

Mahendra Roa Somalu

List of Publications by Year in descending order

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104
papers

2,572
citations

236925

25
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106
all docs

106
docs citations

106
times ranked

2382
citing authors

#	ARTICLE	IF	CITATIONS
1	Metallic interconnects for solid oxide fuel cell: A review on protective coating and deposition techniques. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 9219-9229.	7.1	208
2	A review on the selection of anode materials for solid-oxide fuel cells. <i>Renewable and Sustainable Energy Reviews</i> , 2015, 51, 1-8.	16.4	171
3	Copper-phthalocyanine and nickel nanoparticles as novel cathode catalysts in microbial fuel cells. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 9533-9540.	7.1	132
4	Review on zirconate-cerate-based electrolytes for proton-conducting solid oxide fuel cell. <i>Ceramics International</i> , 2019, 45, 6605-6615.	4.8	121
5	Challenges in fabricating planar solid oxide fuel cells: A review. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 72, 105-116.	16.4	109
6	Screen-printing inks for the fabrication of solid oxide fuel cell films: A review. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 75, 426-439.	16.4	105
7	Short review on cobalt-free cathodes for solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 9149-9155.	7.1	99
8	Review of composite cathodes for intermediate-temperature solid oxide fuel cell applications. <i>Ceramics International</i> , 2020, 46, 23314-23325.	4.8	95
9	Perovskite-based proton conducting membranes for hydrogen separation: A review. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 15281-15305.	7.1	86
10	Enhanced ionic conductivity of scandia-ceria-stabilized-zirconia (10Sc1CeSZ) electrolyte synthesized by the microwave-assisted glycine nitrate process. <i>Ceramics International</i> , 2017, 43, 8119-8125.	4.8	73
11	Fabrication and characterization of Ni/ScSZ cermet anodes for IT-SOFCs. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 5557-5566.	7.1	66
12	Rheological Studies of Nickel/Scandia-Stabilized Zirconia Screen Printing Inks for Solid Oxide Fuel Cell Anode Fabrication. <i>Journal of the American Ceramic Society</i> , 2012, 95, 1220-1228.	3.8	59
13	Comparison of performance and ionic concentration gradient of two-chamber microbial fuel cell using ceramic membrane (CM) and cation exchange membrane (CEM) as separators. <i>Electrochimica Acta</i> , 2018, 259, 365-376.	5.2	58
14	Effect of particle size and temperature on gasification performance of coconut and palm kernel shells in downdraft fixed-bed reactor. <i>Energy</i> , 2019, 175, 931-940.	8.8	45
15	A review on cathode materials for conventional and proton-conducting solid oxide fuel cells. <i>Journal of Alloys and Compounds</i> , 2022, 894, 162458.	5.5	42
16	Fabrication of high-quality electrode films for solid oxide fuel cell by screen printing: A review on important processing parameters. <i>International Journal of Energy Research</i> , 2020, 44, 8296-8313.	4.5	40
17	The effect of solids loading on the screen-printing and properties of nickel/scandia-stabilized-zirconia anodes for solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 9500-9510.	7.1	39
18	Ce 0.80 Sm 0.10 Ba 0.05 Er 0.05 O 2- δ multi-doped ceria electrolyte for intermediate temperature solid oxide fuel cells. <i>Ceramics International</i> , 2017, 43, 1265-1271.	4.8	35

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37	Performance of titanium-nickel (Ti/Ni) and graphite felt-nickel (GF/Ni) electrodeposited by Ni as alternative cathodes for microbial fuel cells. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2018, 89, 67-76.	5.3	22
38	Immobilized mixed-culture reactor (IMcR) for hydrogen and methane production from glucose. <i>Energy</i> , 2017, 139, 1188-1196.	8.8	20
39	LSC cathode prepared by polymeric complexation method for proton-conducting SOFC application. <i>Journal of Sol-Gel Science and Technology</i> , 2016, 78, 382-393.	2.4	18
40	Influence of oxygen ion enrichment on optical, mechanical, and electrical properties of LSCF perovskite nanocomposite. <i>Ceramics International</i> , 2018, 44, 10433-10442.	4.8	18
41	Structural, morphological, and electrochemical behavior of titanium-doped SrFe _{1-x} Ti _x O _{3-δ} (x = 0.1-0.5) perovskite as a cobalt-free solid oxide fuel cell cathode. <i>Ceramics International</i> , 2019, 45, 12903-12909.	4.8	18
42	Effects of temperature on the chemical composition of tars produced from the gasification of coconut and palm kernel shells using downdraft fixed-bed reactor. <i>Fuel</i> , 2020, 265, 116910.	6.4	18
43	Effects of sintering on the mechanical and ionic properties of ceria-doped scandia stabilized zirconia ceramic. <i>Ceramics International</i> , 2016, 42, 14469-14474.	4.8	17
44	Influence of mixing time on the purity and physical properties of SrFe _{0.5} Ti _{0.5} O _{3-δ} powders produced by solution combustion. <i>Powder Technology</i> , 2017, 313, 382-388.	4.2	17
45	Effects of sintering temperature on the structural and electrochemical properties of SrFe _{0.5} Ti _{0.5} O _{3-δ} perovskite cathode. <i>International Journal of Applied Ceramic Technology</i> , 2018, 15, 338-348.	2.1	15
46	Performance of Ni/10Sc1CeSZ anode synthesized by glycine nitrate process assisted by microwave heating in a solid oxide fuel cell fueled with hydrogen or methane. <i>Journal of Solid State Electrochemistry</i> , 2020, 24, 711-722.	2.5	15
47	INFLUENCE OF SINTERING TEMPERATURE ON THE POLARIZATION RESISTANCE OF La _{0.2} Sr _{0.6} O _{2.4} Co _{0.2} Fe _{0.8} O _{3-δ} - SDC CARBONATE COMPOSITE CATHODE. <i>Ceramics - Silikaty</i> , 2016, , 115-121.	0.3	15
48	Improvement of microbial fuel cell performance using novel kaolin earthenware membrane coated with a polybenzimidazole layer. <i>Energy Science and Engineering</i> , 2021, 9, 2342-2353.	4.0	14
49	Influence of Calcination on the Properties of Nickel Oxide-Samarium Doped Ceria Carbonate (NiO-SDCC) Composite Anodes. <i>Procedia Chemistry</i> , 2016, 19, 267-274.	0.7	13
50	Nanostructured Cu-CGO anodes fabricated using a microwave-assisted glycine-nitrate process. <i>Journal of Physics and Chemistry of Solids</i> , 2016, 98, 91-99.	4.0	13
51	Electrical properties of extruded milled carbon fibre and polypropylene. <i>Journal of Composite Materials</i> , 2017, 51, 3187-3195.	2.4	13
52	Characterization of IT-SOFC non-symmetrical anode sintered through conventional furnace and microwave. <i>Ceramics International</i> , 2015, 41, 5663-5669.	4.8	12
53	Optical, mechanical and electrical properties of LSCF-SDC composite cathode prepared by sol-gel assisted rotary evaporation technique. <i>Journal of Sol-Gel Science and Technology</i> , 2018, 86, 493-504.	2.4	12
54	Synthesis and characterization of cobalt-free SrFe _{0.8} Ti _{0.2} O _{3-δ} cathode powders synthesized through combustion method for solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 30682-30691.	7.1	12

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55	Enhanced hydrogen selectivity from catalytic decomposition of formic acid over FeZnIr nanocatalyst at room temperature. <i>Research on Chemical Intermediates</i> , 2018, 44, 6787-6802.	2.7	11
56	Understanding the Relationship between Ink Rheology and Film Properties for Screen-Printed Nickel/Scandia-Stabilized-Zirconia Anodes. <i>ECS Transactions</i> , 2013, 57, 1321-1330.	0.5	10
57	Preparation of SrFe _{0.5} Ti _{0.5} O ₃ perovskite-structured ceramic using the glycine-nitrate combustion technique. <i>Materials Letters</i> , 2017, 194, 197-201.	2.6	10
58	Heat Treatment Effect on the Phase and Morphology of NiO-BCZY Prepared by an Evaporation and Decomposition of Solution and Suspension Method. <i>Sains Malaysiana</i> , 2018, 47, 589-594.	0.5	10
59	Effects of Die Configuration on the Electrical Conductivity of Polypropylene Reinforced Milled Carbon Fibers: An Application on a Bipolar Plate. <i>Polymers</i> , 2018, 10, 558.	4.5	9
60	Influence of current collecting and functional layer thickness on the performance stability of La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O _{3-λ} -Ce _{0.8} Sm _{0.2} O _{1.9} composite cathode. <i>Journal of Solid State Electrochemistry</i> , 2019, 23, 1155-1164.	2.5	9
61	Carbonate-Based Lanthanum Strontium Cobalt Ferrite (LSCF)-Samarium-Doped Ceria (SDC) Composite Cathode for Low-Temperature Solid Oxide Fuel Cells. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 3761.	2.5	9
62	A review on the preparation of anode materials and anode films for solid oxide fuel cell applications. <i>International Journal of Energy Research</i> , 2021, 45, 14357-14388.	4.5	9
63	PREPARATION OF LANTHANUM STRONTIUM COBALT OXIDE POWDER BY A MODIFIED SOL-GEL METHOD. <i>Malaysian Journal of Analytical Sciences</i> , 2016, 20, 1458-1466.	0.1	9
64	Nanostructured and Nonsymmetrical NiO-SDC/SDC Composite Anode Performance via a Microwave-Assisted Route for Intermediate-Temperature Solid Oxide Fuel Cells. <i>Materials and Manufacturing Processes</i> , 2016, 31, 1301-1305.	4.7	8
65	Enhanced performance of lithiated cathode materials of LiCo _{0.6} X _{0.4} O ₂ (X = Mn, Sr, Zn) for proton-conducting solid oxide fuel cell applications. <i>International Journal of Energy Research</i> , 2020, 44, 11783-11793.	4.5	8
66	Effect of manganese oxide on the sinterability of 8 mol% yttria-stabilized zirconia. <i>Materials Characterization</i> , 2016, 120, 331-336.	4.4	7
67	Properties of screen-printed nickel/scandia-stabilized-zirconia anodes fabricated using rheologically optimized inks during redox cycles. <i>Journal of Materials Science</i> , 2017, 52, 7175-7185.	3.7	7
68	Thermal Decomposition of Cobalt-free SrFe _{0.9} Ti _{0.1} O _{3-λ} Cathode for Intermediate Temperature Solid Oxide Fuel Cell. <i>Procedia Engineering</i> , 2016, 148, 72-77.	1.2	6
69	Effect of compaction pressure on the performance of a non-symmetrical NiO-SDC/SDC composite anode fabricated by conventional furnace. <i>Journal of Asian Ceramic Societies</i> , 2017, 5, 77-81.	2.3	6
70	Synthesis and characterization of uniform-sized cubic ytterbium scandium co-doped zirconium oxide (1Yb10ScSZ) nanoparticles by using basic amino acid as organic precursor. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 9274-9283.	7.1	6
71	Feasibility of Ni/Ti and Ni/ GF cathodes in microbial electrolysis cells for hydrogen production from fermentation effluent: A step toward real application. <i>International Journal of Energy Research</i> , 2020, 44, 7464-7476.	4.5	6
72	Influence the Filler Orientation on the Performance of Bipolar Plate. <i>Sains Malaysiana</i> , 2019, 48, 669-676.	0.5	6

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73	Electrochemical performance of sol-gel derived La _{0.6} Sr _{0.4} CoO _{3-δ} cathode material for proton-conducting fuel cell: A comparison between simple and advanced cell fabrication techniques. <i>Processing and Application of Ceramics</i> , 2018, 12, 277-286.	0.8	6
74	INFLUENCE OF SINTERING TEMPERATURE ON NiO-SDCC ANODE FOR LOW-TEMPERATURE SOLID OXIDE FUEL CELLS (LT-SOFCs). <i>Ceramics - Silikaty</i> , 2016, , 317-323.	0.3	5
75	Synthesis and Characterization of Zn-doped LiCoO ₂ Material Prepared via Glycinenitrate Combustion Method for Proton Conducting Solid Oxide Fuel Cell Application. <i>Jurnal Kejuruteraan</i> , 2018, S11, 11-15.	0.3	5
76	Pengoptimuman Proses Penyemperitan Gentian Karbon Terkisar dan Polipropilena bagi Komposit Polimer Pengalir. <i>Sains Malaysiana</i> , 2016, 45, 1913-1921.	0.5	5
77	Effect of lithium hexafluorophosphate LiPF ₆ and 1-butyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide [Bmim][TFSI] immobilized in poly(2-hydroxyethyl methacrylate) PHEMA. <i>Polymer Bulletin</i> , 2019, 76, 3693-3707.	3.3	4
78	Structural and Electrochemical Properties of Lanthanum Silicate Apatites La ₁₀ Si ₆ x ₂ Al _x Zn _{0.2} O ₂₇ for Solid Oxide Fuel Cells (SOFCs). <i>International Journal of Chemical Engineering</i> , 2021, 2021, 1-10.	2.4	4
79	A Study of the Rheological Properties of NiO/ScSZ Screen-Printing Inks and Their Application to SOFC Anodes. <i>ECS Transactions</i> , 2011, 35, 1483-1500.	0.5	3
80	Extrusion Process of Polypropylene Composites Reinforced Milled Carbon Fibre for Conductive Polymer Composite Application. <i>MATEC Web of Conferences</i> , 2018, 248, 01012.	0.2	3
81	Performance of LiCo _{0.6} Zn _{0.4} O ₂ as a potential cathode material candidate for intermediate solid oxide fuel cell application. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019, 268, 012139.	0.3	3
82	Characterization of tar formation during high temperature gasification of different chemical compositions in biomass. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019, 268, 012142.	0.3	3
83	Optimisation of screen-printed La _{0.6} Sr _{0.4} CoO _{3-δ} cathode film for intermediate temperature proton-conducting solid oxide fuel cell application. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019, 268, 012137.	0.3	3
84	Thermal decomposition, phase formation and microstructure analysis of surfactant assisted sol-gel derived La _{0.6} Sr _{0.4} CoO _{3-δ} material. <i>IOP Conference Series: Earth and Environmental Science</i> , 2020, 463, 012095.	0.3	3
85	Performance of nickel-iron foam (Ni-Fe) cathode in bio-electrochemical system for hydrogen production from effluent of glucose fermentation. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2020, 260, 114613.	3.5	3
86	Kelakuan Pengoksidaan Keluli Tahan Karat Berferit SUS430 dan Kesan Pemeruapan Spesies Cr Bergas kepada Permukaan Katod LSCF dalam Suhu Operasi Sel Fuel Oksida Pepejal. <i>Sains Malaysiana</i> , 2019, 48, 861-869.	0.5	3
87	A short review on the modeling of solid-oxide fuel cells by using computational fluid dynamics: assumptions and boundary conditions. <i>International Journal of Integrated Engineering</i> , 2018, 10, .	0.4	3
88	Challenges in Fabricating Solid Oxide Fuel Cell Stacks for Portable Applications: A Short Review. <i>International Journal of Integrated Engineering</i> , 2018, 10, .	0.4	3
89	Preparation of Nickel Oxide-Samarium-Doped Ceria Carbonate Composite Anode Powders by Using High-Energy Ball Milling for Low-Temperature Solid Oxide Fuel Cells. <i>Materials Science Forum</i> , 2016, 840, 97-102.	0.3	2
90	Synthesis and Characterization of Sm _{1-x} Zr _x Fe _{1-y} Mg _y O ₃ (x, y = 0.5, 0.7, 0.9) as Possible Electrolytes for SOFCs. <i>Key Engineering Materials</i> , 2018, 765, 49-53.	0.4	2

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91	Electrochemical performance of $\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$ cathode in air and wet air for $\text{BaCe}_{0.54}\text{Zr}_{0.36}\text{Y}_{0.1}\text{O}_{3-\delta}$ -based proton-conducting solid oxide fuel cell. IOP Conference Series: Earth and Environmental Science, 2019, 268, 012136.	0.3	2
92	Layering Optimization of the $\text{SrFe}_{0.9}\text{Ti}_{0.1}\text{O}_{3-\delta}$ - $\text{Ce}_{0.8}\text{Sm}_{0.2}\text{O}_{1.9}$ Composite Cathode. Molecules, 2022, 27, 2549.	3.8	2
93	Review on anode material development in solid oxide fuel cells. AIP Conference Proceedings, 2015, , .	0.4	1
94	The Effect of NiO Content on the Physical Properties of NiO-Samarium Doped Ceria Carbonate Composite Anode Powder for Solid Oxide Fuel Cells. Advanced Materials Research, 2016, 1133, 18-22.	0.3	1
95	Carbon Fibre Reinforced Polypropylene: An Electrical Conductivity Model. Key Engineering Materials, 0, 791, 29-34.	0.4	1
96	Properties of Pr and In-doped BaZrCeY-based electrolyte for Proton Conducting Fuel Cell systems. IOP Conference Series: Earth and Environmental Science, 2019, 268, 012143.	0.3	1
97	Sol-Gel Synthesis of Solid Solution Based on Cerate-Zirconate Ceramics. Solid State Phenomena, 2019, 290, 29-34.	0.3	1
98	Influence of Silver Addition on the Morphological and Thermal Characteristics of Nickel Oxide-Samarium Doped Ceria Carbonate (NiO-SDCC) Composite Anode. International Journal of Integrated Engineering, 2018, 10, .	0.4	1
99	Effect of ball milling time on the properties of nickeloxide-samarium-doped cerium composite anodes for solid oxide fuel cells. International Journal of Materials and Product Technology, 2019, 59, 16.	0.2	1
100	Influence of Thermal Conductivity on the Thermal Behavior of Intermediate-Temperature Solid Oxide Fuel Cells. Journal of Electrochemical Science and Technology, 2020, 11, 132-139.	2.2	1
101	Catalytic Performance of Calcium-Lanthanum co-doped Ceria ($\text{Ce}_{0.85-x}\text{La}_{0.15}\text{Ca}_x\text{O}_{2-\delta}$) in Partial Oxidation of Methane. Bulletin of Chemical Reaction Engineering and Catalysis, 2021, 16, 548-554.	1.1	0
102	EFFECTS OF NiO LOADING AND PRE-CALCINATION TEMPERATURE ON NiO-SDCC COMPOSITE ANODE POWDER FOR LOW-TEMPERATURE SOLID OXIDE FUEL CELLS. Ceramics - Silikaty, 2017, , 41-49.	0.3	0
103	Fabrication and Characterization of YSZ/ScSZ Bilayer Electrolyte via Cold-Isostatic Pressing (CIP) Method for Intermediate Temperature-Solid Oxide Fuel Cell (IT-SOFC) Application. International Journal of Integrated Engineering, 2019, 11, .	0.4	0
104	Synthesis and preliminary study of the multilayer $\text{LiCo}_{0.6}\text{Ni}_{0.4}\text{O}_2$ as solid oxide fuel cell cathode. AIP Conference Proceedings, 2022, , .	0.4	0