Hiroyuki Shimada

List of Publications by Year
in descending order

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56 papers	898 citations	471371 17 h-index	501076 28 g-index
59 all docs	59 docs citations	59 times ranked	740 citing authors

#	ARTICLE	IF	CITATIONS
1	Degradation evaluation by distribution of relaxation times analysis for microtubular solid oxide fuel cells. Electrochimica Acta, 2020, 339, 135913.	2.6	84
2	Nanocomposite electrodes for high current density over 3â€‰Aâ€‰cmâˆ’2 in solid oxide electrolysis cells. Nature Communications, 2019, 10, 5432.	5.8	79
3	Challenge for lowering concentration polarization in solid oxide fuel cells. Journal of Power Sources, 2016, 302, 53-60.	4.0	60
4	Effect of Ni diffusion into BaZr0.1Ce0.7Y0.1Yb0.1O3âˆ’ electrolyte during high temperature co-sintering in anode-supported solid oxide fuel cells. Ceramics International, 2018, 44, 3134-3140.	2.3	44
5	High power density cell using nanostructured Sr-doped SmCoO3 and Sm-doped CeO2 composite powder synthesized by spray pyrolysis. Journal of Power Sources, 2016, 302, 308-314.	4.0	43
6	Nanoengineering of cathode layers for solid oxide fuel cells to achieve superior power densities. Nature Communications, 2021, 12, 3979.	5.8	39
7	Proton-Conducting Solid Oxide Fuel Cells with Yttrium-Doped Barium Zirconate for Direct Methane Operation. Journal of the Electrochemical Society, 2013, 160, F597-F607.	1.3	34
8	Extremely fine structured cathode for solid oxide fuel cells using Sr-doped LaMnO3 and Y2O3-stabilized ZrO2 nano-composite powder synthesized by spray pyrolysis. Journal of Power Sources, 2017, 341, 280-284.	4.0	34
9	Enhanced La0.6Sr0.4Co0.2Fe0.8O3â€“-based cathode performance by modification of BaZr0.1Ce0.7Y0.1Yb0.1O3â€“ electrolyte surface in protonic ceramic fuel cells. Ceramics International, 2021, 47, 16358-16362.	2.3	34
10	Performance Comparison of Perovskite Composite Cathodes with BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3â€“<i>Î´</i>} in Anode-Supported Protonic Ceramic Fuel Cells. Journal of the Electrochemical Society, 2020, 167, 124506.	1.3	30
11	A Key for Achieving Higher Open-Circuit Voltage in Protonic Ceramic Fuel Cells: Lowering Interfacial Electrode Polarization. ACS Applied Energy Materials, 2019, 2, 587-597.	2.5	28
12	Highly dispersed anodes for solid oxide fuel cells using NiO/YSZ/BZY triple-phase composite powders prepared by spray pyrolysis. Solid State Ionics, 2011, 193, 43-51.	1.3	27
13	Comparison of electrochemical impedance spectra for electrolyte-supported solid oxide fuel cells (SOFCs) and protonic ceramic fuel cells (PCFCs). Scientific Reports, 2021, 11, 10622.	1.6	26
14	Highly active and durable La0.4Sr0.6MnO3âˆ’ and Ce0.8Gd0.2O1.9 nanocomposite electrode for high-temperature reversible solid oxide electrochemical cells. Ceramics International, 2020, 46, 19617-19623.	2.3	25
15	La0.65Ca0.35FeO3-Î´ as a novel Sr- and Co-free cathode material for solid oxide fuel cells. Journal of Power Sources, 2020, 448, 227426.	4.0	24
16	Improved transport property of proton-conducting solid oxide fuel cell with multi-layered electrolyte structure. Journal of Power Sources, 2017, 364, 458-464.	4.0	22
17	Effect of Yttrium-Doped Barium Zirconate on Reactions in Electrochemically Active Zone of Nickelâˆ•Yttria-Stabilized Zirconia Anodes. Journal of the Electrochemical Society, 2011, 158, B1341.	1.3	20
18	Development of anode-supported electrochemical cell based on proton-conductive Ba(Ce,Zr)O3 electrolyte. Solid State Ionics, 2016, 288, 347-350.	1.3	17

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19	Electrochemical Behaviors of Nickel/Yttria-Stabilized Zirconia Anodes with Distribution Controlled Yttrium-Doped Barium Zirconate by Ink-jet Technique. Journal of the Electrochemical Society, 2012, 159, F360-F367.	1.3	16
20	Effect of Anode Thickness on Polarization Resistance for Metal-Supported Microtubular Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2017, 164, F243-F247.	1.3	15
21	Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol for Anodeâ€supported Microtubular Solid Oxide Fuel Cells. Fuel Cells, 2017, 17, 875-881.	1.5	14
22	Reduction in ohmic contact resistance at interface between Gd-doped CeO2 interlayer and Sc2O3-stabilized ZrO2 electrolyte in SOFCs to improve performance. Solid State Ionics, 2014, 258, 38-44.	1.3	13
23	Protonic Ceramic Fuel Cell with Bi-Layered Structure of BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3â€“Î´} Functional Interlayer and BaZr_{0.8}Yb_{0.2}O_{3â€“Î´} Electrolyte. Journal of the Electrochemical Society, 2021, 168, 124504.	1.3	13
24	Effects of anode microstructures on durability of microtubular solid oxide fuel cells during internal steam reforming of methane. Electrochemistry Communications, 2014, 49, 34-37.	2.3	12
25	Direct hydrocarbon utilization in microtubular solid oxide fuel cells. Journal of the Ceramic Society of Japan, 2015, 123, 213-216.	0.5	10
26	Equivalent Circuit Model Analysis of Microstructure-Controlled LSM/ScSZ Composite Cathodes by Powder Slurry Impregnation Method. Journal of the Electrochemical Society, 2015, 162, F40-F53.	1.3	10
27	Additive effect of NiO on electrochemical properties of mixed ion conductor BaZr<sub>0.1</sub>Ce<sub>0.7</sub>Y<sub>0.1</sub>Yb<sub>0.1</sub>O<sub>3& Journal of the Ceramic Society of Japan, 2017, 125, 257-261.	0.5	10
28	Direct Butane Utilization on Ni-(Y2O3)0.08(ZrO2)0.92-(Ce0.9Gd0.1)O1.95 Composite Anode-Supported Microtubular Solid Oxide Fuel Cells. Electrocatalysis, 2017, 8, 288-293.	1.5	9
29	Near room temperature synthesis of perovskite oxides. Ceramics International, 2019, 45, 24936-24940.	2.3	9
30	High-performance Gd0.5Sr0.5CoO3â^’ and Ce0.8Gd0.2O1.9 nanocomposite cathode for achieving high power density in solid oxide fuel cells. Electrochimica Acta, 2021, 368, 137679.	2.6	9
31	Lanthanum-doped ceria interlayer between electrolyte and cathode for solid oxide fuel cells. Journal of Asian Ceramic Societies, 2021, 9, 609-616.	1.0	9
32	Evaluation of micro flat-tube solid-oxide fuel cell modules using simple gas heating apparatus. Journal of Power Sources, 2014, 272, 730-734.	4.0	7
33	Development of a Portable SOFC System with Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol. ECS Transactions, 2017, 80, 71-77.	0.3	7
34	Metal-supported microtubular solid oxide fuel cells with ceria-based electrolytes. Journal of the Ceramic Society of Japan, 2017, 125, 208-212.	0.5	7
35	Conductivity of New Electrolyte Material Pr_{1-x}M_{1+x}InO₄(M=Ba,Sr) with Related Perovskite Structure for Solid Oxide Fuel Cells. ECS Transactions, 2013, 50, 3-14.	0.3	6
36	Effect of starting solution concentration in spray pyrolysis on powder properties and electrochemical electrode performance. Advanced Powder Technology, 2016, 27, 1438-1445.	2.0	6

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37	Phase Transitions, Thermal Expansions, Chemical Expansions, and CO₂ Resistances of Ba(Ce_{0.8-x}Zr_xY_{0.1}Yb_{0.1})O_{3-Î´} (x = 0.1, 0.4) Perovskite-Type Proton Conductors. Journal of the Electrochemical Society, 2022, 169, 024516.	1.3	6
38	High steam utilization operation with high current density in solid oxide electrolysis cells. Journal of the Ceramic Society of Japan, 2016, 124, 213-217.	0.5	5
39	Development of Electrochemical Methanation Reactor with Co-Electrolysis of Humidified CO₂. ECS Transactions, 2015, 68, 3459-3463.	0.3	4
40	Effect of pinholes in electrolyte on reâ€oxidation tolerance of anodeâ€supported solid oxide fuel cells. Fuel Cells, 2021, 21, 398-407.	1.5	4
41	Reactive-sintering of Ba<sub>0.5</sub>Sr<sub>0.5</sub>Co<sub>0.8</sub>Fe<sub>0.2</sub>O<sub>3&am using alkaline earth peroxides for low-temperature synthesis. Journal of the Ceramic Society of Japan, 2017, 125, 681-685.	0.5	3
42	Low-temperature fabrication of (Ba,Sr)(Co,Fe)O₃ cathode by the reactive sintering method. Journal of the Ceramic Society of Japan, 2019, 127, 485-490.	0.5	3
43	Power Generation Characteristics of Pulse Jet Rechargeable Direct Carbon Fuel Cells at Different Isooctane Fuel Supply Frequency. ECS Transactions, 2012, 41, 57-67.	0.3	2
44	Development of Micro Power Generator Using LPG-Fueled Microtubular Solid Oxide Fuel Cells. ECS Transactions, 2015, 68, 201-208.	0.3	2
45	Estimation of micro-size defects in electrolyte thin-film by X-ray stress measurement for anode-supported solid oxide fuel cells. Mechanical Engineering Journal, 2016, 3, 16-00177-16-00177.	0.2	2
46	Distribution of Relaxation Times Analysis for Optimization of Anode Thickness in Metal-Supported Microtubular Solid Oxide Fuel Cells. ECS Transactions, 2017, 78, 2151-2157.	0.3	2
47	Effect of Ce/Zr Ratio on Thermal and Chemical Expansions and CO₂ Resistance of Rare Earth-Doped Ba(Ce,Zr)O₃ Perovskite-Type Proton Conductors. ECS Transactions, 2021, 103, 1753-1761.	0.3	2
48	Effective ceramic sealing agents for solid oxide cells by low temperature curing below 200ÂÂ°C. Ceramics International, 2022, 48, 12988-12995.	2.3	2
49	Charging Temperature Dependence of the Fuel Utilization and Ratio of Residual Carbon after Power Generation in Rechargeable Direct Carbon Fuel Cells. ECS Transactions, 2010, 33, 163-173.	0.3	1
50	Improved Effect of Anode-Additive PrBaInOx and Gd-doped BaCeO3 on the Electrochemical Performance of Solid Oxide Fuel Cells. ECS Transactions, 2014, 58, 35-49.	0.3	1
51	Development of Ceria-Based Microtubular Solid Oxide Fuel Cells. ECS Transactions, 2015, 69, 61-67.	0.3	1
52	Electrochemical Performance of Anode-Supported Protonic Ceramic Fuel Cells with Various Composite Cathodes. ECS Transactions, 2019, 91, 1075-1083.	0.3	1
53	Improvement in Power Density of Protonic Ceramic Fuel Cells with Yb Doped BaZrO3 Electrolyte. ECS Transactions, 2021, 103, 1725-1734.	0.3	1
54	Microstructure Control Using Impregnation of LSM in a Thin Porous Electrolyte Layer. ECS Transactions, 2007, 7, 1119-1128.	0.3	0

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55	Dependence of Electrochemical Performance on Microstructure and Distribution for Ni/YSZ Anode with Y-Doped BaZrO3 in Solid Oxide Fuel Cells. ECS Transactions, 2010, 33, 107-118.	0.3	0
56	Equivalent Circuit Model Analysis of LSM/ScSZ Composite Cathodes Prepared by Impregnating LSM/ScSZ Powder Slurry into a Prefabricated Porous ScSZ Layer. ECS Transactions, 2013, 57, 1691-1700.	0.3	0