Hironori Nakajima

List of Publications by Year
in descending order

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		361413	395702
103	1,242	20	33
papers	citations	h-index	g-index

103	103	103	970
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Microporous layer coated gas diffusion layers for enhanced performance of polymer electrolyte fuel cells. Journal of Power Sources, 2010, 195, 2202-2211.	7.8	134
2	Hydrophilic and hydrophobic double microporous layer coated gas diffusion layer for enhancing performance of polymer electrolyte fuel cells under no-humidification at the cathode. Journal of Power Sources, 2012, 199, 29-36.	7.8	102
3	Novel hydrophilic and hydrophobic double microporous layer coated gas diffusion layer to enhance performance of polymer electrolyte fuel cells under both low and high humidity. Journal of Power Sources, 2013, 234, 129-138.	7.8	81
4	Triple microporous layer coated gas diffusion layer for performance enhancement of polymer electrolyte fuel cells under both low and high humidity conditions. Journal of Power Sources, 2014, 248, 1256-1263.	7.8	74
5	Gas diffusion layers coated with a microporous layer containing hydrophilic carbon nanotubes for performance enhancement of polymer electrolyte fuel cells under both low and high humidity conditions. Journal of Power Sources, 2015, 283, 115-124.	7.8	72
6	Effect of through-plane distribution of polytetrafluoroethylene in carbon paper on in-plane gas permeability. Journal of Power Sources, 2014, 248, 822-830.	7.8	44
7	Direct water balance analysis on a polymer electrolyte fuel cell (PEFC): Effects of hydrophobic treatment and micro-porous layer addition to the gas diffusion layer of a PEFC on its performance during a simulated start-up operation. Journal of Power Sources, 2007, 171, 457-463.	7.8	43
8	Comparison of humidified hydrogen and partly pre-reformed natural gas as fuel for solid oxide fuel cells applying computational fluid dynamics. International Journal of Heat and Mass Transfer, 2014, 77, 1008-1022.	4.8	37
9	Effect of Temperature on the Performance of Polymer Electrolyte Membrane Water Electrolysis: Numerical Analysis of Electrolysis Voltage Considering Gas/Liquid Two-Phase Flow. Journal of the Electrochemical Society, 2019, 166, F246-F254.	2.9	34
10	Effect of flow-field pattern and flow configuration on the performance of a polymer-electrolyte-membrane water electrolyzer at high temperature. International Journal of Hydrogen Energy, 2018, 43, 8600-8610.	7.1	33
11	Study on paper-structured catalyst for direct internal reforming SOFC fueled by the mixture of CH4 and CO2. International Journal of Hydrogen Energy, 2013, 38, 10542-10551.	7.1	32
12	Characterization of an electrochemical hydrogen pump with internal humidifier and dead-end anode channel. International Journal of Hydrogen Energy, 2016, 41, 13879-13887.	7.1	31
13	Electrodeposition of Metallic Tungsten in ZnCl[sub 2]-NaCl-KCl-WCl[sub 4] Melt at 250Â°C. Electrochemical and Solid-State Letters, 2005, 8, C91.	2.2	29
14	Electrochemical Impedance Spectroscopy Analysis of an Anode-Supported Microtubular Solid Oxide Fuel Cell. Journal of the Electrochemical Society, 2010, 157, B1686.	2.9	29
15	Microporous layer-coated gas diffusion layer to reduce oxygen transport resistance in a polymer electrolyte fuel cell under high humidity conditions. International Journal of Hydrogen Energy, 2016, 41, 9547-9555.	7.1	29
16	Reliability of the numerical SOFC models for estimating the spatial current and temperature variations. International Journal of Hydrogen Energy, 2016, 41, 15311-15324.	7.1	28
17	Optimum structural properties for an anode current collector used in a polymer electrolyte membrane water electrolyzer operated at the boiling point of water. Journal of Power Sources, 2016, 332, 16-23.	7.8	26
18	Analysis of tungsten film electrodeposited from a ZnCl2â€“NaClâ€“KCl melt. Electrochimica Acta, 2007, 53, 20-23.	5.2	23

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19	Electrodeposition of metallic tungsten films in ZnCl2â€“NaClâ€“KClâ€“KFâ€“WO3 melt at 250â€‰C. Electrochimica Acta, 2007, 53, 24-27.	5.2	23
20	Electrodeposition of metallic molybdenum films in ZnCl2â€“NaClâ€“KClâ€–MoCl3 systems at 250Â°C. Electrochimica Acta, 2006, 51, 3776-3780.	5.2	22
21	In-situ diagnosis and assessment of longitudinal current variation by electrode-segmentation method in anode-supported microtubular solid oxide fuel cells. Journal of Power Sources, 2015, 279, 218-223.	7.8	21
22	Current and temperature distributions in-situ acquired by electrode-segmentation along a microtubular solid oxide fuel cell operating with syngas. Journal of Power Sources, 2015, 293, 1053-1061.	7.8	20
23	Analysis and visualization of water flow impact on hydrogen production efficiency in solid polymer water electrolyzer under high-pressure condition. International Journal of Hydrogen Energy, 2015, 40, 5995-6003.	7.1	19
24	Water vapor exchange system using a hydrophilic microporous layer coated gas diffusion layer to enhance performance of polymer electrolyte fuel cells without cathode humidification. Journal of Power Sources, 2012, 214, 100-106.	7.8	18
25	Mass transport limitation in inlet periphery of fuel cells: Studied on a planar Solid Oxide Fuel Cell. International Journal of Hydrogen Energy, 2018, 43, 17420-17430.	7.1	15
26	Thermodynamic Investigations of a Hydrogen Electrode Reaction in a Molten LiCl-KCl-LiH System. Electrochemical and Solid-State Letters, 2002, 5, E17.	2.2	14
27	Effect of Electrode Mixing Conditions on the Performance of Lithium-Ion Batteries Analyzed by Fast Fourier Transform Electrochemical Impedance Spectroscopy. ECS Transactions, 2015, 64, 87-95.	0.5	14
28	Thermal Analysis of a Microtubular Solid Oxide Fuel Cell Using Electrochemical Impedance Spectroscopy. ECS Transactions, 2009, 25, 359-368.	0.5	11
29	Hydrogen production with CuO/ZnO nanowire catalyst for a nanocatalytic solar thermal steam-methanol reformer. International Journal of Hydrogen Energy, 2016, 41, 16927-16931.	7.1	11
30	The single electrode Peltier heats of Li+/Li, H2/Hâ‚‚ and Li+/Pdâ€“Li couples in molten LiClâ€–KCl systems. Electrochimica Acta, 2004, 49, 4987-4991.	5.2	10
31	Direct Current Distribution Measurement of an Electrolyte-Supported Planar Solid Oxide Fuel Cell under the Rib and Channel by Segmented Electrodes. ECS Transactions, 2015, 68, 2217-2226.	0.5	10
32	Concentration Gradient of Reactants Extending from Reaction Sites Inward Inlet Periphery of Fuel Cells. Journal of the Electrochemical Society, 2018, 165, F365-F374.	2.9	10
33	Current Distribution Measurement of a Microtubular Solid Oxide Fuel Cell. ECS Transactions, 2013, 57, 727-732.	0.5	9
34	Real-time electrochemical impedance spectroscopy diagnosis of the solid oxide fuel cell for marine power applications. Heat and Mass Transfer, 2018, 54, 2551-2558.	2.1	9
35	Influence of Hydrophilic and Hydrophobic Triple MPL Coated GDL on the Oxygen Transport Resistance in a PEFC under High Humidity Conditions. ECS Transactions, 2015, 69, 1313-1322.	0.5	8
36	Three-dimensional flow channel arrangements in an anode-supported honeycomb solid oxide fuel cell. Heat and Mass Transfer, 2018, 54, 2545-2550.	2.1	7

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37	Electrochemical Impedance Spectroscopy Study of a Hydrogen Electrode Reaction at a Zn Electrode in a Molten LiClâˆ’KClâˆ’LiH System. Journal of Physical Chemistry B, 2005, 109, 9645-9650.	2.6	6
38	Effects of Design Parameters in Paper Type Gas Diffusion Layer on the Performance of Polymer Electrolyte Fuel Cells (Measures to Prevent Flooding and Drying-Up). Journal of Environment and Engineering, 2009, 4, 338-345.	0.2	6
39	Investigation of in-situ catalytic combustion in polymer-electrolyte-membrane fuel cell during combined chemical and mechanical stress test. Journal of Power Sources, 2022, 542, 231803.	7.8	6
40	Thermodynamic Investigations of Nitrogen Electrode Reaction in a LiCl-KCl-CsCl Melt. Journal of the Electrochemical Society, 2005, 152, E207.	2.9	5
41	Influence of Hydrophilic and Hydrophobic Double MPL Coated GDL on PEFC Performance without Cathode Humidification. ECS Transactions, 2010, 33, 1089-1097.	0.5	5
42	Mass Transfer in an Anode-Supported Honeycomb Solid Oxide Fuel Cell. ECS Transactions, 2015, 64, 135-142.	0.5	5
43	Thermodynamics of the N2/N3-Redox Couple in a LiBrâˆ’KBrâˆ’CsBr Melt. Journal of Physical Chemistry B, 2005, 109, 23972-23975.	2.6	4
44	Influence of Gas Diffusion Layers with Microporous Layer on the Performance of Polymer Electrolyte Fuel Cells. ECS Transactions, 2009, 25, 1735-1744.	0.5	4
45	Hydrophilic and Hydrophobic Double MPL Coated GDL to Enhance PEFC Performance under Low and High Humidity Conditions. ECS Transactions, 2011, 41, 593-601.	0.5	4
46	Current Distribution Analysis of a Microtubular Solid Oxide Fuel Cell with Surface Temperature Measurements. ECS Transactions, 2011, 35, 1087-1096.	0.5	4
47	Flow Channel Configurations of an Anode-Supported Honeycomb Solid Oxide Fuel Cell. ECS Transactions, 2013, 57, 815-822.	0.5	4
48	Influence of GDL Coated with MPL Containing CNTs on PEFC Performance Under Low and High Humidity Conditions. ECS Transactions, 2014, 64, 477-483.	0.5	4
49	Microporous Layer-Coated Gas Diffusion Layer for Performance Enhancement of Polymer Electrolyte Fuel Cells without Humidification Using Anode Gas Recirculation. Journal of the Electrochemical Society, 2016, 163, F1366-F1372.	2.9	4
50	In-Situ Analysis of the in-Plane Current Distributions in an Electrolyte-Supported Planar Solid Oxide Fuel Cell by Segmented Electrodes. ECS Transactions, 2017, 75, 91-98.	0.5	4
51	Visualization and mechanical strength of glass seal in planar type solid oxide fuel cells. International Journal of Hydrogen Energy, 2020, 45, 21754-21766.	7.1	4
52	Infrared Spectroscopy of Molten LiCl-KCl-LiH. Electrochemical and Solid-State Letters, 2004, 7, E27.	2.2	3
53	Influence of Triple MPL Coated GDL on the PEFC Performance under Low and High Humidity. ECS Transactions, 2013, 58, 1401-1408.	0.5	3
54	Electrochemical Characterization of Hydrogen Pump with Internal Humidifier and Dead-End Anode Channel. ECS Transactions, 2013, 58, 681-691.	0.5	3

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55	Impedance Spectra Associated with Metal Deposition at the Negative Electrode from Contaminating Metal Particles at the Positive Electrode in a Lithium Ion Battery. ECS Transactions, 2017, 75, 27-36.	0.5	3
56	Segmented Electrode Analysis of an Anode-Supported Planar Solid Oxide Fuel Cell for the Diagnosis of Marine Power Applications. ECS Transactions, 2017, 78, 2109-2113.	0.5	3
57	Electrochemical Impedance Diagnosis of Abnormal Operational Conditions for Reliability of Polymer Electrolyte Fuel Cells in Marine Power Application -Sea Salt Contamination-. ECS Transactions, 2019, 92, 341-349.	0.5	3
58	Water Transport Analysis in a Polymer Electrolyte Electrolysis Cell Comprised of Gas/Liquid Separating Interdigitated Flow Fields. Electrochemistry, 2022, 90, 017002-017002.	1.4	3
59	Influence of Convective Heat Transfer by Air Flow on Local Current/Temperatures along Microtubular Solid Oxide Fuel Cells In-situ Identified by Electrodesegmentation Method for Co- and Counter-flow Configurations. ECS Transactions, 2015, 68, 2141-2150.	0.5	2
60	Glass Shape Change during Firing for Improving the Seal of Planar SOFCs. ECS Transactions, 2017, 78, 1731-1737.	0.5	2
61	In-Situ Analysis of the in-Plane Current Distribution Difference between Electrolyte-Supported and Anode-Supported Planar Solid Oxide Fuel Cells by Segmented Electrodes. ECS Transactions, 2017, 78, 2203-2209.	0.5	2
62	Challenging of Reducing Electrolysis Voltage by Superimposing Boiling on PEMWEâ€“A Thermodynamic Couplingâ€“. ECS Transactions, 2017, 80, 1117-1125.	0.5	2
63	Gas Diffusion Media and NaCl Contamination of Polymer Electrolyte Fuel Cells for Marine Applications. ECS Transactions, 2018, 86, 271-279.	0.5	2
64	Mass Transfer in Microporous Layers for Polymer Electrolyte Fuel Cells Analyzed with Pore Network Modeling. ECS Transactions, 2021, 104, 129-135.	0.5	2
65	Three-Dimensional Numerical Modeling of a Low-Temperature Sabatier Reactor for a Tandem System of CO₂ Methanation and Polymer Electrolyte Membrane Water Electrolysis. Electrochemistry, 2022, 90, 067008-067008.	1.4	2
66	Infrared Spectroscopy of Molten LiClâ^'KCl under Hydrogen Gas Atmosphere. Journal of Physical Chemistry A, 2004, 108, 4567-4569.	2.5	1
67	In-Plane Liquid Water Distribution at the Interface between the Gas Diffusion Layer and Catalyst Layer in the Cathode of a Polymer Electrolyte Fuel Cell with a Hybrid Pattern Flow Field. ECS Transactions, 2013, 50, 291-299.	0.5	1
68	In SituMeasured Spatial Temperature Variations for Improving Reliability of Numerical SOFC Tools. ECS Transactions, 2017, 78, 2191-2201.	0.5	1
69	Spatial Current and Temperature Variations in a Microtubular Solid Oxide Electrolysis Cell In-Situ Analyzed with Electrode-Segmentation Method. ECS Transactions, 2021, 103, 643-651.	0.5	1
70	Hydrophilic and Hydrophobic Microporous Layer Coated Gas Diffusion Layer for Enhancing PEFC Performance. ECS Transactions, 2021, 104, 117-127.	0.5	1
71	Pore Network Modeling of Microporous Layers for Polymer Electrolyte Fuel Cells. ECS Meeting Abstracts, 2020, MA2020-02, 3841-3841.	0.0	1
72	Effect of Flow Field Pattern and Microporous Layer on Gas Purge of a Polymer Electrolyte Fuel Cell. ECS Transactions, 2010, 33, 937-944.	0.5	0

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73	Development of a PEFC with Serpentine-Interdigitated Hybrid Pattern Gas Channels. ECS Transactions, 2010, 33, 927-935.	0.5	0
74	Development of Direct Internal Reforming SOFC Integrated with Paper-Structured Catalyst Fuelled by Biofuels. ECS Transactions, 2013, 57, 2997-3004.	0.5	0
75	Water Vapor Exchange Flow Channels to Enhance the Performance of Polymer Electrolyte Fuel Cells without Cathode Humidification. ECS Transactions, 2013, 58, 1799-1805.	0.5	0
76	Impact of Water Flow Rate on Current Efficiency in Solid Polymer Water Electrolyzer Under 2 MPa Condition. ECS Transactions, 2014, 64, 1019-1028.	0.5	0
77	Influence of Carbon Deposition on the Current Distribution in an Anode-Supported Planar Solid Oxide Fuel Cell In-Situ Assessed by Segmented Electrodes. ECS Transactions, 2019, 91, 549-554.	0.5	0
78	Fuel Production with a Cathode-Supported Honeycomb Solid Oxide Electrolysis Cell. ECS Transactions, 2019, 91, 2707-2712.	0.5	0
79	Evaluation of Three-Dimensional Placement of Built-in Catalytic Partial Oxidation Catalyst in an Anode-Supported Honeycomb SOFC. ECS Transactions, 2021, 103, 1991-1996.	0.5	0
80	Evaluation of Three-Dimensional Placement of Built-in Catalytic Partial Oxidation Catalyst in an Anode-Supported Honeycomb SOFC. ECS Meeting Abstracts, 2021, MA2021-03, 252-252.	0.0	0
81	Spatial Current and Temperature Variations in a Microtubular Solid Oxide Electrolysis Cell In-Situ Analyzed with Electrode-Segmentation Method. ECS Meeting Abstracts, 2021, MA2021-03, 234-234.	0.0	0
82	Pore Network Modeling of Hydrophilic / Hydrophobic Composite Microporous Layers for Polymer Electrolyte Fuel Cells. ECS Transactions, 2021, 104, 157-160.	0.5	0
83	In-Situ Analysis of the in-Plane Current Distributions in an Electrolyte-Supported Planar Solid Oxide Fuel Cell By Segmented Electrodes. ECS Meeting Abstracts, 2016, , .	0.0	0
84	Separation and Characterization of Overpotentials in Electrochemical Hydrogen Pump with a Reference Electrode. ECS Meeting Abstracts, 2016, , .	0.0	0
85	Impedance Spectra Associated with Metal Deposition at the Negative Electrode from Contaminated Metal Particles at the Positive Electrode in a Lithium Ion Battery. ECS Meeting Abstracts, 2016, , .	0.0	0
86	Optimization of Annealing Catalyst Powder for High Temperature PEMWE. ECS Meeting Abstracts, 2016, , .	0.0	0
87	Gas Crossover Suppression by Controlling Wettability of Cathode Current Collector. ECS Meeting Abstracts, 2016, , .	0.0	0
88	Gas Diffusion Layer Coated with a Microporous Layer Containing Hydrophilic CNTs to Enhance PEFC Performance without Humidification Using Anode Gas Recirculation. ECS Meeting Abstracts, 2016, , .	0.0	0
89	In-Situ Analysis of the in-Plane Current Distribution Difference between Electrolyte-Supported and Anode-Supported Planar Solid Oxide Fuel Cells by Segmented Electrodes. ECS Meeting Abstracts, 2017, , .	0.0	0
90	In Situ Measured Spatial Temperature Variations for Improving Reliability of Numerical SOFC Tools. ECS Meeting Abstracts, 2017, , .	0.0	0

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91	Challenging of Reducing Electrolysis Voltage by Superimposing Boiling on PEMWEâ€“A Thermodynamic Couplingâ€“. ECS Meeting Abstracts, 2017, , .	0.0	0
92	Segmented Electrode Analysis of an Anode-Supported Planar Solid Oxide Fuel Cell for the Diagnosis of Marine Power Applications. ECS Meeting Abstracts, 2017, , .	0.0	0
93	Glass Shape Change during Firing for Improving the Seal of Planar SOFCs. ECS Meeting Abstracts, 2017, , .	0.0	0
94	Gas Diffusion Media and NaCl Contamination of Polymer Electrolyte Fuel Cells for Marine Applications. ECS Meeting Abstracts, 2018, , .	0.0	0
95	Electrochemical Impedance Diagnosis of Abnormal Operational Conditions for Reliability of Polymer Electrolyte Fuel Cells in Marine Power Application -Sea Salt Contamination-. ECS Meeting Abstracts, 2019, , .	0.0	0
96	Electrochemical Impedance Spectroscopy Analysis of Carbon Deposition in an Anode-Supported Planar Solid Oxide Fuel Cell By Segmented Electrodes. ECS Meeting Abstracts, 2019, , .	0.0	0
97	Electrolytic Performance of a Cathode-Supported Honeycomb Solid Oxide Electrolysis Cell. ECS Meeting Abstracts, 2019, , .	0.0	0
98	Pore Network Modeling of Hydrophilic / Hydrophobic Composite Microporous Layers for Polymer Electrolyte Fuel Cells. ECS Meeting Abstracts, 2021, MA2021-02, 1044-1044.	0.0	0
99	Hydrophilic and Hydrophobic Microporous Layer Coated Gas Diffusion Layer for Enhancing PEFC Performance. ECS Meeting Abstracts, 2021, MA2021-02, 1034-1034.	0.0	0
100	Analysis of Influence of Cathode Current Collector Wettability on Current Loss By Crossover Evaluation Both at Cathode and Anode Side. ECS Meeting Abstracts, 2020, MA2020-02, 2473-2473.	0.0	0
101	Experimental and Numerical Analyses of Mass Transfer in Solid Oxide Cells. ECS Meeting Abstracts, 2020, MA2020-02, 2515-2515.	0.0	0
102	Fabrication and Evaluation of an Anode-Supported Honeycomb SOFC with Built-in Catalytic Partial Oxidation Micro-Reformer. ECS Meeting Abstracts, 2020, MA2020-02, 3842-3842.	0.0	0
103	Mass Transfer in Microporous Layers for Polymer Electrolyte Fuel Cells Analyzed with Pore Network Modeling. ECS Meeting Abstracts, 2021, MA2021-02, 1033-1033.	0.0	0