, 2014, 16, 26876-26886.	1.3	26
25	Mechanistic Principles of Platinum Oxide Formation and Reduction. Electrocatalysis, 2014, 5, 262-272.	1.5	46
26	Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers. Microscopy and Microanalysis, 2014, 20, 472-473.	0.2	3
27	Water transport and SchrÃ¶der's Paradox in fuel cell membrane electrode assemblies. Journal of Power Sources, 2013, 224, 285-289.	4.0	8
28	STXM Characterization of Nanostructured Thin Film Anode Before and After Start-Up Shutdown and Reversal Tests. ECS Transactions, 2013, 58, 473-479.	0.3	8
29	3D Chemical Mapping of PEM Fuel Cell Cathodes by Scanning Transmission Soft X-ray SpectroTomography. ECS Transactions, 2013, 50, 361-368.	0.3	37
30	Characterization and Performance of Catalyst Layers Prepared by Inkjet Printing Technology. ECS Transactions, 2013, 58, 797-806.	0.3	10
31	STXM Characterization of PEM Fuel Cell Catalyst Layers. ECS Transactions, 2013, 50, 405-413.	0.3	24
32	Electron Tomography Based 3D Reconstruction of Fuel Cell Catalysts. ECS Transactions, 2013, 50, 353-359.	0.3	5
33	Catalyst Degradation: Nanoparticle Population Dynamics and Kinetic Processes. ECS Transactions, 2013, 50, 1505-1513.	0.3	5
34	Probing platinum degradation in polymer electrolyte membrane fuel cells by synchrotron X-ray microscopy. Physical Chemistry Chemical Physics, 2012, 14, 4835.	1.3	26
35	Effects of cathode gas diffusion layer design on polymer electrolyte membrane fuel cell water management and performance. Journal of Power Sources, 2011, 196, 9437-9444.	4.0	26
36	Gasâ€“liquid two-phase flow behavior in minichannels bounded with a permeable wall. Chemical Engineering Science, 2011, 66, 3377-3385.	1.9	27

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37	Nano to Micro Scale Characterization of Water Uptake in The Catalyst Coated Membrane Measured by Soft X-ray Scanning Transmission X-ray Microscopy. ECS Transactions, 2011, 41, 395-402.	0.3	14
38	STXM Study of the Ionomer Distribution in the PEM Fuel Cell Catalyst Layers. ECS Transactions, 2011, 41, 629-635.	0.3	42
39	Model- and Theory-Based Evaluation of Pt Dissolution for Supported Pt Nanoparticle Distributions under Potential Cycling. Electrochemical and Solid-State Letters, 2011, 14, B47.	2.2	38
40	Gas flow rate distributions in parallel minichannels for polymer electrolyte membrane fuel cells: Experiments and theoretical analysis. Journal of Power Sources, 2010, 195, 3231-3239.	4.0	13
41	Open circuit voltage profiling as diagnostic tool during stack lifetime testing. Journal of Power Sources, 2010, 195, 4928-4934.	4.0	16
42	Two-phase flow distributors for fuel cell flow channels. Particuology, 2010, 8, 582-587.	2.0	17
43	The Effect of MPL Permeability on Water Fluxes in PEM Fuel Cells: A Lumped Approach. ECS Transactions, 2010, 33, 1529-1544.	0.3	5
44	Experimental Determination of Water Transport in Polymer Electrolyte Membrane Fuel Cells. Journal of the Electrochemical Society, 2010, 157, B1310.	1.3	8
45	Model-Based Deconvolution of Potential Losses in a PEM Fuel Cell. ECS Transactions, 2010, 28, 159-167.	0.3	8
46	Ionomer Degradation in Polymer Electrolyte Membrane Fuel Cells. Journal of the Electrochemical Society, 2010, 157, B425.	1.3	74
47	High Frequency Artifacts in Electrochemical Impedance Spectroscopy Measurements on PEM Fuel Cells. Electrochemical and Solid-State Letters, 2009, 12, B131.	2.2	6
48	Characterizing the Structural Degradation in a PEMFC Cathode Catalyst Layer: Carbon Corrosion. Journal of the Electrochemical Society, 2009, 156, B913.	1.3	146
49	In-situ Diagnostics for Cell Performance and Degradation. ECS Transactions, 2009, 25, 1605-1615.	0.3	5
50	Gasâ€“liquid two-phase flow distributions in parallel channels for fuel cells. Journal of Power Sources, 2009, 189, 1023-1031.	4.0	40
51	Recent advances in fuel cell technology at Ballard. Journal of Power Sources, 2008, 176, 468-476.	4.0	61
52	Gasâ€“liquid two-phase flow patterns in parallel channels for fuel cells. Journal of Power Sources, 2008, 183, 643-650.	4.0	61
53	Flow distribution in proton exchange membrane fuel cell stacks. Journal of Power Sources, 2006, 162, 340-355.	4.0	116
54	Diagnostic tools for liquid water in PEM fuel cells. Journal of Power Sources, 2005, 143, 150-157.	4.0	78

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55	In Situ Determination of MEA Resistance and Electrode Diffusivity of a Fuel Cell. Journal of the Electrochemical Society, 2005, 152, A837.	1.3	38
56	Water Management in PEM Fuel Cells. Journal of the Electrochemical Society, 2004, 151, A341.	1.3	302
57	In-situ methods for the determination of current distributions in PEM fuel cells. Electrochimica Acta, 1998, 43, 3773-3783.	2.6	235
58	In Situ Characterization of the pâ€‰â€â€‰Siâ€‰/â€‰â€‰NHâ€‰4â€‰Fâ€‰ Interface during Dissolution in the Current Oscillati Regime. Journal of the Electrochemical Society, 1998, 145, 498-502.	1.3	35
59	Structural effects on ethine adsorption at gold single-crystal electrodes. Surface Science, 1995, 335, 197-203.	0.8	8
60	CO adsorption and oxidation on Pt and Ptî—¸Ru alloys: dependence on substrate composition. Electrochimica Acta, 1994, 39, 1863-1869.	2.6	225
61	Electrochemical and optical studies of silicon dissolution in ammonium fluoride solutions. Electrochimica Acta, 1992, 37, 889-896.	2.6	49
62	Photocurrent multiplication at p-type semiconductor electrodes. Electrochimica Acta, 1992, 37, 909-918.	2.6	24
63	Frequency response analysis of intensity modulated photocurrents at semiconductor electrodes. Electrochimica Acta, 1990, 35, 1657-1664.	2.6	49
64	X-ray photoemission spectroscopy analysis of Si(111) under photocurrent-doubling conditions. Physical Review B, 1990, 41, 1592-1597.	1.1	23
65	Photocurrent doubling at Si(111): analysis of the surface condition. Electrochimica Acta, 1989, 34, 1379-1380.	2.6	10
66	Photoelectrochemically synthesised interfacial oxides on silicon: composition and electronic properties. Electrochimica Acta, 1989, 34, 1729-1732.	2.6	9
67	Deconvolution of Charge Injection Steps in Quantum Yield Multiplication on Silicon. Physical Review Letters, 1988, 61, 1989-1992.	2.9	65
68	Inâ€Situ Interface Conditioning at Amorphous Silicon/Aqueous Electrolyte Junctions. Journal of the Electrochemical Society, 1987, 134, 1877-1878.	1.3	5