Rak-Hyun Song

List of Publications by Year
in descending order

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91 papers	2,330 citations	172457 29 h-index	254184 43 g-index
91 all docs	91 docs citations	91 times ranked	1900 citing authors

#	Article	IF	Citations
1	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
2	Boosting performance of the solid oxide fuel cell by facile nano-tailoring of La0.6Sr0.4CoO3-Î´ cathode. International Journal of Hydrogen Energy, 2022, 47, 37587-37598.	7.1	18
3	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
4	Parametric study on electrodeposition of a nanofibrous LaCoO3 SOFC cathode. Ceramics International, 2021, 47, 5570-5579.	4.8	11
5	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
6	Recent Activities of Solid Oxide Fuel Cell Research in the 3D Printing Processes. Transactions of the Korean Hydrogen and New Energy Society, 2021, 32, 11-40.	0.6	9
7	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
8	Flat-tubular solid oxide fuel cells and stacks: a review. Journal of Asian Ceramic Societies, 2021, 9, 745-770.	2.3	26
9	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
10	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
11	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
12	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
13	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
14	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
15	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
16	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
17	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
18	Efficient and robust ceramic interconnects based on a mixed-cation perovskite for solid oxide fuel cells. Ceramics International, 2019, 45, 4902-4908.	4.8	5

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19	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
20	Production of syngas from H2O/CO2 by high-pressure coelectrolysis in tubular solid oxide cells. Applied Energy, 2018, 212, 759-770.	10.1	30
21	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
22	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
23	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
24	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
25	Thin films of nanostructured ZnO used as an electron-transporting material for improved performance of perovskite solar cells. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	13
26	Highâ€Performance Solid Oxide Fuel Cell with an Electrochemically Surfaceâ€Tailored Oxygen Electrode. ChemSusChem, 2018, 11, 2620-2627.	6.8	17
27	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
28	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
29	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
30	Electrosprayed Polymer-Hybridized Multidoped ZnO Mesoscopic Nanocrystals Yield Highly Efficient and Stable Perovskite Solar Cells. ACS Omega, 2018, 3, 9648-9657.	3.5	17
31	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
32	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
33	Nano-Oxide Dispersed Ferritic Stainless Steel for Metallic Interconnects of Solid Oxide Fuel Cells. ECS Transactions, 2017, 78, 1575-1582.	0.5	11
34	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
35	Evaluation of steady-state characteristics for solid oxide carbon fuel cell short-stacks. Applied Energy, 2017, 187, 886-898.	10.1	11
36	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

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37	Performance evaluation of solid oxide carbon fuel cells operating on steam gasified carbon fuels. Chemical Engineering Journal, 2016, 300, 384-393.	12.7	15
38	Long-term performance degradation study of solid oxide carbon fuel cells integrated with a steam gasifier. Energy, 2016, 113, 1051-1061.	8.8	15
39	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
40	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
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	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
43	Effect of GDC interlayer thickness on durability of solid oxide fuel cell cathode. Ceramics International, 2016, 42, 6978-6984.	4.8	43
44	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
45	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
46	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
47	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
48	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
49	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
50	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
51	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
52	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
53	Durable power performance of a direct ash-free coal fuel cell. Electrochimica Acta, 2014, 115, 511-517.	5.2	55
54	(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

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55	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
56	Preparation of highly porous NiOâ€“gadolinium-doped ceria nano-composite powders by one-pot glycine nitrate process for anode-supported tubular solid oxide fuel cells. Journal of Asian Ceramic Societies, 2014, 2, 339-346.	2.3	14
57	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
58	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
59	Niâ€“YSZ-supported tubular solid oxide fuel cells with GDC interlayer between YSZ electrolyte and LSCF cathode. International Journal of Hydrogen Energy, 2014, 39, 12894-12903.	7.1	50
60	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
61	Fabrication of anode-supported tubular Ba(Zr0.1Ce0.7Y0.2)O3â^Î´ cell for intermediate temperature solid oxide fuel cells. Ceramics International, 2014, 40, 1513-1518.	4.8	26
62	Ceramic Materials for Interconnects in Solid Oxide Fuel Cells - A Review. Journal of the Korean Ceramic Society, 2014, 51, 231-242.	2.3	1
63	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
64	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
65	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
66	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
67	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
68	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
69	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
70	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
71	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
72	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

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73	Redox-induced performance degradation of anode-supported tubular solid oxide fuel cells. International Journal of Hydrogen Energy, 2011, 36, 797-804.	7.1	53
74	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
75	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
76	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
77	Joining of Metallic Cap and Anode-Supported Tubular Solid Oxide Fuel Cell by Induction Brazing Process. Journal of Fuel Cell Science and Technology, 2009, 6, .	0.8	2
78	Degradation of cathode current-collecting materials for anode-supported flat-tube solid oxide fuel cell. Journal of Power Sources, 2009, 188, 447-452.	7.8	22
79	Performance of strontium- and magnesium-doped lanthanum gallate electrolyte with lanthanum-doped ceria as a buffer layer for IT-SOFCs. Journal of Power Sources, 2008, 185, 207-211.	7.8	20
80	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
81	Development of Anode Supported Micro-Tubular SOFC Stack for APU Application. ECS Transactions, 2007, 7, 187-191.	0.5	10
82	Preparation and characterization of strontium and magnesium doped lanthanum gallates as the electrolyte for IT-SOFC. Journal of Power Sources, 2007, 166, 35-40.	7.8	64
83	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
84	Synthesis and sintering properties of (La0.8Ca0.2â^'x Sr x)CrO3 perovskite materials for SOFC interconnect. Journal of Electroceramics, 2006, 17, 729-733.	2.0	13
85	STUDY ON CERAMIC INTERCONNECT MANUFACTURED BY SLURRY DIP COATING AND PLASMA SPRAY COATING PROCESSES. , 2004, , 261-269.		0
86	Fabrication and characteristics of anode-supported flat-tube solid oxide fuel cell. Journal of Power Sources, 2003, 122, 138-143.	7.8	93
87	Characterization and performance analysis of silicon carbide electrolyte matrix of phosphoric acid fuel cell prepared by ball-milling method. Journal of Power Sources, 2002, 107, 98-102.	7.8	16
88	Effect of silicon carbide particle size in the electrolyte matrix on the performance of a phosphoric acid fuel cell. Journal of Power Sources, 2002, 106, 167-172.	7.8	19
89	Effects of flow rate and starvation of reactant gases on the performance of phosphoric acid fuel cells. Journal of Power Sources, 2000, 86, 289-293.	7.8	48
90	New method of electrode fabrication for phosphoric acid fuel cell. International Journal of Hydrogen Energy, 1998, 23, 1049-1053.	7.1	9

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91	Effect of hydrogen on impedance of the passivating film on iron. Journal of Applied Electrochemistry, 1991, 21, 181-183.	2.9	17