

Hiroyuki Shimada

List of Publications by Citations

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50
papers

496
citations

12
h-index

20
g-index

59
ext. papers

688
ext. citations

3.6
avg, IF

4.17
L-index

#	Paper	IF	Citations
50	Challenge for lowering concentration polarization in solid oxide fuel cells. <i>Journal of Power Sources</i> , 2016 , 302, 53-60	8.9	49
49	Degradation evaluation by distribution of relaxation times analysis for microtubular solid oxide fuel cells. <i>Electrochimica Acta</i> , 2020 , 339, 135913	6.7	42
48	High power density cell using nanostructured Sr-doped SmCoO ₃ and Sm-doped CeO ₂ composite powder synthesized by spray pyrolysis. <i>Journal of Power Sources</i> , 2016 , 302, 308-314	8.9	33
47	Effect of Ni diffusion into BaZr _{0.1} Ce _{0.7} Y _{0.1} Yb _{0.1} O ₃ electrolyte during high temperature co-sintering in anode-supported solid oxide fuel cells. <i>Ceramics International</i> , 2018 , 44, 3134-3140	5.1	29
46	Proton-Conducting Solid Oxide Fuel Cells with Yttrium-Doped Barium Zirconate for Direct Methane Operation. <i>Journal of the Electrochemical Society</i> , 2013 , 160, F597-F607	3.9	27
45	Extremely fine structured cathode for solid oxide fuel cells using Sr-doped LaMnO ₃ and Y ₂ O ₃ -stabilized ZrO ₂ nano-composite powder synthesized by spray pyrolysis. <i>Journal of Power Sources</i> , 2017 , 341, 280-284	8.9	25
44	Nanocomposite electrodes for high current density over 3 A cm in solid oxide electrolysis cells. <i>Nature Communications</i> , 2019 , 10, 5432	17.4	22
43	Highly dispersed anodes for solid oxide fuel cells using NiO/YSZ/BZY triple-phase composite powders prepared by spray pyrolysis. <i>Solid State Ionics</i> , 2011 , 193, 43-51	3.3	20
42	Effect of Yttrium-Doped Barium Zirconate on Reactions in Electrochemically Active Zone of Nickel/Yttria-Stabilized Zirconia Anodes. <i>Journal of the Electrochemical Society</i> , 2011 , 158, B1341	3.9	19
41	Improved transport property of proton-conducting solid oxide fuel cell with multi-layered electrolyte structure. <i>Journal of Power Sources</i> , 2017 , 364, 458-464	8.9	14
40	Electrochemical Behaviors of Nickel/Yttria-Stabilized Zirconia Anodes with Distribution Controlled Yttrium-Doped Barium Zirconate by Ink-jet Technique. <i>Journal of the Electrochemical Society</i> , 2012 , 159, F360-F367	3.9	14
39	La _{0.65} Ca _{0.35} FeO _{3-δ} as a novel Sr- and Co-free cathode material for solid oxide fuel cells. <i>Journal of Power Sources</i> , 2020 , 448, 227426	8.9	13
38	Highly active and durable La _{0.4} Sr _{0.6} MnO _{3-δ} and Ce _{0.8} Gd _{0.2} O _{1.9} nanocomposite electrode for high-temperature reversible solid oxide electrochemical cells. <i>Ceramics International</i> , 2020 , 46, 19617-19623	5.1	12
37	Development of anode-supported electrochemical cell based on proton-conductive Ba(Ce,Zr)O ₃ electrolyte. <i>Solid State Ionics</i> , 2016 , 288, 347-350	3.3	12
36	Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol for Anode-supported Microtubular Solid Oxide Fuel Cells. <i>Fuel Cells</i> , 2017 , 17, 875-881	2.9	11
35	Effect of Anode Thickness on Polarization Resistance for Metal-Supported Microtubular Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2017 , 164, F243-F247	3.9	10
34	Effects of anode microstructures on durability of microtubular solid oxide fuel cells during internal steam reforming of methane. <i>Electrochemistry Communications</i> , 2014 , 49, 34-37	5.1	10

33	Reduction in ohmic contact resistance at interface between Gd-doped CeO ₂ interlayer and Sc ₂ O ₃ -stabilized ZrO ₂ electrolyte in SOFCs to improve performance. <i>Solid State Ionics</i> , 2014 , 258, 38-44	3.3	10
32	Performance Comparison of Perovskite Composite Cathodes with BaZr _{0.1} Ce _{0.7} Y _{0.1} Yb _{0.1} O ₃ ∓An Anode-Supported Protonic Ceramic Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2020 , 167, 124506	3.9	10
31	Equivalent Circuit Model Analysis of Microstructure-Controlled LSM/ScSZ Composite Cathodes by Powder Slurry Impregnation Method. <i>Journal of the Electrochemical Society</i> , 2015 , 162, F40-F53	3.9	9
30	Enhanced La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O ₃ ∓based cathode performance by modification of BaZr _{0.1} Ce _{0.7} Y _{0.1} Yb _{0.1} O ₃ ∓electrolyte surface in protonic ceramic fuel cells. <i>Ceramics International</i> , 2021 , 47, 16358-16362	5.1	9
29	Direct Butane Utilization on Ni-(Y ₂ O ₃) _{0.08} (ZrO ₂) _{0.92} -(Ce _{0.9} Gd _{0.1})O _{1.95} Composite Anode-Supported Microtubular Solid Oxide Fuel Cells. <i>Electrocatalysis</i> , 2017 , 8, 288-293	2.7	8
28	A Key for Achieving Higher Open-Circuit Voltage in Protonic Ceramic Fuel Cells: Lowering Interfacial Electrode Polarization. <i>ACS Applied Energy Materials</i> , 2019 , 2, 587-597	6.1	8
27	Additive effect of NiO on electrochemical properties of mixed ion conductor BaZr _{0.1} Ce _{0.7} Y _{0.1} Yb _{0.1} O ₃ ∓∓. <i>Journal of the Ceramic Society of Japan</i> , 2017 , 125, 257-261	1	7
26	Direct hydrocarbon utilization in microtubular solid oxide fuel cells. <i>Journal of the Ceramic Society of Japan</i> , 2015 , 123, 213-216	1	7
25	Evaluation of micro flat-tube solid-oxide fuel cell modules using simple gas heating apparatus. <i>Journal of Power Sources</i> , 2014 , 272, 730-734	8.9	6
24	Effect of starting solution concentration in spray pyrolysis on powder properties and electrochemical electrode performance. <i>Advanced Powder Technology</i> , 2016 , 27, 1438-1445	4.6	6
23	Development of a Portable SOFC System with Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol. <i>ECS Transactions</i> , 2017 , 80, 71-77	1	5
22	Conductivity of New Electrolyte Material Pr _{1-x} M _{1+x} InO ₄ (M=Ba,Sr) with Related Perovskite Structure for Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2013 , 50, 3-14	1	5
21	Comparison of electrochemical impedance spectra for electrolyte-supported solid oxide fuel cells (SOFCs) and protonic ceramic fuel cells (PCFCs). <i>Scientific Reports</i> , 2021 , 11, 10622	4.9	5
20	High steam utilization operation with high current density in solid oxide electrolysis cells. <i>Journal of the Ceramic Society of Japan</i> , 2016 , 124, 213-217	1	4
19	Metal-supported microtubular solid oxide fuel cells with ceria-based electrolytes. <i>Journal of the Ceramic Society of Japan</i> , 2017 , 125, 208-212	1	4
18	Nanoengineering of cathode layers for solid oxide fuel cells to achieve superior power densities. <i>Nature Communications</i> , 2021 , 12, 3979	17.4	4
17	Near room temperature synthesis of perovskite oxides. <i>Ceramics International</i> , 2019 , 45, 24936-24940	5.1	3
16	High-performance Gd _{0.5} Sr _{0.5} CoO ₃ ∓and Ce _{0.8} Gd _{0.2} O _{1.9} nanocomposite cathode for achieving high power density in solid oxide fuel cells. <i>Electrochimica Acta</i> , 2021 , 368, 137679	6.7	3

15	Development of Micro Power Generator Using LPG-Fueled Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2015 , 68, 201-208	1	2
14	Development of Electrochemical Methanation Reactor with Co-Electrolysis of Humidified CO ₂ . <i>ECS Transactions</i> , 2015 , 68, 3459-3463	1	2
13	Estimation of micro-size defects in electrolyte thin-film by X-ray stress measurement for anode-supported solid oxide fuel cells. <i>Mechanical Engineering Journal</i> , 2016 , 3, 16-00177-16-00177	0.5	2
12	Low-temperature fabrication of (Ba,Sr)(Co,Fe)O ₃ cathode by the reactive sintering method. <i>Journal of the Ceramic Society of Japan</i> , 2019 , 127, 485-490	1	2
11	Distribution of Relaxation Times Analysis for Optimization of Anode Thickness in Metal-Supported Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2017 , 78, 2151-2157	1	2
10	Development Of Microtubular Solid Oxide Fuel Cells Using Hydrocarbon Fuels. <i>Ceramic Engineering and Science Proceedings</i> , 2015 , 93-104	0.1	2
9	Power Generation Characteristics of Pulse Jet Rechargeable Direct Carbon Fuel Cells at Different Isooctane Fuel Supply Frequency. <i>ECS Transactions</i> , 2012 , 41, 57-67	1	2
8	Development of Ceria-Based Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2015 , 69, 61-67	1	1
7	Reactive-sintering of Ba _{0.5} Sr _{0.5} Co _{0.8} Fe _{0.2} O _{3-δ} using alkaline earth peroxides for low-temperature synthesis. <i>Journal of the Ceramic Society of Japan</i> , 2017 , 125, 681-685	1	1
6	Lanthanum-doped ceria interlayer between electrolyte and cathode for solid oxide fuel cells. <i>Journal of Asian Ceramic Societies</i> , 2021 , 9, 609-616	2.4	1
5	Effect of pinholes in electrolyte on re-oxidation tolerance of anode-supported solid oxide fuel cells. <i>Fuel Cells</i> , 2021 , 21, 398-407	2.9	1
4	Improved Effect of Anode-Additive PrBaInO _x and Gd-doped BaCeO ₃ on the Electrochemical Performance of Solid Oxide Fuel Cells. <i>ECS Transactions</i> , 2014 , 58, 35-49	1	
3	Microstructure Control Using Impregnation of LSM in a Thin Porous Electrolyte Layer. <i>ECS Transactions</i> , 2007 , 7, 1119-1128	1	
2	Evaluation of the Long Term Stability of LSM/ScSZ Composite Powder Materials for SOFC Cathodes. <i>Ceramic Transactions</i> , 317-323	0.1	
1	Development of Portable Solid Oxide Fuel Cell System Driven by Hydrocarbon and Alcohol Fuels. <i>Ceramic Engineering and Science Proceedings</i> , 2019 , 159-163	0.1	