

Joon Hyung Shim

List of Publications by Year in descending order

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77
papers

2,546
citations

201385

27
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78
all docs

78
docs citations

78
times ranked

2447
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomic Layer Deposition of Yttria-Stabilized Zirconia for Solid Oxide Fuel Cells. Chemistry of Materials, 2007, 19, 3850-3854.	3.2	395
2	Demonstrating the potential of yttrium-doped barium zirconate electrolyte for high-performance fuel cells. Nature Communications, 2017, 8, 14553.	5.8	218
3	Intermediate-Temperature Ceramic Fuel Cells with Thin Film Yttrium-Doped Barium Zirconate Electrolytes. Chemistry of Materials, 2009, 21, 3290-3296.	3.2	148
4	Atomic layer deposition of thin-film ceramic electrolytes for high-performance fuel cells. Journal of Materials Chemistry A, 2013, 1, 12695.	5.2	88
5	High-Performance Protonic Ceramic Fuel Cells with 1 Åµm Thick Y:Ba(Ce, Zr)O ₃ Electrolytes. Advanced Energy Materials, 2018, 8, 1801315.	10.2	79
6	Theoretical Design of Lithium Chloride Superionic Conductors for All-Solid-State High-Voltage Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 34806-34814.	4.0	68
7	Material Design Strategy for Halide Solid Electrolytes Li ₃ MX ₆ (X = Cl, Br, and I). Journal of Materials Chemistry A, 2020, 8, 10784-10793.	3.2	62
8	Slurry spin coating of thin film yttria stabilized zirconia/gadolinia doped ceria bi-layer electrolytes for solid oxide fuel cells. Journal of Power Sources, 2016, 327, 401-407.	4.0	57
9	Proton conduction in thin film yttrium-doped barium zirconate. Applied Physics Letters, 2008, 92, .	1.5	56
10	High-performance thin-film protonic ceramic fuel cells fabricated on anode supports with a non-proton-conducting ceramic matrix. Journal of Materials Chemistry A, 2016, 4, 6395-6403.	5.2	52
11	Fabrication of lanthanum strontium cobalt ferrite (LSCF) cathodes for high performance solid oxide fuel cells using a low price commercial inkjet printer. Journal of Power Sources, 2016, 306, 503-509.	4.0	52
12	Catalysts with Pt Surface Coating by Atomic Layer Deposition for Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2010, 157, B793.	1.3	48
13	Platinum-Ruthenium Heterogeneous Catalytic Anodes Prepared by Atomic Layer Deposition for Use in Direct Methanol Solid Oxide Fuel Cells. ACS Catalysis, 2015, 5, 1914-1921.	5.5	48
14	Nanoporous silver cathodes surface-treated by atomic layer deposition of Y:ZrO ₂ for high-performance low-temperature solid oxide fuel cells. Journal of Power Sources, 2015, 295, 175-181.	4.0	48
15	Surface Tuning of Solid Oxide Fuel Cell Cathode by Atomic Layer Deposition. Advanced Energy Materials, 2018, 8, 1802506.	10.2	48
16	Separation of interlayer resistance in multilayer MoS ₂ field-effect transistors. Applied Physics Letters, 2014, 104, .	1.5	46
17	High-Performance Protonic Ceramic Fuel Cells with Thin-Film Yttrium-Doped Barium Cerate-Zirconate Electrolytes on Compositionally Gradient Anodes. ACS Applied Materials & Interfaces, 2016, 8, 9097-9103.	4.0	43
18	Ceramics breakthrough. Nature Energy, 2018, 3, 168-169.	19.8	40

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19	MEMS-based thin-film solid-oxide fuel cells. <i>MRS Bulletin</i> , 2014, 39, 798-804.	1.7	39
20	Effective Schottky Barrier Height Lowering of Metal/n-Ge with a TiO ₂ /GeO ₂ Interlayer Stack. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 35419-35425.	4.0	37
21	Inkjet Printing for Manufacturing Solid Oxide Fuel Cells. <i>ACS Energy Letters</i> , 2020, 5, 1586-1592.	8.8	36
22	Micro ceramic fuel cells with multilayered yttrium-doped barium cerate and zirconate thin film electrolytes. <i>Journal of Power Sources</i> , 2014, 248, 1163-1169.	4.0	33
23	Nanoporous silver cathode surface treated by atomic layer deposition of CeO _x for low-temperature solid oxide fuel cells. <i>Nanotechnology</i> , 2016, 27, 185403.	1.3	32
24	High-Performance Silver Cathode Surface Treated with Scandia-Stabilized Zirconia Nanoparticles for Intermediate Temperature Solid Oxide Fuel Cells. <i>Advanced Energy Materials</i> , 2017, 7, 1601956.	10.2	32
25	Direct Alcohol-Fueled Low-Temperature Solid Oxide Fuel Cells: A Review. <i>Energy Technology</i> , 2019, 7, 5-19.	1.8	32
26	Bimetallic Nickel/Ruthenium Catalysts Synthesized by Atomic Layer Deposition for Low-Temperature Direct Methanol Solid Oxide Fuel Cells. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 30090-30098.	4.0	31
27	Effects of atomic layer deposition conditions on the formation of thin ZnO films and their photocatalytic characteristics. <i>Ceramics International</i> , 2019, 45, 18823-18830.	2.3	31
28	Performance Degradation of Lanthanum Strontium Cobaltite after Surface Modification. <i>Journal of the Electrochemical Society</i> , 2015, 162, F622-F626.	1.3	27
29	Atomic Layer Deposition for Surface Engineering of Solid Oxide Fuel Cell Electrodes. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 629-646.	2.7	27
30	Fabrication of Lanthanum Strontium Cobalt Ferrite-Gadolinium-Doped Ceria Composite Cathodes Using a Low-Price Inkjet Printer. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 39347-39356.	4.0	25
31	Evaluation of porous platinum, nickel, and lanthanum strontium cobaltite as electrode materials for low-temperature solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 17828-17835.	3.8	23
32	High-performance protonic ceramic fuel cells with a PrBa _{0.5} Sr _{0.5} Co _{1.5} Fe _{0.5} O _{5+δ} cathode with palladium-rich interface coating. <i>Journal of Power Sources</i> , 2021, 482, 229043.	4.0	23
33	Materials design of sodium chloride solid electrolytes Na ₃ MCl ₆ for all-solid-state sodium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 23037-23045.	5.2	23
34	Protonic ceramic fuel cells with slurry-spin coated BaZr _{0.2} Ce _{0.6} Y _{0.1} Yb _{0.1} O _{3-δ} thin-film electrolytes. <i>Journal of Power Sources</i> , 2020, 465, 228254.	4.0	23
35	Economic and environmental analysis of a wind-hybrid power system with desalination in Hong-do, South Korea. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 623-630.	1.1	22
36	Nanoscale Surface and Interface Engineering of Solid Oxide Fuel Cells by Atomic Layer Deposition. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 611-628.	2.7	22

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37	Nano-granulization of gadolinia-doped ceria electrolyte surface by aerosol-assisted chemical vapor deposition for low-temperature solid oxide fuel cells. <i>Journal of Power Sources</i> , 2016, 301, 72-77.	4.0	21
38	Thermal analysis of a 1-kW hydrogen-fueled solid oxide fuel cell stack by three-dimensional numerical simulation. <i>Energy Conversion and Management</i> , 2020, 222, 113213.	4.4	21
39	Fabrication of yttria-stabilized zirconia aerogel for high-performance thermal barrier coating. <i>Journal of Alloys and Compounds</i> , 2019, 806, 1430-1434.	2.8	20
40	Computational Investigation of the Interfacial Stability of Lithium Chloride Solid Electrolytes in All-Solid-State Lithium Batteries. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 1241-1248.	4.0	20
41	High Performance Anode-Supported Solid Oxide Fuel Cells with Thin Film Yttria-Stabilized Zirconia Membrane Prepared by Aerosol-Assisted Chemical Vapor Deposition. <i>Journal of the Electrochemical Society</i> , 2017, 164, F484-F490.	1.3	19
42	Mechanism of Cathodic Performance Enhancement by a Few-Nanometer-Thick Oxide Overcoat on Porous Pt Cathodes of Solid Oxide Fuel Cells. <i>ACS Omega</i> , 2017, 2, 806-813.	1.6	19
43	Three-dimensional thermal stress analysis of the re-oxidized Ni-YSZ anode functional layer in solid oxide fuel cells. <i>Journal of Alloys and Compounds</i> , 2018, 752, 148-154.	2.8	18
44	Coke-Free Oxidation of Methanol in Solid Oxide Fuel Cells with Heterogeneous Nickel-Palladium Catalysts Prepared by Atomic Layer Deposition. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 10529-10535.	3.2	18
45	Patterned Silver Nanomesh Cathode for Low-Temperature Solid Oxide Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2012, 159, B541-B545.	1.3	17
46	Lanthanum strontium cobaltite-infiltrated lanthanum strontium cobalt ferrite cathodes fabricated by inkjet printing for high-performance solid oxide fuel cells. <i>Journal of Alloys and Compounds</i> , 2020, 843, 155806.	2.8	16
47	Improved oxygen surface exchange kinetics at grain boundaries in nanocrystalline yttria-stabilized zirconia. <i>MRS Communications</i> , 2012, 2, 107-111.	0.8	15
48	Resistive switching characteristics of polycrystalline SrTiO ₃ films. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	15
49	Evaluation of atomic layer deposited alumina as a protective layer for domestic silver articles: Anti-corrosion test in artificial sweat. <i>Applied Surface Science</i> , 2018, 441, 718-723.	3.1	15
50	Fermi-Level Unpinning Technique with Excellent Thermal Stability for n-Type Germanium. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 35988-35997.	4.0	14
51	Economic feasibility of a PV system for grid-connected semiconductor facilities in South Korea. <i>International Journal of Precision Engineering and Manufacturing</i> , 2013, 14, 2033-2041.	1.1	12
52	Highly Active Oxygen Evolution on Carbon Fiber Paper Coated with Atomic-Layer-Deposited Cobalt Oxide. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 10608-10615.	4.0	12
53	High-performance protonic ceramic fuel cells with electrode-electrolyte composite cathode functional layers. <i>International Journal of Energy Research</i> , 2022, 46, 6553-6561.	2.2	12
54	Comparative performance analysis of silicon nanowire tunnel FETs and MOSFETs on plastic substrates in flexible logic circuit applications. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 1350-1358.	0.8	11

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55	Proton incorporation in yttria-stabilized zirconia during atomic layer deposition. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 2621-2627.	3.8	11
56	Ag surface-coated with nano-YSZ as an alternative to Pt catalyst for low-temperature solid oxide fuel cells. <i>Journal of Alloys and Compounds</i> , 2018, 769, 545-551.	2.8	11
57	Catalyst-free growth of readily detachable nanographene on alumina. <i>Journal of Materials Chemistry C</i> , 2013, 1, 6438.	2.7	10
58	La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O _{3-δ} cathode surface-treated with La ₂ NiO ₄ by aerosol-assisted chemical vapor deposition for high performance solid oxide fuel cells. <i>Ceramics International</i> , 2019, 45, 12366-12371.	2.3	10
59	Inkjet Printing of Silica Aerogel for Fabrication of 2-D Patterned Thermal Insulation Layers. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2021, 8, 445-451.	2.7	10
60	Nanoporous silver cathode surface-treated by aerosol-assisted chemical vapor deposition of gadolinia-doped ceria for intermediate-temperature solid oxide fuel cells. <i>Journal of Power Sources</i> , 2018, 402, 246-251.	4.0	9
61	Evaluating mechanical properties of 100nm-thick atomic layer deposited Al ₂ O ₃ as a free-standing film. <i>Scripta Materialia</i> , 2020, 187, 256-261.	2.6	9
62	3D Evaluation of Porous Zeolite Absorbents Using FIB-SEM Tomography. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2018, 5, 195-199.	2.7	8
63	Low-temperature atomic layer deposition of Al ₂ O ₃ on blown polyethylene films with plasma-treated surfaces. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2013, 31, .	0.9	7
64	Estimation of Singapore's hourly solar radiation using hybrid-Markov transition matrices method. <i>International Journal of Precision Engineering and Manufacturing</i> , 2013, 14, 323-327.	1.1	6
65	Chemical Protection of Polycarbonate Surfaces by Atomic Layer Deposition of Alumina with Oxygen Plasma Pretreatment. <i>Advanced Materials Interfaces</i> , 2016, 3, 1600340.	1.9	6
66	Compositional optimization of gadolinia-doped ceria treatment for enhanced oxygen reduction kinetics in low-temperature solid oxide fuel cells. <i>Thin Solid Films</i> , 2017, 624, 95-100.	0.8	6
67	Surface Treatment of Pt Cathode Using Ceria Infiltration for High Performance Polymer Electrolyte Membrane Fuel Cells. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2021, 8, 509-518.	2.7	6
68	Novel Conductive Filament Metal-Interlayer-Semiconductor Contact Structure for Ultralow Contact Resistance Achievement. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 26378-26386.	4.0	5
69	Characterization of ZnO film grown on polycarbonate by atomic layer deposition at low temperature. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2015, 33, .	0.9	4
70	Cyclic Thermal Effects on Devices of Two-Dimensional Layered Semiconducting Materials. <i>Advanced Electronic Materials</i> , 2021, 7, 2100348.	2.6	4
71	Atomic layer deposited Pt/Cu bimetallic catalysts for use in high-performance fuel cell cathodes. <i>International Journal of Energy Research</i> , 2022, 46, 17180-17188.	2.2	4
72	Reduction of residual thermal stress on anode-supported SOFCs using porous aid layers. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 2149-2154.	1.1	3

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73	Profitable Production of Stable Electrical Power Using Wind-battery Hybrid Power Systems: A Case Study from Mt. Taegi, South Korea. International Journal of Precision Engineering and Manufacturing - Green Technology, 2019, 6, 919-930.	2.7	3
74	Evaluation of batteries for wind-hybrid systems in South Korean islands. International Journal of Precision Engineering and Manufacturing, 2014, 15, 761-768.	1.1	2
75	Improved strontium segregation suppression of lanthanum strontium cobalt oxide cathode via chemical etching and atomic layer deposition. International Journal of Energy Research, 2022, 46, 12467-12475.	2.2	2
76	Direct Measurement of Ion Diffusivity in Oxide Thin Film by Using Isotope Tracers and Secondary Ion Mass Spectrometry. International Journal of Precision Engineering and Manufacturing - Green Technology, 2020, 7, 405-410.	2.7	0
77	Stabilization of platinum catalyst surface treated by atomic layer deposition of cobalt for polymer electrolyte membrane fuel cells. International Journal of Energy Research, 0, , .	2.2	0