

# Hirofumi Sumi

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

97  
papers

1,438  
citations

21  
h-index

33  
g-index

110  
ext. papers

1,722  
ext. citations

3.6  
avg, IF

4.66  
L-index

#	Paper	IF	Citations
97	Lanthanum-doped ceria interlayer between electrolyte and cathode for solid oxide fuel cells. <i>Journal of Asian Ceramic Societies</i> , <b>2021</b> , 9, 609-616	2.4	1
96	Comparison of electrochemical impedance spectra for electrolyte-supported solid oxide fuel cells (SOFCs) and protonic ceramic fuel cells (PCFCs). <i>Scientific Reports</i> , <b>2021</b> , 11, 10622	4.9	5
95	Enhanced La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.2</sub> Fe <sub>0.8</sub> O <sub>3</sub> -based cathode performance by modification of BaZr <sub>0.1</sub> Ce <sub>0.7</sub> Y <sub>0.1</sub> Yb <sub>0.1</sub> O <sub>3</sub> electrolyte surface in protonic ceramic fuel cells. <i>Ceramics International</i> , <b>2021</b> , 47, 16358-16362	5.1	9
94	High-performance Gd <sub>0.5</sub> Sr <sub>0.5</sub> Co <sub>0.3</sub> and Ce <sub>0.8</sub> Gd <sub>0.2</sub> O <sub>1.9</sub> nanocomposite cathode for achieving high power density in solid oxide fuel cells. <i>Electrochimica Acta</i> , <b>2021</b> , 368, 137679	6.7	3
93	Effect of pinholes in electrolyte on re-oxidation tolerance of anode-supported solid oxide fuel cells. <i>Fuel Cells</i> , <b>2021</b> , 21, 398-407	2.9	1
92	Metastable Chloride Solid Electrolyte with High Formability for Rechargeable All-Solid-State Lithium Metal Batteries <b>2020</b> , 2, 880-886		15
91	Influence of cation interdiffusion on electrical properties of doped ceria/lanthanum silicate composite. <i>Ceramics International</i> , <b>2020</b> , 46, 20423-20428	5.1	1
90	Degradation evaluation by distribution of relaxation times analysis for microtubular solid oxide fuel cells. <i>Electrochimica Acta</i> , <b>2020</b> , 339, 135913	6.7	42
89	Performance Comparison of Perovskite Composite Cathodes with BaZr <sub>0.1</sub> Ce <sub>0.7</sub> Y <sub>0.1</sub> Yb <sub>0.1</sub> O <sub>3</sub> in Anode-Supported Protonic Ceramic Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 124506	3.9	10
88	La <sub>0.65</sub> Ca <sub>0.35</sub> FeO <sub>3</sub> -based a novel Sr- and Co-free cathode material for solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2020</b> , 448, 227426	8.9	13
87	Modification of sinterability and electrical property by Bi <sub>2</sub> O <sub>3</sub> addition to La <sub>0.333</sub> Si <sub>6</sub> O <sub>26</sub> for co-sintering with Gd <sub>0.1</sub> Ce <sub>0.9</sub> O <sub>1.95</sub> . <i>Inorganic Chemistry Communication</i> , <b>2020</b> , 117, 107974	3.1	1
86	High Formability and Fast Lithium Diffusivity in Metastable Spinel Chloride for Rechargeable All-Solid-State Lithium-Ion Batteries. <i>Advanced Energy and Sustainability Research</i> , <b>2020</b> , 1, 2000025	1.6	3
85	Demonstration of SOFC Power Sources for Drones (UAVs; Unmanned Aerial Vehicles). <i>ECS Transactions</i> , <b>2019</b> , 91, 149-157	1	4
84	Infiltration of Lanthanum Doped Ceria into Nickel-Zirconia Anodes for Direct Butane Utilization in Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2019</b> , 166, F301-F305	3.9	3
83	Low-temperature fabrication of (Ba,Sr)(Co,Fe)O <sub>3</sub> cathode by the reactive sintering method. <i>Journal of the Ceramic Society of Japan</i> , <b>2019</b> , 127, 485-490	1	2
82	Development of co-sintering process for anode-supported solid oxide fuel cells with gadolinia-doped ceria/lanthanum silicate bi-layer electrolyte. <i>International Journal of Hydrogen Energy</i> , <b>2019</b> , 44, 23377-23383	6.7	8
81	Near room temperature synthesis of perovskite oxides. <i>Ceramics International</i> , <b>2019</b> , 45, 24936-24940	5.1	3

80	Nanocomposite electrodes for high current density over 3 A cm in solid oxide electrolysis cells. <i>Nature Communications</i> , <b>2019</b> , 10, 5432	17.4	22
79	Development of Portable Solid Oxide Fuel Cell System Driven by Hydrocarbon and Alcohol Fuels. <i>Ceramic Engineering and Science Proceedings</i> , <b>2019</b> , 159-163	0.1	
78	A Key for Achieving Higher Open-Circuit Voltage in Protonic Ceramic Fuel Cells: Lowering Interfacial Electrode Polarization. <i>ACS Applied Energy Materials</i> , <b>2019</b> , 2, 587-597	6.1	8
77	Effect of Ni diffusion into BaZr <sub>0.1</sub> Ce <sub>0.7</sub> Y <sub>0.1</sub> Yb <sub>0.1</sub> O <sub>3-δ</sub> electrolyte during high temperature co-sintering in anode-supported solid oxide fuel cells. <i>Ceramics International</i> , <b>2018</b> , 44, 3134-3140	5.1	29
76	Effect of high-temperature ageing on (La,Sr)(Co,Fe)O <sub>3-δ</sub> cathodes in microtubular solid oxide fuel cells. <i>Solid State Ionics</i> , <b>2018</b> , 323, 85-91	3.3	13
75	Effect of Anode Thickness on Polarization Resistance for Metal-Supported Microtubular Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, F243-F247	3.9	10
74	Direct Butane Utilization on Ni-(Y <sub>2</sub> O <sub>3</sub> ) <sub>0.08</sub> (ZrO <sub>2</sub> ) <sub>0.92</sub> -(Ce <sub>0.9</sub> Gd <sub>0.1</sub> )O <sub>1.95</sub> Composite Anode-Supported Microtubular Solid Oxide Fuel Cells. <i>Electrocatalysis</i> , <b>2017</b> , 8, 288-293	2.7	8
73	Blocking layer for prevention of current leakage for reversible solid oxide fuel cells and electrolysis cells with ceria-based electrolyte. <i>International Journal of Hydrogen Energy</i> , <b>2017</b> , 42, 4449-4455	6.7	25
72	Extremely fine structured cathode for solid oxide fuel cells using Sr-doped LaMnO <sub>3</sub> and Y <sub>2</sub> O <sub>3</sub> -stabilized ZrO <sub>2</sub> nano-composite powder synthesized by spray pyrolysis. <i>Journal of Power Sources</i> , <b>2017</b> , 341, 280-284	8.9	25
71	Development of a Portable SOFC System with Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol. <i>ECS Transactions</i> , <b>2017</b> , 80, 71-77	1	5
70	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-δ</sub> using alkaline earth peroxides for low-temperature synthesis. <i>Journal of the Ceramic Society of Japan</i> , <b>2017</b> , 125, 681-685	1	1
69	Improved transport property of proton-conducting solid oxide fuel cell with multi-layered electrolyte structure. <i>Journal of Power Sources</i> , <b>2017</b> , 364, 458-464	8.9	14
68	Reducing the Gadolinium Dopant Content by Partial Substitution with Yttrium in a Ce <sub>0.9</sub> Gd <sub>0.1</sub> O <sub>1.95</sub> -based Oxide-Ion Conductor. <i>ECS Transactions</i> , <b>2017</b> , 78, 377-385	1	
67	Distribution of Relaxation Times Analysis for Optimization of Anode Thickness in Metal-Supported Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , <b>2017</b> , 78, 2151-2157	1	2
66	Internal Partial Oxidation Reforming of Butane and Steam Reforming of Ethanol for Anode-supported Microtubular Solid Oxide Fuel Cells. <i>Fuel Cells</i> , <b>2017</b> , 17, 875-881	2.9	11
65	Reducing the Gadolinium Dopant Content by Partial Substitution with Yttrium in a Ce <sub>0.9</sub> Gd <sub>0.1</sub> O <sub>1.95</sub> -Based Oxide-Ion Conductor. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, F1626-F1632	3.9	
64	Metal-supported microtubular solid oxide fuel cells with ceria-based electrolytes. <i>Journal of the Ceramic Society of Japan</i> , <b>2017</b> , 125, 208-212	1	4
63	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-δ</sub> . <i>Journal of the Ceramic Society of Japan</i> , <b>2017</b> , 125, 257-261	1	7

62	Valency effects of cation dopant on ultraphosphate glass electrolytes for intermediate temperature fuel cells. <i>Journal of the Ceramic Society of Japan</i> , <b>2017</b> , 125, 829-832	1	4
61	Electrochemical and microstructural properties of Ni <sub>0.9</sub> (Y <sub>2</sub> O <sub>3</sub> ) <sub>0.08</sub> (ZrO <sub>2</sub> ) <sub>0.92</sub> (Ce <sub>0.9</sub> Gd <sub>0.1</sub> )O <sub>1.95</sub> anode-supported microtubular solid oxide fuel cells. <i>Solid State Ionics</i> , <b>2016</b> , 285, 227-233	3.3	17
60	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> , <b>2016</b> , 3, 16-00177-16-00177	0.5	2
59	High steam utilization operation with high current density in solid oxide electrolysis cells. <i>Journal of the Ceramic Society of Japan</i> , <b>2016</b> , 124, 213-217	1	4
58	Development of anode-supported electrochemical cell based on proton-conductive Ba(Ce,Zr)O <sub>3</sub> electrolyte. <i>Solid State Ionics</i> , <b>2016</b> , 288, 347-350	3.3	12
57	High power density cell using nanostructured Sr-doped SmCoO <sub>3</sub> and Sm-doped CeO <sub>2</sub> composite powder synthesized by spray pyrolysis. <i>Journal of Power Sources</i> , <b>2016</b> , 302, 308-314	8.9	33
56	Challenge for lowering concentration polarization in solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2016</b> , 302, 53-60	8.9	49
55	Effect of starting solution concentration in spray pyrolysis on powder properties and electrochemical electrode performance. <i>Advanced Powder Technology</i> , <b>2016</b> , 27, 1438-1445	4.6	6
54	Development of Micro Power Generator Using LPG-Fueled Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , <b>2015</b> , 68, 201-208	1	2
53	Proton conduction of MO-P <sub>2</sub> O <sub>5</sub> glasses (M=Zn, Ba) containing a large amount of water. <i>Solid State Sciences</i> , <b>2015</b> , 45, 5-8	3.4	11
52	Prevention of Reaction between (Ba,Sr)(Co,Fe)O <sub>3</sub> Cathodes and Ytria-stabilized Zirconica Electrolytes for Intermediate-temperature Solid Oxide Fuel Cells. <i>Electrochimica Acta</i> , <b>2015</b> , 184, 403-409	6.7	17
51	Development of Ceria-Based Microtubular Solid Oxide Fuel Cells. <i>ECS Transactions</i> , <b>2015</b> , 69, 61-67	1	1
50	Performance of Ni-based Anode-Supported SOFCs with Doped Ceria Electrolyte at Low Temperatures Between 294 and 542°C. <i>International Journal of Applied Ceramic Technology</i> , <b>2015</b> , 12, 358-362	2	4
49	Low temperature operable micro-tubular SOFCS using Gd doped ceria electrolyte and Ni based anode. <i>Ceramic Engineering and Science Proceedings</i> , <b>2015</b> , 97-104	0.1	
48	Direct hydrocarbon utilization in microtubular solid oxide fuel cells. <i>Journal of the Ceramic Society of Japan</i> , <b>2015</b> , 123, 213-216	1	7
47	Fabrication and characterization of YSZ thin films for SOFC application. <i>Journal of the Ceramic Society of Japan</i> , <b>2015</b> , 123, 250-252	1	2
46	Development Of Microtubular Solid Oxide Fuel Cells Using Hydrocarbon Fuels. <i>Ceramic Engineering and Science Proceedings</i> , <b>2015</b> , 93-104	0.1	2
45	Nano-Composite Electrode Technology on Micro SOFC. <i>Yosetsu Gakkai Shi/Journal of the Japan Welding Society</i> , <b>2015</b> , 84, 193-195	0.1	

44	Effect of nanostructured anode functional layer thickness on the solid-oxide fuel cell performance in the intermediate temperature. <i>International Journal of Hydrogen Energy</i> , <b>2014</b> , 39, 19731-19736	6.7	20
43	Effects of anode microstructures on durability of microtubular solid oxide fuel cells during internal steam reforming of methane. <i>Electrochemistry Communications</i> , <b>2014</b> , 49, 34-37	5.1	10
42	Evaluation of micro flat-tube solid-oxide fuel cell modules using simple gas heating apparatus. <i>Journal of Power Sources</i> , <b>2014</b> , 272, 730-734	8.9	6
41	Electrochemical analysis for anode-supported microtubular solid oxide fuel cells in partial reducing and oxidizing conditions. <i>Solid State Ionics</i> , <b>2014</b> , 262, 407-410	3.3	15
40	Microtubular solid-oxide fuel cells for low-temperature operation. <i>MRS Bulletin</i> , <b>2014</b> , 39, 805-809	3.2	6
39	Proton conductivities and structures of BaO <sub>z</sub> nO <sub>B</sub> 2O <sub>5</sub> glasses in the ultraphosphate region for intermediate temperature fuel cells. <i>International Journal of Hydrogen Energy</i> , <b>2013</b> , 38, 15354-15360	6.7	6
38	Investigation of the microstructural effect of Ni <sub>0.1</sub> yttria stabilized zirconia anode for solid-oxide fuel cell using micro-beam X-ray absorption spectroscopy analysis. <i>Journal of Power Sources</i> , <b>2013</b> , 222, 15-20	8.9	9
37	High performance of La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.2</sub> Fe <sub>0.8</sub> O <sub>3-δ</sub> Te <sub>0.9</sub> Gd <sub>0.1</sub> O <sub>1.95</sub> nanoparticulate cathode for intermediate temperature microtubular solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2013</b> , 226, 354-358	8.8	60
36	Influence of NiOxide Anode Thickness on Performance Stability in Internal Reforming of Methane for Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2013</b> , 160, F579-F584	3.9	11
35	Experimental and Simulated Evaluations of Current Collection Losses in Anode-Supported Microtubular Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , <b>2013</b> , 160, F1232-F1236	3.9	7
34	Effects of Anode Microstructure on Mechanical and Electrochemical Properties for Anode-Supported Microtubular Solid Oxide Fuel Cells. <i>Journal of the American Ceramic Society</i> , <b>2013</b> , 96, 3584-3588	3.8	19
33	Flexible Fast Lithium Ion Conducting Ceramic Electrolyte. <i>Materials Research Society Symposia Proceedings</i> , <b>2013</b> , 1496, 1		
32	Effect of Operating Temperature on Durability for Direct Butane Utilization of Microtubular Solid Oxide Fuel Cells. <i>Electrochemistry</i> , <b>2013</b> , 81, 86-91	1.2	10
31	Application of catalytic layer on solid oxide fuel cell anode surface. <i>Electrochemistry Communications</i> , <b>2012</b> , 15, 26-28	5.1	1
30	AC impedance characteristics for anode-supported microtubular solid oxide fuel cells. <i>Electrochimica Acta</i> , <b>2012</b> , 67, 159-165	6.7	75
29	One-step sintering process of gadolinia-doped ceria interlayer/candia-stabilized zirconia electrolyte for anode supported microtubular solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2012</b> , 199, 170-173	8.9	15
28	Performance of Ni <sub>0.1</sub> Be/gadolinium-doped CeO <sub>2</sub> anode supported tubular solid oxide fuel cells using steam reforming of methane. <i>Journal of Power Sources</i> , <b>2012</b> , 202, 225-229	8.9	13
27	A reduced temperature solid oxide fuel cell with three-dimensionally ordered macroporous cathode. <i>Journal of Power Sources</i> , <b>2012</b> , 212, 86-92	8.9	7

26	Impact of direct butane microtubular solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2012</b> , 220, 74-78	8.9	27
25	Fabrication and Evaluation of Micro-Tubular SOFC Stack. <i>ECS Transactions</i> , <b>2012</b> , 45, 531-534	1	
24	Low temperature densification process of solid-oxide fuel cell electrolyte controlled by anode support shrinkage. <i>RSC Advances</i> , <b>2011</b> , 1, 911	3.7	13
23	Effect of anode functional layer on energy efficiency of solid oxide fuel cells. <i>Electrochemistry Communications</i> , <b>2011</b> , 13, 959-962	5.1	21
22	Effect of carbon deposition by carbon monoxide disproportionation on electrochemical characteristics at low temperature operation for solid oxide fuel cells. <i>Journal of Power Sources</i> , <b>2011</b> , 196, 4451-4457	8.9	47
21	Effects of crystal Structure of yttria- and scandia-stabilized zirconia in nickel-based SOFC anodes on carbon deposition and oxidation behavior. <i>Journal of Power Sources</i> , <b>2011</b> , 196, 6048-6054	8.9	29
20	Correlation between Microstructure and Electrochemical Characteristics of Ni-YSZ Anode Subjected to Redox Cycles. <i>ECS Transactions</i> , <b>2011</b> , 35, 1379-1387	1	6
19	Comparison Between Internal Steam and CO <sub>2</sub> Reforming of Methane for Ni-YSZ and Ni-ScSZ SOFC Anodes. <i>Journal of the Electrochemical Society</i> , <b>2010</b> , 157, B1118	3.9	56
18	Correlation Between Microstructural and Electrochemical Characteristics during Redox Cycles for Ni/YSZ Anode of SOFCs. <i>Journal of the Electrochemical Society</i> , <b>2010</b> , 157, B1747	3.9	57
17	Evaluation of Water-warming Characteristics of an Integrated Adsorption Heat Pump with Zeolite Absorbent. <i>Kagaku Kogaku Ronbunshu</i> , <b>2009</b> , 35, 312-317	0.4	1
16	Effect of oxide on carbon deposition behavior of CH <sub>4</sub> fuel on Ni/ScSZ cermet anode in high temperature SOFCs. <i>Solid State Ionics</i> , <b>2006</b> , 177, 541-547	3.3	81
15	From rare earth doped zirconia to 1kW solid oxide fuel cell system. <i>Journal of Alloys and Compounds</i> , <b>2006</b> , 408-412, 518-524	5.7	48
14	Changes of Internal Stress in Solid-Oxide Fuel Cell During Red-Ox Cycle Evaluated by In Situ Measurement With Synchrotron Radiation. <i>Journal of Fuel Cell Science and Technology</i> , <b>2006</b> , 3, 68-74		16
13	Superprotonic conducting phosphate glasses containing water. <i>Journal of Non-Crystalline Solids</i> , <b>2005</b> , 351, 2138-2141	3.9	28
12	Experiences With the First Japanese-Made Solid-Oxide Fuel-Cell System. <i>Journal of Fuel Cell Science and Technology</i> , <b>2005</b> , 2, 179-185		3
11	High-resolution soft x-ray photoelectron study of density of states and thermoelectric properties of the Heusler-type alloys (Fe <sub>2</sub> B <sub>1</sub> V <sub>1</sub> ) <sub>100-x</sub> Al <sub>x</sub> . <i>Physical Review B</i> , <b>2005</b> , 71,	3.3	30
10	Transport and magnetic properties of the Heusler-type Fe <sub>2</sub> B <sub>1</sub> V <sub>1+x</sub> Al system (0.01 ≤ x ≤ 0.08). <i>Physical Review B</i> , <b>2005</b> , 71,	3.3	46
9	Elastic Constants for X-Ray Stress Measurement of Ceramics for Solid Oxide Fuel Cell (SOFC). <i>Zairyo/Journal of the Society of Materials Science, Japan</i> , <b>2005</b> , 54, 1080-1086	0.1	3

8	In-situ Measurement of Internal Stresses in Solid Oxide Fuel Cells during Thermal Cycling by Synchrotron Radiation. <i>Zairyo/Journal of the Society of Materials Science, Japan</i> , <b>2005</b> , 54, 440-446	0.1	6
7	Possibility of Non-humidified Operation for Fuel Cells using Electrolyte of Protonic Conductors of Phosphate Glasses with Sr-Ba-Pb Series. <i>Electrochemistry</i> , <b>2005</b> , 73, 194-198	1.2	3
6	Performance of nickel-scandia-stabilized zirconia cermet anodes for SOFCs in 3% HO <sub>2</sub> CH. <i>Solid State Ionics</i> , <b>2004</b> , 174, 151-156	3.3	89
5	Magnetic circular dichroism at Fe and V L <sub>2,3</sub> thresholds of Heusler-type Fe <sub>2</sub> V <sub>1+x</sub> Al. <i>Physica B: Condensed Matter</i> , <b>2004</b> , 351, 338-340	2.8	8
4	Characteristics of Fuel Cells Using Protonic Conductors of Phosphate Glasses as Electrolyte. <i>Electrochemistry</i> , <b>2004</b> , 72, 633-636	1.2	5
3	High-resolution photoelectron spectroscopy of Heusler-type Fe <sub>2</sub> VAl alloy. <i>Journal of Synchrotron Radiation</i> , <b>2002</b> , 9, 233-6	2.4	27
2	Electrical Resistivity Anomaly and Magnetic Properties in Heusler-Type Fe <sub>2</sub> VAl Alloy. <i>Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals</i> , <b>2001</b> , 65, 771-774	0.4	8
1	Investigation of Ni-Yttria Stabilized Zirconia Anode for Solid-Oxide Fuel Cell using XAS Analysis. <i>Ceramic Engineering and Science Proceedings</i> , 137-144	0.1	