Tak-Hyoung Lim

List of Publications by Year
in descending order

101 papers	2,672 citations	159585 30 h-index	223800 46 g-index
101 all docs	101 docs citations	101 times ranked	2536 citing authors

#	Article	IF	Citations
1	Hybrid-solid oxide electrolysis cell: A new strategy for efficient hydrogen production. Nano Energy, 2018, 44, 121-126.	16.0	209
2	Fundamental mechanisms involved in the degradation of nickelâ€“yttria stabilized zirconia (Niâ€“YSZ) anode during solid oxide fuel cells operation: A review. Ceramics International, 2016, 42, 35-48.	4.8	176
3	Carbon-free cobalt oxide cathodes with tunable nanoarchitectures for rechargeable lithiumâ€“oxygen batteries. Chemical Communications, 2013, 49, 5984.	4.1	98
4	Cu- and Ni-doped Mn1.5Co1.5O4 spinel coatings on metallic interconnects for solid oxide fuel cells. International Journal of Hydrogen Energy, 2013, 38, 12043-12050.	7.1	87
5	Development of a 700W anode-supported micro-tubular SOFC stack for APU applications. International Journal of Hydrogen Energy, 2008, 33, 2330-2336.	7.1	74
6	Urchin-like Î±-MnO2 decorated with Au and Pd as a bi-functional catalyst for rechargeable lithiumâ€“oxygen batteries. Journal of Power Sources, 2013, 244, 328-335.	7.8	58
7	Durable power performance of a direct ash-free coal fuel cell. Electrochimica Acta, 2014, 115, 511-517.	5.2	55
8	Controlling cation migration and inter-diffusion across cathode/interlayer/electrolyte interfaces of solid oxide fuel cells: A review. Ceramics International, 2021, 47, 5839-5869.	4.8	55
9	A simplified approach to predict performance degradation of a solid oxide fuel cell anode. Journal of Power Sources, 2018, 391, 94-105.	7.8	54
10	Redox-induced performance degradation of anode-supported tubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2011, 36, 797-804.	7.1	53
11	Effect of applied current density on the degradation behavior of anode-supported flat-tubular solid oxide fuel cells. Journal of the European Ceramic Society, 2020, 40, 1407-1417.	5.7	50
12	Correlation between fast oxygen kinetics and enhanced performance in Fe doped layered perovskite cathodes for solid oxide fuel cells. Journal of Materials Chemistry A, 2015, 3, 15082-15090.	10.3	48
13	Fabrication and operation of a 1ÂkW class anode-supported flat tubular SOFC stack. International Journal of Hydrogen Energy, 2010, 35, 9687-9692.	7.1	47
14	Effects of applied current density and thermal cycling on the degradation of a solid oxide fuel cell cathode. International Journal of Hydrogen Energy, 2018, 43, 12346-12357.	7.1	47
15	Effect of GDC interlayer on the degradation of solid oxide fuel cell cathode during accelerated current load cycling. International Journal of Hydrogen Energy, 2014, 39, 20799-20805.	7.1	45
16	Protective coating based on manganeseâ€“copper oxide for solid oxide fuel cell interconnects: Plasma spray coating and performance evaluation. Ceramics International, 2018, 44, 11576-11581.	4.8	44
17	Effect of GDC interlayer thickness on durability of solid oxide fuel cell cathode. Ceramics International, 2016, 42, 6978-6984.	4.8	43
18	High-performance nanofibrous LaCoO₃ perovskite cathode for solid oxide fuel cells fabricated via chemically assisted electrodeposition. Journal of Materials Chemistry A, 2018, 6, 6987-6996.	10.3	43

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19	Facile surface modification of LSCF/GDC cathodes by epitaxial deposition of Sm_{0.5}Sr_{0.5}CoO₃via ultrasonic spray infiltration. Journal of Materials Chemistry A, 2020, 8, 3967-3977.	10.3	41
20	Operating characteristics of a 5kW class anode-supported planar SOFC stack for a fuel cell/gas turbine hybrid system. International Journal of Hydrogen Energy, 2008, 33, 1076-1076.	7.1	38
21	La-doped SrTiO3 interconnect materials for anode-supported flat-tubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2012, 37, 4319-4327.	7.1	38
22	Tailoring Ni-based catalyst by alloying with transition metals (M = Ni, Co, Cu, and Fe) for direct hydrocarbon utilization of energy conversion devices.. Electrochimica Acta, 2017, 225, 399-406.	5.2	36
23	Nano-fabrication of a high-performance LaNiO3 cathode for solid oxide fuel cells using an electrochemical route. Journal of Power Sources, 2019, 429, 97-104.	7.8	36
24	Nano-CeO 2 and -LaCrO 3 dispersed ferritic stainless steels as potential interconnect materials for solid oxide fuel cells. Journal of Alloys and Compounds, 2017, 709, 453-463.	5.5	35
25	Characteristic of (La0.8Sr0.2)0.98MnO3 coating on Crofer22APU used as metallic interconnects for solid oxide fuel cell. International Journal of Hydrogen Energy, 2011, 36, 1868-1881.	7.1	34
26	The kinetics of steam methane reforming over a Ni/Î³-Al2O3 catalyst for the development of small stationary reformers. International Journal of Hydrogen Energy, 2015, 40, 4512-4518.	7.1	32
27	Improving sulfur tolerance of Ni-YSZ anodes ofÂsolid oxide fuel cells by optimization of microstructure and operating conditions. International Journal of Hydrogen Energy, 2018, 43, 11202-11213.	7.1	32
28	(Mn,Cu)3O4-based conductive coatings as effective barriers to high-temperature oxidation of metallic interconnects for solid oxide fuel cells. Journal of Solid State Electrochemistry, 2014, 18, 445-452.	2.5	31
29	A performance study of hybrid direct carbon fuel cells: Impact of anode microstructure. International Journal of Hydrogen Energy, 2014, 39, 11749-11755.	7.1	31
30	Production of syngas from H2O/CO2 by high-pressure coelectrolysis in tubular solid oxide cells. Applied Energy, 2018, 212, 759-770.	10.1	30
31	Co-synthesis of nano-sized LSMâ€“YSZ composites with enhanced electrochemical property. Journal of Solid State Electrochemistry, 2007, 11, 1385-1390.	2.5	29
32	Effect of fabrication parameters on coating properties of tubular solid oxide fuel cell electrolyte prepared by vacuum slurry coating. Journal of Power Sources, 2010, 195, 1779-1785.	7.8	29
33	Enhancing Sulfur Tolerance of a Ni-YSZ Anode through BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3â^'Î´}Infiltration. Journal of the Electrochemical Society, 2014, 161, F668-F673.	2.9	29
34	Microstructure tailoring of solid oxide electrolysis cell air electrode to boost performance and long-term durability. Chemical Engineering Journal, 2021, 410, 128318.	12.7	29
35	Comparative characterization of thermodynamic, electrical, and electrochemical properties of Sm0.5Sr0.5Co1â^'Nb O3â^' (xÂ=ÂÂ0, 0.05, and 0.1) as cathode materials in intermediate temperature solid oxide fuel cells. Journal of Power Sources, 2013, 226, 1-7.	7.8	28
36	Syngas production in high performing tubular solid oxide cells by using high-temperature H2O/CO2 co-electrolysis. Chemical Engineering Journal, 2018, 335, 41-51.	12.7	28

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37	Photocatalytic degradation of trichloroethylene over TiO2/SiO2 in an annulus fluidized bed reactor. Korean Journal of Chemical Engineering, 2002, 19, 1072-1077.	2.7	27
38	Electrochemical properties of an ordered perovskite LaBaCo2O5+â€“Ce0.9Gd0.1O2â˜ composite cathode with strontium doping for intermediate-temperature solid oxide fuel cells. Electrochemistry Communications, 2013, 34, 5-8.	4.7	27
39	Development of a stand-alone steam methane reformer for on-site hydrogen production. International Journal of Hydrogen Energy, 2016, 41, 8176-8183.	7.1	27
40	Fabrication and Operation of Tubular Segmentedâ€inâ€Series (SIS) Solid Oxide Fuel Cells (SOFC). Fuel Cells, 2012, 12, 1099-1103.	2.4	26
41	Effect of GDC addition method on the properties of LSMâ€“YSZ composite cathode support for solid oxide fuel cells. Ceramics International, 2016, 42, 11772-11779.	4.8	26
42	A flat-tubular solid oxide fuel cell with a dense interconnect film coated on theÂporous anode support. Journal of Power Sources, 2012, 213, 218-222.	7.8	25
43	Effect of various sintering inhibitors on the long term performance of Ni-YSZ anodes used for SOFCs. International Journal of Hydrogen Energy, 2015, 40, 11968-11975.	7.1	25
44	Design of a dual-layer ceramic interconnect based on perovskite oxides for segmented-in-series solid oxide fuel cells. Journal of Power Sources, 2015, 300, 318-324.	7.8	25
45	Structural, Electrical, and Electrochemical Characteristics of LnBa_{0.5}Sr_{0.5}Co_{1.5}Fe_{0.5}O_{5+Î´} (Ln=Pr,) Tj ETQq1 1 0.784314 rg 2017, 5, 1337-1343.	3.8	25
46	Electrochemical properties of B-site Ni doped layered perovskite cathodes for IT-SOFCs. International Journal of Hydrogen Energy, 2014, 39, 20791-20798.	7.1	22
47	Hybrid Electrochemical Deposition Route for the Facile Nanofabrication of a Cr-Poisoning-Tolerant La(Ni,Fe)O_{3â^'Î´} Cathode for Solid Oxide Fuel Cells. ACS Applied Materials & Interfaces, 2020, 12, 5730-5738.	8.0	22
48	Properties of Cu, Ni, and V doped-LaCrO 3 interconnect materials prepared by pechini, ultrasonic spray pyrolysis and glycine nitrate processes for SOFC. Journal of Electroceramics, 2006, 17, 723-727.	2.0	21
49	Effect of reverse Boudouard reaction catalyst on the performance of solid oxide carbon fuel cells integrated with a dry gasifier. Energy Conversion and Management, 2016, 130, 119-129.	9.2	21
50	A Perovskite-Type Lanthanum Cobaltite Thin Film Synthesized via an Electrochemical Route and Its Application in SOFC Interconnects. Journal of the Electrochemical Society, 2015, 162, F1549-F1554.	2.9	20
51	Investigation of a Layered Perovskite for IT-SOFC Cathodes: B-Site Fe-Doped YBa_{0.5}Sr_{0.5}Co₂₋_xFe_xO_{5+Î´} Journal of the Electrochemical Society, 2016, 163, F1489-F1495.	2.9	20
52	Degradation Characteristics of NO by Photocatalysis with TiO2 and CuO/TiO2. Reaction Kinetics and Catalysis Letters, 2000, 71, 223-229.	0.6	18
53	Conformal bi-layered perovskite/spinel coating on a metallic wire network for solid oxide fuel cells via an electrodeposition-based route. Journal of Power Sources, 2017, 348, 40-47.	7.8	18
54	A dynamic infiltration technique to synthesize nanolayered cathodes for high performance and robust solid oxide fuel cells. Journal of Energy Chemistry, 2022, 70, 201-210.	12.9	18

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55	Highâ€Performance Solid Oxide Fuel Cell with an Electrochemically Surfaceâ€Tailored Oxygen Electrode. ChemSusChem, 2018, 11, 2620-2627.	6.8	17
56	Development of novel LSM/GDC composite and electrochemical characterization of LSM/GDC based cathode-supported direct carbon fuel cells. Journal of Solid State Electrochemistry, 2014, 18, 435-443.	2.5	16
57	Operating Characteristics of a Tubular Direct Carbon Fuel Cell Based on a General Anode Support Solid Oxide Fuel Cell. Industrial & Engineering Chemistry Research, 2013, 52, 15466-15471.	3.7	15
58	Fabrication and operating characteristics of a flat tubular segmented-in-series solid oxide fuel cell unit bundle. Energy, 2014, 72, 215-221.	8.8	15
59	Effect of cathode geometry on the electrochemical performance of flat tubular segmented-in-series(SIS) solid oxide fuel cell. International Journal of Hydrogen Energy, 2015, 40, 6207-6215.	7.1	15
60	Performance evaluation of solid oxide carbon fuel cells operating on steam gasified carbon fuels. Chemical Engineering Journal, 2016, 300, 384-393.	12.7	15
61	Long-term performance degradation study of solid oxide carbon fuel cells integrated with a steam gasifier. Energy, 2016, 113, 1051-1061.	8.8	15
62	Thermally self-sustaining operation of tubular solid oxide fuel cells integrated with a hybrid partial oxidation reformer using propane. Energy Conversion and Management, 2019, 189, 132-142.	9.2	15
63	Performance characteristics of a robust and compact propane-fueled 150ÂW-class SOFC power-generation system. International Journal of Hydrogen Energy, 2019, 44, 6160-6171.	7.1	15
64	Effect of transition metal doping on the sintering and electrochemical properties of GDC buffer layer in SOFCs. International Journal of Applied Ceramic Technology, 2021, 18, 511-524.	2.1	14
65	Intermediate-temperature nickelâ€“yttria stabilized zirconia supported tubular solid oxide fuel cells using gadolinia-doped ceria electrolyte. Journal of Power Sources, 2012, 218, 119-127.	7.8	13
66	Effect of nano-Al2O3 addition on mechanical durability of nickel-yttria stabilized zirconia anode support of solid oxide fuel cells. Ceramics International, 2018, 44, 14824-14833.	4.8	13
67	Performance and Durability of Anode-Supported Flat-Tubular Solid Oxide Fuel Cells with Ag-Infiltrated Cathodes. Journal of Nanoscience and Nanotechnology, 2014, 14, 7668-7673.	0.9	11
68	Facile Synthesis of Ca-Doped LaCoO₃Perovskite via Chemically Assisted Electrodeposition as a Protective Film on Solid Oxide Fuel Cell Interconnects. Journal of the Electrochemical Society, 2016, 163, F1066-F1071.	2.9	11
69	Nano-Oxide Dispersed Ferritic Stainless Steel for Metallic Interconnects of Solid Oxide Fuel Cells. ECS Transactions, 2017, 78, 1575-1582.	0.5	11
70	Evaluation of steady-state characteristics for solid oxide carbon fuel cell short-stacks. Applied Energy, 2017, 187, 886-898.	10.1	11
71	High Performing and Durable Anode-Supported Solid Oxide Fuel Cell by Using Tape Casting, Lamination and Co-Firing Method. ECS Transactions, 2019, 91, 373-379.	0.5	11
72	Highly durable nano-oxide dispersed ferritic stainless steel interconnects for intermediate temperature solid oxide fuel cells. Journal of Power Sources, 2019, 439, 227109.	7.8	11

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73	Scaling up syngas production with controllable H2/CO ratio in a highly efficient, compact, and durable solid oxide coelectrolysis cell unit-bundle. Applied Energy, 2020, 257, 114036.	10.1	11
74	Parametric study on electrodeposition of a nanofibrous LaCoO3 SOFC cathode. Ceramics International, 2021, 47, 5570-5579.	4.8	11
75	Development of Anode Supported Micro-Tubular SOFC Stack for APU Application. ECS Transactions, 2007, 7, 187-191.	0.5	10
76	Effect of glass contents on the electrical and sintering property of La0.8Ca0.2CrO3/glass composite interconnects for solid oxide fuel cells. International Journal of Hydrogen Energy, 2011, 36, 13735-13740.	7.1	10
77	Induction brazing for gas sealing of anode-supported tubular solid oxide fuel cells using the nickel based brazing alloy modified by TiH2. International Journal of Hydrogen Energy, 2011, 36, 1890-1896.	7.1	10
78	Growth of Thin-Film Layered Perovskite Cathodes by Pulsed Laser Deposition and their Electrochemical Studies in IT-SOFCs. Journal of the Electrochemical Society, 2014, 161, F698-F702.	2.9	9
79	Electrochemical performance of H2Oâ€“CO2 coelectrolysis with a tubular solid oxide coelectrolysis (SOC) cell. International Journal of Hydrogen Energy, 2016, 41, 7530-7537.	7.1	9
80	Lifetime Prediction of Anode-Supported Solid Oxide Fuel Cell on the Basis of Individual Components Degradation. ECS Transactions, 2019, 91, 621-627.	0.5	9
81	Development of Oxide Dispersed Ferritic Steel as a Solid Oxide Fuel Cell Interconnect. ECS Transactions, 2019, 91, 2307-2312.	0.5	9
82	Electrophoretically Deposited LaNi0.6Fe0.4O3Perovskite Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2016, 163, F1245-F1250.	2.9	8
83	A tubular segmented-in-series solid oxide fuel cell with metallic interconnect films: A performance study through mathematical simulations. Current Applied Physics, 2013, 13, 1906-1913.	2.4	7
84	Performance characteristic of a tubular carbon-based fuel cell short stack coupled withÂaÂdry carbon gasifier. International Journal of Hydrogen Energy, 2014, 39, 12395-12401.	7.1	7
85	Fabrication and characterization of La 0.65 Sr 0.3 MnO 3â˜Î´ /(Y 2 O 3) 0.08 (ZrO 2) 0.92 /Gd 0.1 Ce 0.9 O 2â˜Î´ tri-composite cathode-supported tubular direct carbon solid oxide fuel cell. Ceramics International, 2017, 43, 1086-1091.	4.8	6
86	Development of Anode-Supported Flat-Tube Solid Oxide Fuel Cell (SOFC) Stack with High Power Density. ECS Transactions, 2011, 35, 327-332.	0.5	5
87	Effect of Anode Support Thickness on the Performance of Tubular SOFCs. ECS Transactions, 2007, 7, 543-549.	0.5	4
88	Effects of La2O3 content and particle size on the long-term stability and thermal cycling property of La2O3-dispersed SUS430 alloys for SOFC interconnect materials. Metals and Materials International, 2017, 23, 1250-1256.	3.4	4
89	Lanthanum Nickelates with a Perovskite Structure as Protective Coatings on Metallic Interconnects for Solid Oxide Fuel Cells. Journal of the Korean Ceramic Society, 2015, 52, 344-349.	2.3	4
90	Effect of infiltrated transition metals on nickel morphology change and area-specific resistance of Ni-YSZ based SOFC anode during long-term operation. Journal of Electroceramics, 2015, 35, 81-89.	2.0	3

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91	A Study on Sintering Inhibition of La0.8 Sr0.2 MnO3-â^, Cathode Material for Cathode-Supported Fuel Cells. Journal of the Korean Ceramic Society, 2016, 53, 494-499.	2.3	3
92	Removal of Volatile Organic Compounds (VOCs) by Photocatalytic Reaction in a Circulating Fluidized Bed (CFB) Photoreactor. Journal of Chemical Engineering of Japan, 2008, 41, 695-699.	0.6	2
93	Operating Characteristics of Advanced 500W Class Anode-supported Flat Tubular SOFC stack in KIER. ECS Transactions, 2007, 7, 193-197.	0.5	1
94	Evaluation of Micro-Tubular SOFC: Cell Performance with respect to Current Collecting Method. Transactions of the Korean Hydrogen and New Energy Society, 2012, 23, 43-48.	0.6	1
95	La0.8Ca0.2CrO3Interconnect Materials for Solid Oxide Fuel Cells: Combustion Synthesis and Reduced-Temperature Sintering. Journal of Electrochemical Science and Technology, 2011, 2, 39-44.	2.2	1
96	Ceramic Materials for Interconnects in Solid Oxide Fuel Cells - A Review. Journal of the Korean Ceramic Society, 2014, 51, 231-242.	2.3	1
97	Effect of Conducting Oxide Coatings on Crofer22APU Used as Metallic Interconnects for Solid Oxide Fuel Cells. , 2009, , .		0
98	Operation Characteristics of Tubular Segmented-In-Series Solid Oxide Fuel Cells (SOFC). ECS Transactions, 2011, 35, 679-682.	0.5	0
99	Lanthanum Chromite Based Ceramic and Glass Composite Interconnects for Solid Oxide Fuel Cells. ECS Transactions, 2011, 35, 2547-2552.	0.5	0
100	Synthesis and Electrical Properties of Strontium Titanate-Based Materials for Solid Oxide Fuel Cells. ECS Transactions, 2011, 35, 2553-2559.	0.5	0
101	Fabrication of Nanofibrous La1-XSrxCoO3/GDC Composite Cathode Using a Combination of Chemically Assisted Electrodeposition and Infiltration Techniques for Solid Oxide Fuel Cells. ECS Meeting Abstracts, 2019, , .	0.0	0