Bin Chen

List of Publications by Year
in descending order

72 papers	3,566 citations	136950 32 h-index	138484 58 g-index
72 all docs	72 docs citations	72 times ranked	3090 citing authors

#	Article	IF	Citations
1	Flexible Znâ€“ and Liâ€“air batteries: recent advances, challenges, and future perspectives. Energy and Environmental Science, 2017, 10, 2056-2080.	30.8	477
2	Thermal-expansion offset for high-performance fuel cell cathodes. Nature, 2021, 591, 246-251.	27.8	328
3	In-situ growth of Co3O4 nanowire-assembled clusters on nickel foam for aqueous rechargeable Zn-Co3O4 and Zn-air batteries. Applied Catalysis B: Environmental, 2019, 241, 104-112.	20.2	167
4	Application of cascading thermoelectric generator and cooler for waste heat recovery from solid oxide fuel cells. Energy Conversion and Management, 2017, 148, 1382-1390.	9.2	148
5	Co₃O₄ Nanosheets as Active Material for Hybrid Zn Batteries. Small, 2018, 14, e1800225.	10.0	131
6	All-solid-state flexible zinc-air battery with polyacrylamide alkaline gel electrolyte. Journal of Power Sources, 2020, 450, 227653.	7.8	108
7	A high-performance Zn battery based on self-assembled nanostructured NiCo2O4 electrode. Journal of Power Sources, 2019, 421, 6-13.	7.8	87
8	Two-stage thermoelectric generators for waste heat recovery from solid oxide fuel cells. Energy, 2017, 132, 280-288.	8.8	86
9	Modeling of all porous solid oxide fuel cells. Applied Energy, 2018, 219, 105-113.	10.1	84
10	Modeling of direct carbon solid oxide fuel cell for CO and electricity cogeneration. Applied Energy, 2016, 178, 353-362.	10.1	77
11	A-site deficient/excessive effects of LaMnO3 perovskite as bifunctional oxygen catalyst for zinc-air batteries. Electrochimica Acta, 2020, 333, 135566.	5.2	71
12	Integration of Znâ€“Ag and Znâ€“Air Batteries: A Hybrid Battery with the Advantages of Both. ACS Applied Materials & Interfaces, 2018, 10, 36873-36881.	8.0	70
13	Modelling of SOEC-FT reactor: Pressure effects on methanation process. Applied Energy, 2017, 185, 814-824.	10.1	66
14	Modeling of CH4-assisted SOEC for H2O/CO2 co-electrolysis. International Journal of Hydrogen Energy, 2016, 41, 21839-21849.	7.1	65
15	Towards online optimisation of solid oxide fuel cell performance: Combining deep learning with multi-physics simulation. Energy and AI, 2020, 1, 100003.	10.6	61
16	Achieving high energy density and efficiency through integration: progress in hybrid zinc batteries. Journal of Materials Chemistry A, 2019, 7, 15564-15574.	10.3	54
17	Toward a new generation of low cost, efficient, and durable metalâ€“air flow batteries. Journal of Materials Chemistry A, 2019, 7, 26744-26768.	10.3	51
18	Thermo-economic modeling and analysis of an NG-fueled SOFC-WGS-TSA-PEMFC hybrid energy conversion system for stationary electricity power generation. Energy, 2020, 192, 116613.	8.8	50

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19	Modeling of direct carbon solid oxide fuel cells withÂH2O and CO2 as gasification agents. International Journal of Hydrogen Energy, 2017, 42, 15641-15651.	7.1	48
20	Performance analysis of a novel SOFC-HCCI engine hybrid system coupled with metal hydride reactor for H2 addition by waste heat recovery. Energy Conversion and Management, 2019, 191, 119-131.	9.2	48
21	Syngas/power cogeneration from proton conducting solid oxide fuel cells assisted by dry methane reforming: A thermal-electrochemical modelling study. Energy Conversion and Management, 2018, 167, 37-44.	9.2	44
22	Investigation on the electrode design of hybrid Zn-Co3O4/air batteries for performance improvements. Electrochimica Acta, 2018, 283, 1028-1036.	5.2	42
23	Dynamic modeling and operation strategy of an NG-fueled SOFC-WGS-TSA-PEMFC hybrid energy conversion system for fuel cell vehicle by using MATLAB/SIMULINK. Energy, 2019, 175, 567-579.	8.8	41
24	Thermal modelling of ethanol-fuelled Solid Oxide Fuel Cells. Applied Energy, 2019, 237, 476-486.	10.1	39
25	A-site deficient perovskite nanofibers boost oxygen evolution reaction for zinc-air batteries. Applied Surface Science, 2021, 536, 147806.	6.1	39
26	Experimental and modeling study of high performance direct carbon solid oxide fuel cell with in situ catalytic steam-carbon gasification reaction. Journal of Power Sources, 2018, 382, 135-143.	7.8	38
27	A direct carbon solid oxide fuel cell fueled with char from wheat straw. International Journal of Energy Research, 2019, 43, 2468-2477.	4.5	38
28	Performance improvement of a direct carbon solid oxide fuel cell system by combining with a Stirling cycle. Energy, 2017, 140, 979-987.	8.8	37
29	Low-energy-consumption electrochemical CO2 capture driven by biomimetic phenazine derivatives redox medium. Applied Energy, 2020, 259, 114119.	10.1	37
30	The thermal effect in direct carbon solid oxide fuel cells. Applied Thermal Engineering, 2017, 118, 652-662.	6.0	36
31	Highly dispersed CuFe-nitrogen active sites electrode for synergistic electrochemical CO2 reduction at low overpotential. Applied Energy, 2020, 269, 115029.	10.1	36
32	Nanoporous NiO/Ni(OH)₂Plates Incorporated with Carbon Nanotubes as Active Materials of Rechargeable Hybrid Zinc Batteries for Improved Energy Efficiency and High-Rate Capability. Journal of the Electrochemical Society, 2018, 165, A2119-A2126.	2.9	35
33	Modeling of Direct Carbon-Assisted Solid Oxide Electrolysis Cell (SOEC) for Syngas Production at Two Different Electrodes. Journal of the Electrochemical Society, 2016, 163, F3029-F3035.	2.9	33
34	Performance improvement of a direct carbon solid oxide fuel cell through integrating an Otto heat engine. Energy Conversion and Management, 2018, 165, 761-770.	9.2	33
35	Achieving a stable zinc electrode with ultralong cycle life by implementing a flowing electrolyte. Journal of Power Sources, 2020, 453, 227856.	7.8	31
36	Plastic waste fuelled solid oxide fuel cell system for power and carbon nanotube cogeneration. International Journal of Hydrogen Energy, 2019, 44, 1867-1876.	7.1	30

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37	Modelling of finger-like channelled anode support for SOFCs application. Science Bulletin, 2016, 61, 1324-1332.	9.0	29
38	Growth of Al and Co co-doped NiO nanosheets on carbon cloth as the air electrode for Zn-air batteries with high cycling stability. Electrochimica Acta, 2018, 290, 21-29.	5.2	29
39	Porous Co3O4 nanoplates as the active material for rechargeable Zn-air batteries with high energy efficiency and cycling stability. Energy, 2019, 166, 1241-1248.	8.8	29
40	Materials development and prospective for protonic ceramic fuel cells. International Journal of Energy Research, 2022, 46, 2212-2240.	4.5	29
41	Thermodynamic assessment of an integrated molten carbonate fuel cell and absorption refrigerator hybrid system for combined power and cooling applications. International Journal of Refrigeration, 2016, 70, 1-12.	3.4	28
42	Combined methane reforming by carbon dioxide and steam in proton conducting solid oxide fuel cells for syngas/power co-generation. International Journal of Hydrogen Energy, 2019, 44, 15313-15321.	7.1	28
43	Modeling of all-porous solid oxide fuel cells with a focus on the electrolyte porosity design. Applied Energy, 2019, 235, 602-611.	10.1	28
44	Autothermal reforming of methane over an integrated solid oxide fuel cell reactor for power and syngas co-generation. Journal of Power Sources, 2021, 513, 230536.	7.8	28
45	Modelling of One-Step Methanation Process Combining SOECs and Fischer-Tropsch-like Reactor. Journal of the Electrochemical Society, 2016, 163, F3001-F3008.	2.9	27
46	Dynamic modeling and operation strategy of natural gas fueled SOFC-Engine hybrid power system with hydrogen addition by metal hydride for vehicle applications. ETransportation, 2020, 5, 100074.	14.8	27
47	Techno-economic evaluation and technology roadmap of the MWe-scale SOFC-PEMFC hybrid fuel cell system for clean power generation. Journal of Cleaner Production, 2020, 255, 120225.	9.3	26
48	Efficiently optimizing the oxygen catalytic properties of the birnessite type manganese dioxide for zinc-air batteries. Journal of Alloys and Compounds, 2021, 852, 157012.	5.5	26
49	A feasible way to handle the heat management of direct carbon solid oxide fuel cells. Applied Energy, 2018, 226, 881-890.	10.1	25
50	Coal pretreatment and Ag-infiltrated anode for high-performance hybrid direct coal fuel cell. Applied Energy, 2020, 260, 114197.	10.1	24
51	A novel design of solid oxide electrolyser integrated with magnesium hydride bed for hydrogen generation and storage â€“ A dynamic simulation study. Applied Energy, 2017, 200, 260-272.	10.1	22
52	A rational design of FeNi alloy nanoparticles and carbonate-decorated perovskite as a highly active and coke-resistant anode for solid oxide fuel cells. Chemical Engineering Journal, 2022, 430, 132615.	12.7	22
53	Exploring oxygen electrocatalytic activity and pseudocapacitive behavior of Co3O4 nanoplates in alkaline solutions. Electrochimica Acta, 2019, 310, 86-95.	5.2	21
54	Low-Energy Electrochemical Carbon Dioxide Capture Based on a Biological Redox Proton Carrier. Cell Reports Physical Science, 2020, 1, 100046.	5.6	21

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55	The thermal effects of all porous solid oxide fuel cells. Journal of Power Sources, 2019, 440, 227102.	7.8	20
56	Cu-modified Ni foams as three-dimensional outer anodes for high-performance hybrid direct coal fuel cells. Chemical Engineering Journal, 2021, 410, 128239.	12.7	20
57	Mn-based spinels evolved from layered manganese dioxides at mild temperature for the robust flexible quasi-solid-state zinc-air batteries. Chemical Engineering Journal, 2021, 417, 129179.	12.7	20
58	Synthesis of Fe₂O₃ Nanoparticle-Decorated N-Doped Reduced Graphene Oxide as an Effective Catalyst for Zn-Air Batteries. Journal of the Electrochemical Society, 2019, 166, A616-A622.	2.9	19
59	Integration of reversible solid oxide cells with methane synthesis (ReSOC-MS) in grid stabilization: A dynamic investigation. Applied Energy, 2019, 250, 558-567.	10.1	17
60	Toward the rational design of cathode and electrolyte materials for aprotic Liâ€CO ₂ batteries: A numerical investigation. International Journal of Energy Research, 2020, 44, 496-507.	4.5	15
61	Numerical modeling of a cogeneration system based on a direct carbon solid oxide fuel cell and a thermophotovoltaic cell. Energy Conversion and Management, 2018, 171, 279-286.	9.2	14
62	Thermodynamic analysis and performance optimization of solid oxide fuel cell and refrigerator hybrid system based on H2 and CO. Applied Thermal Engineering, 2016, 108, 347-352.	6.0	13
63	Numerical investigation of a non-aqueous lithium-oxygen battery based on lithium superoxide as the discharge product. Applied Energy, 2017, 203, 254-266.	10.1	13
64	Robust Anodeâ€Supported Cells with Fast Oxygen Release Channels for Efficient and Stable CO₂ Electrolysis at Ultrahigh Current Densities. Small, 2021, 17, e2007211.	10.0	13
65	Modelling of a hybrid system for on-site power generation from solar fuels. Applied Energy, 2019, 240, 709-718.	10.1	11
66	Optimizing strontium titanate anode in solid oxide fuel cells by ytterbium doping. International Journal of Hydrogen Energy, 2019, 44, 13728-13736.	7.1	11
67	Elucidating the mechanism of discharge performance improvement in zinc-air flow batteries: A combination of experimental and modeling investigations. Journal of Energy Storage, 2021, 40, 102779.	8.1	11
68	Self-supported metal sulfide electrode for flexible quasi-solid-state zinc-air batteries. Journal of Alloys and Compounds, 2021, 878, 160434.	5.5	10
69	Copperâ˜iron dimer for selective Câ€“C coupling in electrochemical CO2 reduction. Electrochimica Acta, 2021, 380, 138188.	5.2	9
70	Cation-Substitution-Tuned Oxygen Electrocatalyst of Spinel Cobaltite MCo₂O₄ (M = Fe, Co, and Ni) Hexagonal Nanoplates for Rechargeable Zn-Air Batteries. Journal of the Electrochemical Society, 2019, 166, A3448-A3455.	2.9	8
71	Achieving high energy efficiency of alkaline hybrid zinc battery by using the optimized Coâ€“Mn spinel cathode. International Journal of Hydrogen Energy, 2022, 47, 27470-27480.	7.1	5
72	Electricity generation by a novel CO2 mineralization cell based on organic proton-coupled electron transfer. Applied Energy, 2020, 261, 114414.	10.1	2