Fumitada Iguchi

List of Publications by Year
in descending order

121 papers	1,044 citations	623734 14 h-index	454955 30 g-index
121 all docs	121 docs citations	121 times ranked	1027 citing authors

#	Article	IF	Citations
1	Microstructures and grain boundary conductivity of BaZr1â˜'xYxO3 (x=0.05, 0.10, 0.15) ceramics. Solid State Ionics, 2007, 178, 691-695.	2.7	156
2	The relationship between chemical composition distributions and specific grain boundary conductivity in Y-doped BaZrO3 proton conductors. Solid State Ionics, 2009, 180, 563-568.	2.7	111
3	The influence of grain structures on the electrical conductivity of a BaZr0.95Y0.05O3 proton conductor. Solid State Ionics, 2006, 177, 2381-2384.	2.7	107
4	Proton transport properties at the grain boundary of barium zirconate based proton conductors for intermediate temperature operating SOFC. Journal of Materials Chemistry, 2010, 20, 6265.	6.7	95
5	Direct evidence of potential barriers at grain boundaries in Y-doped BaZrO3 from dc-bias dependence measurements. Journal of Materials Chemistry, 2011, 21, 16517.	6.7	80
6	Fracture properties of (CeO2)1â˜'x(RO1.5)x (R=Y, Gd, and Sm; x=0.02â€"0.20) ceramics. Solid State Ionics, 2005, 176, 2417-2421.	2.7	29
7	Oxygen permeation properties and the stability of La0.6Sr0.4Fe0.8Co0.2O3 studied by Raman spectroscopy. Solid State Ionics, 2006, 177, 2281-2284.	2.7	29
8	Optical absorption of Sr-doped LaScO3 single crystals. Solid State Ionics, 2007, 178, 521-526.	2.7	24
9	Performance and stability analysis of SOFC containing thin and dense gadolinium-doped ceria interlayer sintered at low temperature. Journal of Materiomics, 2022, 8, 347-357.	5.7	20
10	Study of Raman peak shift under applied isostatic pressure in rare-earth-doped ceria for evaluation of quantitative stress conditions in SOFCs. Solid State Ionics, 2012, 225, 99-103.	2.7	19
11	Oxygen partial pressure dependence of creep on yttria-doped ceria ceramics. Solid State Ionics, 2005, 176, 641-644.	2.7	17
12	Multiscale Simulation of Electro-Chemo-Mechanical Coupling Behavior of PEN Structure under SOFC Operation. ECS Transactions, 2011, 35, 923-933.	0.5	17
13	Proton concentration in 15mol% Y-doped BaZrO3 proton conductors prepared at various temperatures. Solid State Ionics, 2011, 192, 97-100.	2.7	16
14	Narrowband thermal radiation from closed-end microcavities. Journal of Applied Physics, 2015, 118, .	2.5	15
15	Spectrally Controlled Thermal Radiation Based on Surface Microstructures for High-efficiency Solar Thermophotovoltaic System. Energy Procedia, 2014, 57, 517-523.	1.8	14
16	High-temperature Solar Selective Absorbers Using Transparent Conductive Oxide Coated Metal. Energy Procedia, 2014, 57, 418-426.	1.8	14
17	A High-Temperature Solar Selective Absorber Based upon Periodic Shallow Microstructures Coated by Multi-Layers Using Atomic Layer Deposition. Photonics, 2016, 3, 13.	2.0	14
18	Low-temperature fabrication of an anode-supported SOFC with a proton-conducting electrolyte based on lanthanum scandate using a PLD method. Solid State Ionics, 2015, 275, 117-121.	2.7	13

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19	Synthesis of oligomeric poly[(1, 2-propanediamine)-alt-(oxalic acid)] and anomalous proton conductivities of the thin films. Solid State Ionics, 2009, 180, 589-591.	2.7	12
20	Anisotropic multi-step etching for large-area fabrication of surface microstructures on stainless steel to control thermal radiation. Science and Technology of Advanced Materials, 2015, 16, 025001.	6.1	11
21	High spectral selectivity for solar absorbers using a monolayer transparent conductive oxide coated on a metal substrate. Journal of Applied Physics, 2017, 121, .	2.5	11
22	Synthesis of La0.6Sr0.4FeO3/La0.6Sr0.4CoO3 mixed ion conducting superlattices by PLD. Solid State Ionics, 2007, 178, 1563-1567.	2.7	10
23	Structural properties of SrCeO3/SrZrO3 proton conducting superlattices. Solid State Ionics, 2000, 136-137, 203-207.	2.7	9
24	Synthesis and proton transport property of poly(aspartic acid) thin film on SiO2 substrate. Solid State Ionics, 2010, 181, 206-209.	2.7	9
25	Fabrication of quasi-periodic surface microcavities by selective etching of self-organized superalloys for high-temperature photonics. Applied Physics Letters, 2012, 101, 221901.	3.3	9
26	Enhanced thermal transport in polymers with an infrared-selective thermal emitter for electronics cooling. Applied Thermal Engineering, 2017, 113, 112-119.	6.0	9
27	Shape deformation analysis of anode-supported solid oxide fuel cell by electro-chemo-mechanical simulation. Solid State Ionics, 2018, 319, 194-202.	2.7	9
28	Performance of BaZrO3 based Proton Conductors as an Electrolyte for Intermediate Temperature Operating SOFC. ECS Transactions, 2007, 7, 2331-2336.	0.5	8
29	Classification of Mechanical Failure in SOFC and Strategy for Evaluation of Operational Margin. ECS Transactions, 2009, 25, 467-472.	0.5	8
30	High-Temperature Elastic Properties of Yttrium-Doped Barium Zirconate. Metals, 2021, 11, 968.	2.3	8
31	Proton Conductivity of Oligomeric Poly[(1,2-Propanediamine)-alt-(Oxalic Acid) Thin Films on Al2O3 Substrates. E-Journal of Surface Science and Nanotechnology, 2009, 7, 530-532.	0.4	7
32	Synthesis and Proton Transport Property of Poly(aspartic acid) Thin Film on MgO(100) Substrate. ECS Transactions, 2009, 16, 401-406.	0.5	7
33	Protonic SOFCs Using Perovskite-Type Conductors. Advances in Science and Technology, 2014, 95, 66-71.	0.2	7
34	(Invited) Triple Phase Boundary Reaction in a Mixed-Conducting SOFC Cathode. ECS Transactions, 2017, 77, 41-47.	0.5	7
35	Influence of NiO Reduction on Residual Strain in NiO/Ni-YSZ. Materials Transactions, 2018, 59, 27-32.	1.2	7
36	Effect of Redox Cycling on Mechanical Properties of Ni-YSZ Cermets for SOFC Anodes. ECS Transactions, 2011, 35, 1473-1482.	0.5	6

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37	Compatibility and Performance of La0.675Sr0.325Sc0.99Al0.01O3 Perovskite-type Oxide as an Electrolyte Material for SOFCs. Electrochemistry, 2014, 82, 845-850.	1.4	6
38	Crystallization process of perovskite type oxide thin films deposited by PLD without substrate heating: Influence of sputtering rate and densification-driven high tensile strain. Solid State Ionics, 2015, 275, 14-18.	2.7	6
39	Study of proton-conducting oxides by artificial modulation of dopant distribution. Solid State Ionics, 2007, 178, 685-690.	2.7	5
40	Mechanical Properties of Anode Materials Based on Ni-YSZ in SOFC Operating Conditions. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2012, 78, 1198-1207.	0.2	5
41	Thermal Management Technique Using Control of Thermal Radiation Spectrum for Encapsulated Electronic Devices. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2015, 5, 971-979.	2.5	5
42	Synthesis and protonic conductivity of the oligomeric amides with different average molecular weights. Solid State Ionics, 2008, 179, 1142-1145.	2.7	4
43	Fabrication and Generation of Intermediate Temperature Operating SOFC based on Y-doped BaZrO3 Proton Conducting Oxides. ECS Transactions, 2009, 25, 1759-1766.	0.5	4
44	Mechanical Properties Evaluation Method for Non-Stoichiometric Materials under High Temperature and Oxidizing/Reducing Conditions. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2011, 77, 1357-1366.	0.2	4
45	Mechanism of Chromium Poisoning in SOFC Cathode Investigated by Using Pattern Thin Film Model Electrode. ECS Transactions, 2017, 78, 965-970.	0.5	4
46	Surface Electronic Structure of BaZr_{1-x}Y_xO_{3-Î´} by Soft-X-Ray Spectroscopy. Transactions of the Materials Research Society of Japan, 2012, 37, 575-578.	0.2	4
47	Electronic structure of La1â^'xSrxScO3 probed by soft-x-ray absorption spectroscopy. Journal of Applied Physics, 2008, 104, .	2.5	3
48	Electronic Structure of Sr-Doped LaScO₃Single Crystal Annealed under Different Atmospheres. Japanese Journal of Applied Physics, 2010, 49, 010208.	1.5	3
49	Evaluation of Stress Conditions in Operated Anode Supported Type Cells Based on In-Situ Raman Scattering Spectroscopy. ECS Transactions, 2011, 35, 519-525.	0.5	3
50	Influence of atomic oxygen irradiation during deposition on crystallization of post-annealed barium zirconate thin films. Japanese Journal of Applied Physics, 2014, 53, 115503.	1.5	3
51	High-temperature Photonics Using Self-organization of Superalloys for Solar Selective Absorbers. Energy Procedia, 2014, 57, 411-417.	1.8	3
52	Influence of Small Defects Produced in Electrolytes during Manufacturing Processes on Operated SOFCs. ECS Transactions, 2015, 68, 2421-2428.	0.5	3
53	Contribution of Triple-Phase Boundary Reaction in Cathodic Reaction of Solid Oxide Fuel Cell. ECS Transactions, 2017, 78, 847-853.	0.5	3
54	Effectiveness of Ga Additive to Sinterability and Electrical Properties on Y-Doped BaZrO₃ Proton Conductors Sintered at 1600{degree sign}C. ECS Transactions, 2009, 16, 395-400.	0.5	2

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55	Investigation on Oxygen Potential Distribution in a ZrO₂-Based Solid Electrolyte by Using In-Situ Micro XAS Technique. ECS Transactions, 2009, 25, 345-348.	0.5	2
56	Methane steam reforming by resonant excitation of vibrational levels using spectrally controlled thermal radiation. Proceedings of SPIE, 2010, , .	0.8	2
57	Development of In-Situ Mechanical Testing Method for SOFC Components. , 2010, , .		2
58	Low Temperature Operating Micro Solid Oxide Fuel Cells with Perovskite Type Proton Conductors. ECS Transactions, 2011, 35, 777-783.	0.5	2
59	High-Temperature Solar Selective Absorber Material Using Surface Microcavity Structures. , 2011, , .		2
60	Application of in-situ Raman scattering spectroscopy for stress condition measurement in solid oxide fuel cells. Journal of the Ceramic Society of Japan, 2017, 125, 213-217.	1.1	2
61	Elastic Properties of Yttrium Doped Barium Zirconate. ECS Transactions, 2019, 91, 1065-1073.	0.5	2
62	Fabrication of Proton Conducting Oxide Epitaxial Thin Films and Evaluation of Their Characteristics and Electrical Properties. Hyomen Kagaku, 2008, 29, 396-400.	0.0	1
63	Deposition and Microfabrication of Gd-Doped CeO_2 for Micro SOFC Operating at Low Temperature(Hydrogen Fuel Cell and SOFC,<Special Issue>Power and Energy System Symposium). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2009, 75, 524-526.	0.2	1
64	Photocurable electrolyte based on sulfonated poly(ether ether ketone). Solid State Ionics, 2011, 204-205, 35-40.	2.7	1
65	Low-Temperature Operating Micro Solid Oxide Fuel Cells with Perovskite-type Proton Conductors. Materials Research Society Symposia Proceedings, 2011, 1330, 60101.	0.1	1
66	Creep Property of Cathode Materials Based on Lanthanum Manganite in SOFC Operating Conditions. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2012, 78, 523-530.	0.2	1
67	Design and Fabrication of Micro SOFC for the Power Source of Mobile Electric Devices. ECS Transactions, 2013, 57, 799-806.	0.5	1
68	Identification of Ni-YSZ Anode Creep Property Using PSO for Multiscale Simulation. ECS Transactions, 2013, 57, 1379-1386.	0.5	1
69	Evaluation of Stress Condition of Operated Anode Supported-Type SOFC under Operating Conditions Based on Raman Scattering Spectroscopy. ECS Transactions, 2013, 57, 951-957.	0.5	1
70	Evaluation of Stress Condition of Operated Anode Supported-Type SOFC under Operating Conditions Based on Raman Scattering Spectroscopy. ECS Transactions, 2013, 50, 83-88.	0.5	1
71	Residual Stress in NiO-YSZ Composites and Its Relationship to Microstructure. ECS Transactions, 2015, 68, 1291-1296.	0.5	1
72	Quantitative Evaluation of Electrochemically Active Area in an SOFC Cathode by Oxygen Isotopic Exchange Measurements of a Model Patterned Electrode. ECS Transactions, 2015, 68, 623-630.	0.5	1

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73	Mechanical Strength Evaluation of YSZ, GDC and LSCF under SOFC Operating Conditions. ECS Transactions, 2017, 78, 2181-2190.	0.5	1
74	Materials Properties for the Simulation of Electro-Chemo-Mechanical Coupling Behavior of SOFC. ECS Transactions, 2017, 78, 2309-2316.	0.5	1
75	High-temperature solar selective absorbers based on a transparent conductive oxide film coated periodic micro-hole array. AIP Conference Proceedings, 2017, , .	0.4	1
76	S0305-2-4 Relationship between Residual Stress and Electrical Properties in Solid Electrolyte Thin Films. The Proceedings of the JSME Annual Meeting, 2009, 2009.1, 229-230.	0.0	1
77	High Temperature Elastic Modulus of Proton Conducting Ceramics Y-Doped Ba(Zr,Ce)O₃. ECS Meeting Abstracts, 2020, MA2020-02, 2617-2617.	0.0	1
78	Electrode Reaction and Cell Performances of IT-SOFC Using BaZrO3 Proton Conductors. , 2008, , .		0
79	Mechanical Properties of Ceria Based Oxygen Ionic Conductors for SOFC. , 2008, , .		0
80	Promotion of hydrogen production by resonant excitation of vibrational levels using spectrally controlled thermal radiation. , 2008, , .		0
81	High Temperature Mechanical Properties of Ni-YSZ Cermets for SOFC Anode. , 2010, , .		0
82	Promotion of hydrogen production using spectrally controlled thermal radiation. Applied Physics Letters, 2010, 97, 231908.	3.3	0
83	SURFACE STRUCTURAL DESIGN OF SELECTIVE EMITTER FOR METHANE STEAM REFORMING. Journal of Nonlinear Optical Physics and Materials, 2010, 19, 687-694.	1.8	0
84	High-Temperature Solar Selective Absorbers Based on Interface Effects in Refractory Metals Coated With Transparent Conductive Oxides. , 2012, , .		0
85	Relationship between Electrical Properties and Stress Field in Solid Electrolyte Thin Films. ECS Transactions, 2013, 57, 1097-1102.	0.5	0
86	Stress Conditions Transition by Thermal Annealing in Barium Zirconate Based Proton Conducting Thin Films Fabricated Using PLD Method. ECS Transactions, 2013, 57, 1045-1051.	0.5	0
87	Application of Transparent Conductive Oxides Films for High-Temperature Solar Selective Absorbers. , 2014, , .		0
88	High-Efficiency Thermophotovoltaic System by Quasi-Monochromatic Thermal Radiation. , 2014, , .		0
89	Thermal management of power sources for mobile electronic devices based on micro-SOFC. Journal of Physics: Conference Series, 2014, 557, 012050.	0.4	0
90	Energy recovery in the high temperature furnace using a high-emittance fiber (HEF) unit. Transactions of the JSME (in Japanese), 2016, 82, 15-00588-15-00588.	0.2	0

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91	A Solar Thermophotovoltaic System Using Spectrally Controlled Monolithic Planar Thermal Emitter/Absorber. , 2016, , .		0
92	Spectral Control of Thermal Radiation Using Metal-Dielectric Multilayers for High-Temperature Usage Over 1000Â°C. , 2016, , .		0
93	Development of Methanol Fueled Micro-SOFC System for Mobile Electronic Devices. ECS Transactions, 2017, 75, 33-41.	0.5	0
94	Development of Small Power Sources Based on a Micro-SOFC System Operated on Liquid Fuels for Mobile Electric Devices. ECS Transactions, 2017, 78, 1871-1878.	0.5	0
95	171 Relationship between electrode reaction and nano structures of electrolyte's surface in intermediate temperature SOFCs. The Proceedings of Conference of Tohoku Branch, 2007, 2007.42, 141-142.	0.0	0
96	214 In-situ observation of epitaxial growth of amorphous oxide thin films. The Proceedings of Conference of Tohoku Branch, 2007, 2007.42, 223-224.	0.0	0
97	339 Promotion of hydrogen production by resonant excitation of vibrational levels using spectrally controlled thermal radiation. The Proceedings of the JSME Annual Meeting, 2008, 2008.8, 77-78.	0.0	0
98	175 Thermal radiation from AR-coated W surface and its application to TPV generator.. The Proceedings of Conference of Tohoku Branch, 2008, 2008.43, 151-152.	0.0	0
99	S0305-3-1 Relationship between High Temperature Creep and Electrochemical Properties in CERIA-based Electrolytes. The Proceedings of the JSME Annual Meeting, 2009, 2009.1, 233-234.	0.0	0
100	185 A study of new concept for preparing MEA with photocurable electrolyte.. The Proceedings of Conference of Tohoku Branch, 2009, 2009.44, 164-165.	0.0	0
101	S0305-1-4 Fabrication and Evaluation of Micro IT-SOFC Using Proton Conducting Electrolytes. The Proceedings of the JSME Annual Meeting, 2009, 2009.1, 221-222.	0.0	0
102	T0501-4-6 Chemical reaction under resonant excitation of vibrational levels using spectrally controlled thermal radiation. The Proceedings of the JSME Annual Meeting, 2009, 2009.8, 141-142.	0.0	0
103	180 Promotion of chemical reaction for'hydrogen production by resonant excitation of vibrational levels using spectrally controlled thermal radiation. The Proceedings of Conference of Tohoku Branch, 2009, 2009.44, 156-157.	0.0	0
104	186 Fabrication of solid oxide fuel cells on silicon wafer using MEMS technology.. The Proceedings of Conference of Tohoku Branch, 2009, 2009.44, 166-167.	0.0	0
105	222 Promotion of methane steam reforming reaction using spectrally controlled thermal radiation. The Proceedings of Conference of Tohoku Branch, 2010, 2010.45, 244-245.	0.0	0
106	J0802-4-2 Investigation of Mechanical Properties of SOFC Electrolytes at High Temperature. The Proceedings of the JSME Annual Meeting, 2010, 2010.7, 231-232.	0.0	0
107	141 Study of Methanol Fueled Single-Chamber SOFC for Intermediate-Temperature Operation. The Proceedings of Conference of Tohoku Branch, 2011, 2011.46, 86-87.	0.0	0
108	163 Mechanical properties of Ni/NiO-YSZ SOFC anode in operating conditions. The Proceedings of Conference of Tohoku Branch, 2011, 2011.46, 128-129.	0.0	0

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109	149 Quantification of methane steam reforming process using spectrally controlled thermal radiation. The Proceedings of Conference of Tohoku Branch, 2011, 2011.46, 102-103.	0.0	0
110	Efficient Solar Methane Reforming Using Spectrally Controlled Thermal Radiation Produced by Concentrated Solar Radiation. , 2011, , .		0
111	140 Investigation of Cathode Materials for Single-Chamber Solid Oxide Fuel Cells Using Methanol as a Fuel. The Proceedings of Conference of Tohoku Branch, 2011, 2011.46, 84-85.	0.0	0
112	244 Fabrication of periodic microstmcture on refractory metals for solar selective absorbers. The Proceedings of Conference of Tohoku Branch, 2012, 2012.47, 294-295.	0.0	0
113	F221004 Thermal Design and Fabrication of Micro SOFC for Mobile Electronic Devices. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _F221004-1-_F221004-5.	0.0	0
114	J061022 Evaluation of Stress Condition of Operated Anode Supported-Type SOFC under Operating Conditions Based on Raman Scattering Spectroscopy. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _J061022-1-_J061022-5.	0.0	0
115	135 Energy recovery in the high temperature furnace using a highly emissive SiC fiber. The Proceedings of Conference of Tohoku Branch, 2014, 2014.49, 71-72.	0.0	0
116	OS1613 Electrical properties of YSZ under in-plane compressive stress. The Proceedings of the Materials and Mechanics Conference, 2014, 2014, _OS1613-1_-_OS1613-2_.	0.0	0
117	Low-Directivity Quasi-Monochromatic Thermal Radiation From Microcavities Covered by Thin Metal Film. , 2016, , .		0
118	187 Heat Transfer Enhancement Technique Using Control of Thermal Radiation Spectrum for Electronic Devices Encapsulated with Resin. The Proceedings of Conference of Tohoku Branch, 2016, 2016.51, 171-172.	0.0	0
119	Solar absorbers having high spectral selectivity with a transparent conductive oxide film. The Proceedings of Autumn Conference of Tohoku Branch, 2017, 2017.53, 205.	0.0	0
120	(Invited) Contribution of Triple/Double Phase Boundary Reactions in Mixed Conducting Oxide Cathodes in SOFCs and PCFCs. ECS Meeting Abstracts, 2020, MA2020-02, 2526-2526.	0.0	0
121	Influence of Nanoscale Multilayered Proton Conducting Electrolytes for the Faraday Efficient of Solid Oxide Electrolysers. ECS Meeting Abstracts, 2020, MA2020-02, 2604-2604.	0.0	0