

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	Water Management in PEM Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2004, 151, A341.	1.3	302
2	In-situ methods for the determination of current distributions in PEM fuel cells. <i>Electrochimica Acta</i> , 1998, 43, 3773-3783.	2.6	235
3	CO adsorption and oxidation on Pt and Pt–Ru alloys: dependence on substrate composition. <i>Electrochimica Acta</i> , 1994, 39, 1863-1869.	2.6	225
4	Characterizing the Structural Degradation in a PEMFC Cathode Catalyst Layer: Carbon Corrosion. <i>Journal of the Electrochemical Society</i> , 2009, 156, B913.	1.3	146
5	Flow distribution in proton exchange membrane fuel cell stacks. <i>Journal of Power Sources</i> , 2006, 162, 340-355.	4.0	116
6	Diagnostic tools for liquid water in PEM fuel cells. <i>Journal of Power Sources</i> , 2005, 143, 150-157.	4.0	78
7	Ionomer Degradation in Polymer Electrolyte Membrane Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2010, 157, B425.	1.3	74
8	Analysis of Inkjet Printed PEFC Electrodes with Varying Platinum Loading. <i>Journal of the Electrochemical Society</i> , 2016, 163, F677-F687.	1.3	71
9	Deconvolution of Charge Injection Steps in Quantum Yield Multiplication on Silicon. <i>Physical Review Letters</i> , 1988, 61, 1989-1992.	2.9	65
10	Recent advances in fuel cell technology at Ballard. <i>Journal of Power Sources</i> , 2008, 176, 468-476.	4.0	61
11	Gas–liquid two-phase flow patterns in parallel channels for fuel cells. <i>Journal of Power Sources</i> , 2008, 183, 643-650.	4.0	61
12	Frequency response analysis of intensity modulated photocurrents at semiconductor electrodes. <i>Electrochimica Acta</i> , 1990, 35, 1657-1664.	2.6	49
13	Electrochemical and optical studies of silicon dissolution in ammonium fluoride solutions. <i>Electrochimica Acta</i> , 1992, 37, 889-896.	2.6	49
14	4D imaging of polymer electrolyte membrane fuel cell catalyst layers by soft X-ray spectro-tomography. <i>Journal of Power Sources</i> , 2018, 381, 72-83.	4.0	48
15	Mechanistic Principles of Platinum Oxide Formation and Reduction. <i>Electrocatalysis</i> , 2014, 5, 262-272.	1.5	46
16	STXM Study of the Ionomer Distribution in the PEM Fuel Cell Catalyst Layers. <i>ECS Transactions</i> , 2011, 41, 629-635.	0.3	42
17	Gas–liquid two-phase flow distributions in parallel channels for fuel cells. <i>Journal of Power Sources</i> , 2009, 189, 1023-1031.	4.0	40
18	In Situ Determination of MEA Resistance and Electrode Diffusivity of a Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2005, 152, A837.	1.3	38

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19	Model- and Theory-Based Evaluation of Pt Dissolution for Supported Pt Nanoparticle Distributions under Potential Cycling. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, B47.	2.2	38
20	3D Chemical Mapping of PEM Fuel Cell Cathodes by Scanning Transmission Soft X-ray SpectroTomography. <i>ECS Transactions</i> , 2013, 50, 361-368.	0.3	37
21	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. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 16704-16718.	3.8	37
22	In Situ Characterization of the $\text{p}^{\text{H}}\text{Si}/\text{NH}_4^{\text{F}}$ Interface during Dissolution in the Current Oscillation Regime. <i>Journal of the Electrochemical Society</i> , 1998, 145, 498-502.	1.3	35
23	High-Resolution Imaging of Polymer Electrolyte Membrane Fuel Cell Cathode Layers by Soft X-ray Spectro-Ptychography. <i>Journal of Physical Chemistry C</i> , 2018, 122, 11709-11719.	1.5	35
24	Membrane dehydration with increasing current density at high inlet gas relative humidity in polymer electrolyte membrane fuel cells. <i>Journal of Power Sources</i> , 2019, 422, 163-174.	4.0	35
25	Effect of compression on pore size distribution and porosity of PEM fuel cell catalyst layers. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 23396-23405.	3.8	33
26	Scanning transmission X-ray microscopy of nano structured thin film catalysts for proton-exchange-membrane fuel cells. <i>Journal of Power Sources</i> , 2014, 263, 163-174.	4.0	32
27	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. <i>Journal of Power Sources</i> , 2020, 449, 227479.	4.0	29
28	Thermal conductivity of catalyst layer of polymer electrolyte membrane fuel cells: Part 1 – Experimental study. <i>Journal of Power Sources</i> , 2017, 354, 207-214.	4.0	28
29	Gas-liquid two-phase flow behavior in minichannels bounded with a permeable wall. <i>Chemical Engineering Science</i> , 2011, 66, 3377-3385.	1.9	27
30	Effects of cathode gas diffusion layer design on polymer electrolyte membrane fuel cell water management and performance. <i>Journal of Power Sources</i> , 2011, 196, 9437-9444.	4.0	26
31	Probing platinum degradation in polymer electrolyte membrane fuel cells by synchrotron X-ray microscopy. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 4835.	1.3	26
32	Theoretical analysis of electrochemical surface-area loss in supported nanoparticle catalysts. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 26876-26886.	1.3	26
33	Photocurrent multiplication at p-type semiconductor electrodes. <i>Electrochimica Acta</i> , 1992, 37, 909-918.	2.6	24
34	STXM Characterization of PEM Fuel Cell Catalyst Layers. <i>ECS Transactions</i> , 2013, 50, 405-413.	0.3	24
35	Electronic conductivity of catalyst layers of polymer electrolyte membrane fuel cells: Through-plane vs. in-plane. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 3603-3614.	3.8	24
36	X-ray photoemission spectroscopy analysis of Si(111) under photocurrent-doubling conditions. <i>Physical Review B</i> , 1990, 41, 1592-1597.	1.1	23

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37	Evaluating focused ion beam and ultramicrotome sample preparation for analytical microscopies of the cathode layer of a polymer electrolyte membrane fuel cell. <i>Journal of Power Sources</i> , 2016, 312, 23-35.	4.0	22
38	Microstructured membranes for improving transport resistances in proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 1304-1312.	3.8	19
39	Determination of PEFC Gas Diffusion Layer and Catalyst Layer Porosity Utilizing Archimedes Principle. <i>Journal of the Electrochemical Society</i> , 2019, 166, F1142-F1147.	1.3	18
40	Two-phase flow distributors for fuel cell flow channels. <i>Particuology</i> , 2010, 8, 582-587.	2.0	17
41	Open circuit voltage profiling as diagnostic tool during stack lifetime testing. <i>Journal of Power Sources</i> , 2010, 195, 4928-4934.	4.0	16
42	Patterning Catalyst Layers with Microscale Features by Soft Lithography Techniques for Proton Exchange Membrane Fuel Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 478-486.	2.5	15
43	Nano to Micro Scale Characterization of Water Uptake in The Catalyst Coated Membrane Measured by Soft X-ray Scanning Transmission X-ray Microscopy. <i>ECS Transactions</i> , 2011, 41, 395-402.	0.3	14
44	Gas flow rate distributions in parallel minichannels for polymer electrolyte membrane fuel cells: Experiments and theoretical analysis. <i>Journal of Power Sources</i> , 2010, 195, 3231-3239.	4.0	13
45	Optimization of Three-Dimensional (3D) Chemical Imaging by Soft X-Ray Spectro-Tomography Using a Compressed Sensing Algorithm. <i>Microscopy and Microanalysis</i> , 2017, 23, 951-966.	0.2	11
46	Photocurrent doubling at Si(111): analysis of the surface condition. <i>Electrochimica Acta</i> , 1989, 34, 1379-1380.	2.6	10
47	Characterization and Performance of Catalyst Layers Prepared by Inkjet Printing Technology. <i>ECS Transactions</i> , 2013, 58, 797-806.	0.3	10
48	Photoelectrochemically synthesised interfacial oxides on silicon: composition and electronic properties. <i>Electrochimica Acta</i> , 1989, 34, 1729-1732.	2.6	9
49	Thermal conductivity of catalyst layer of polymer electrolyte membrane fuel cells: Part 2 "Analytical modeling. <i>Journal of Power Sources</i> , 2017, 354, 215-228.	4.0	9
50	Structural effects on ethine adsorption at gold single-crystal electrodes. <i>Surface Science</i> , 1995, 335, 197-203.	0.8	8
51	Experimental Determination of Water Transport in Polymer Electrolyte Membrane Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2010, 157, B1310.	1.3	8
52	Model-Based Deconvolution of Potential Losses in a PEM Fuel Cell. <i>ECS Transactions</i> , 2010, 28, 159-167.	0.3	8
53	Water transport and Schrödinger's Paradox in fuel cell membrane electrode assemblies. <i>Journal of Power Sources</i> , 2013, 224, 285-289.	4.0	8
54	STXM Characterization of Nanostructured Thin Film Anode Before and After Start-Up Shutdown and Reversal Tests. <i>ECS Transactions</i> , 2013, 58, 473-479.	0.3	8

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55	Effect of UV radiation damage in air on polymer film thickness, studied by soft X-ray spectromicroscopy. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 16625-16640.	1.3	8
56	High Frequency Artifacts in Electrochemical Impedance Spectroscopy Measurements on PEM Fuel Cells. <i>Electrochemical and Solid-State Letters</i> , 2009, 12, B131.	2.2	6
57	In-situ Interface Conditioning at Amorphous Silicon/Aqueous Electrolyte Junctions. <i>Journal of the Electrochemical Society</i> , 1987, 134, 1877-1878.	1.3	5
58	In-situ Diagnostics for Cell Performance and Degradation. <i>ECS Transactions</i> , 2009, 25, 1605-1615.	0.3	5
59	The Effect of MPL Permeability on Water Fluxes in PEM Fuel Cells: A Lumped Approach. <i>ECS Transactions</i> , 2010, 33, 1529-1544.	0.3	5
60	Electron Tomography Based 3D Reconstruction of Fuel Cell Catalysts. <i>ECS Transactions</i> , 2013, 50, 353-359.	0.3	5
61	Catalyst Degradation: Nanoparticle Population Dynamics and Kinetic Processes. <i>ECS Transactions</i> , 2013, 50, 1505-1513.	0.3	5
62	Accurate Ex-situ Measurements of PEM Fuel Cells Catalyst Layer Dry Diffusivity. <i>ECS Transactions</i> , 2015, 69, 419-429.	0.3	4
63	In situ Methods for Analysis of Polymer Electrolyte Membrane Fuel Cell Materials by Soft X-ray Scanning Transmission X-ray Microscopy. <i>Microscopy and Microanalysis</i> , 2014, 20, 1532-1533.	0.2	3
64	Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers. <i>Microscopy and Microanalysis</i> , 2014, 20, 472-473.	0.2	3
65	Characterization of Inkjet Printed Electrodes with Improved Porosity. <i>ECS Transactions</i> , 2017, 77, 1453-1463.	0.3	3
66	Characterization of Thermal and Electronic Conductivities of Catalyst Layers of Polymer Electrolyte Membrane Fuel Cells. <i>Fuel Cells</i> , 2019, 19, 550-560.	1.5	3
67	Advances in Structural Characterization Using Soft X-ray Scanning Transmission Microscopy (STXM): Mapping and Measuring Porosity in PEM-FC Catalyst Layers. <i>ECS Transactions</i> , 2017, 80, 241-252.	0.3	3
68	4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning X-Ray Microscopy. <i>Microscopy and Microanalysis</i> , 2017, 23, 1784-1785.	0.2	1