

Feng-Yuan Zhang

List of Publications by Year in descending order

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75
papers

2,999
citations

136740

32
h-index

161609

54
g-index

77
all docs

77
docs citations

77
times ranked

1599
citing authors

#	ARTICLE	IF	CITATIONS
1	Durability of anion exchange membrane water electrolyzers. <i>Energy and Environmental Science</i> , 2021, 14, 3393-3419.	15.6	213
2	Electrochemical performance modeling of a proton exchange membrane electrolyzer cell for hydrogen energy. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 7006-7016.	3.8	165
3	Discovery of true electrochemical reactions for ultrahigh catalyst mass activity in water splitting. <i>Science Advances</i> , 2016, 2, e1600690.	4.7	161
4	Investigation of thin/well-tunable liquid/gas diffusion layers exhibiting superior multifunctional performance in low-temperature electrolytic water splitting. <i>Energy and Environmental Science</i> , 2017, 10, 166-175.	15.6	154
5	Novel thin/tunable gas diffusion electrodes with ultra-low catalyst loading for hydrogen evolution reactions in proton exchange membrane electrolyzer cells. <i>Nano Energy</i> , 2018, 47, 434-441.	8.2	118
6	Thin liquid/gas diffusion layers for high-efficiency hydrogen production from water splitting. <i>Applied Energy</i> , 2016, 177, 817-822.	5.1	101
7	Performance of a metallic gas diffusion layer for PEM fuel cells. <i>Journal of Power Sources</i> , 2008, 176, 293-298.	4.0	88
8	In situ investigation on ultrafast oxygen evolution reactions of water splitting in proton exchange membrane electrolyzer cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 18469-18475.	5.2	87
9	Effects of membrane electrode assembly properties on two-phase transport and performance in proton exchange membrane electrolyzer cells. <i>Electrochimica Acta</i> , 2016, 188, 317-326.	2.6	85
10	Modeling of two-phase transport in proton exchange membrane electrolyzer cells for hydrogen energy. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 4478-4489.	3.8	81
11	Quantitative characterization of catalyst layer degradation in PEM fuel cells by X-ray photoelectron spectroscopy. <i>Electrochimica Acta</i> , 2009, 54, 4025-4030.	2.6	79
12	Additive manufacturing of liquid/gas diffusion layers for low-cost and high-efficiency hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 3128-3135.	3.8	79
13	Bipolar plate development with additive manufacturing and protective coating for durable and high-efficiency hydrogen production. <i>Journal of Power Sources</i> , 2018, 396, 590-598.	4.0	74
14	Fully printed and integrated electrolyzer cells with additive manufacturing for high-efficiency water splitting. <i>Applied Energy</i> , 2018, 215, 202-210.	5.1	69
15	Additive manufactured bipolar plate for high-efficiency hydrogen production in proton exchange membrane electrolyzer cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 14734-14740.	3.8	67
16	A novel PEMEC with 3D printed non-conductive bipolar plate for low-cost hydrogen production from water electrolysis. <i>Energy Conversion and Management</i> , 2019, 182, 108-116.	4.4	65
17	In-situ investigation of bubble dynamics and two-phase flow in proton exchange membrane electrolyzer cells. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 11223-11233.	3.8	62
18	In-situ investigation and modeling of electrochemical reactions with simultaneous oxygen and hydrogen microbubble evolutions in water electrolysis. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 28283-28293.	3.8	59

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19	Thin film surface modifications of thin/tunable liquid/gas diffusion layers for high-efficiency proton exchange membrane electrolyzer cells. <i>Applied Energy</i> , 2017, 206, 983-990.	5.1	58
20	Performance Modeling and Current Mapping of Proton Exchange Membrane Electrolyzer Cells with Novel Thin/Tunable Liquid/Gas Diffusion Layers. <i>Electrochimica Acta</i> , 2017, 255, 405-416.	2.6	56
21	Performance improvement of proton exchange membrane electrolyzer cells by introducing in-plane transport enhancement layers. <i>Electrochimica Acta</i> , 2019, 316, 43-51.	2.6	56
22	Electrochemical investigation of stainless steel corrosion in a proton exchange membrane electrolyzer cell. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 12506-12511.	3.8	54
23	Constructing Ultrathin W-Doped NiFe Nanosheets via Facile Electrosynthesis as Bifunctional Electrocatalysts for Efficient Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 20070-20080.	4.0	54
24	Developing titanium micro/nano porous layers on planar thin/tunable LGDLs for high-efficiency hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 14618-14628.	3.8	52
25	Evaluation of nitrated titanium separator plates for proton exchange membrane electrolyzer cells. <i>Journal of Power Sources</i> , 2014, 272, 954-960.	4.0	51
26	In Situ Characterization of the Catalyst Layer in a Polymer Electrolyte Membrane Fuel Cell. <i>Journal of the Electrochemical Society</i> , 2007, 154, B1152.	1.3	45
27	Investigation of titanium liquid/gas diffusion layers in proton exchange membrane electrolyzer cells. <i>International Journal of Green Energy</i> , 2017, 14, 162-170.	2.1	45
28	Ultrathin platinum nanowire based electrodes for high-efficiency hydrogen generation in practical electrolyzer cells. <i>Chemical Engineering Journal</i> , 2021, 410, 128333.	6.6	40
29	Insights into the rapid two-phase transport dynamics in different structured porous transport layers of water electrolyzers through high-speed visualization. <i>Journal of Power Sources</i> , 2021, 516, 230641.	4.0	39
30	Building Electron/Proton Nanohighways for Full Utilization of Water Splitting Catalysts. <i>Advanced Energy Materials</i> , 2020, 10, 1903871.	10.2	38
31	In-situ visualization of corrosion behavior of Al CoCrFeNi high-entropy alloys during electrochemical polarization. <i>Journal of Alloys and Compounds</i> , 2020, 844, 156014.	2.8	37
32	Wettability effects of thin titanium liquid/gas diffusion layers in proton exchange membrane electrolyzer cells. <i>Electrochimica Acta</i> , 2019, 298, 704-708.	2.6	34
33	Investigation of a copper etching technique to fabricate metallic gas diffusion media. <i>Journal of Micromechanics and Microengineering</i> , 2006, 16, N23-N27.	1.5	32
34	W-induced morphological modification of NiFe layered double hydroxides as efficient electrocatalysts for overall water splitting. <i>Electrochimica Acta</i> , 2021, 395, 139199.	2.6	32
35	Diode-laser tomography for arcjet plume reconstruction. <i>Applied Optics</i> , 2001, 40, 957.	2.1	31
36	Carbon-Supported Nickel Nanoparticles on SiO ₂ Cores for Protein Adsorption and Nitroaromatics Reduction. <i>ACS Applied Nano Materials</i> , 2020, 3, 4623-4634.	2.4	31

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37	High-speed characterization of two-phase flow and bubble dynamics in titanium felt porous media for hydrogen production. <i>Electrochimica Acta</i> , 2021, 370, 137751.	2.6	31
38	Tuning Catalyst Activation and Utilization Via Controlled Electrode Patterning for Low-Loading and High-Efficiency Water Electrolyzers. <i>Small</i> , 2022, 18, e2107745.	5.2	30
39	Diagnostics of an argon arcjet plume with a diode laser. <i>Applied Optics</i> , 1999, 38, 1814.	2.1	25
40	Study on corrosion migrations within catalyst-coated membranes of proton exchange membrane electrolyzer cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 27343-27349.	3.8	24
41	An inkjet-printed capacitive sensor for water level or quality monitoring: investigated theoretically and experimentally. <i>Journal of Materials Chemistry A</i> , 2017, 5, 17841-17847.	5.2	24
42	Optimization of catalyst-coated membranes for enhancing performance in proton exchange membrane electrolyzer cells. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 1155-1162.	3.8	22
43	Mathematical modeling of novel porous transport layer architectures for proton exchange membrane electrolysis cells. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 25341-25354.	3.8	21
44	Exploring the Impacts of Conditioning on Proton Exchange Membrane Electrolyzers by <i>In Situ</i> Visualization and Electrochemistry Characterization. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 9002-9012.	4.0	20
45	Flow dynamics in transient heat transfer of n-decane at supercritical pressure. <i>International Journal of Heat and Mass Transfer</i> , 2017, 115, 206-215.	2.5	19
46	Engineered Thin Diffusion Layers for Anion-Exchange Membrane Electrolyzer Cells with Outstanding Performance. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 50957-50964.	4.0	19
47	All-in-one bipolar electrode: A new concept for compact and efficient water electrolyzers. <i>Nano Energy</i> , 2021, 90, 106551.	8.2	17
48	Direct thermal visualization of micro-scale hydrogen evolution reactions in proton exchange membrane electrolyzer cells. <i>Energy Conversion and Management</i> , 2019, 199, 111935.	4.4	15
49	A simple convertible electrolyzer in membraneless and membrane-based modes for understanding water splitting mechanism. <i>Journal of Power Sources</i> , 2021, 487, 229353.	4.0	15
50	Visualizing highly selective electrochemical CO ₂ reduction on a molecularly dispersed catalyst. <i>Materials Today Physics</i> , 2021, 19, 100427.	2.9	15
51	Experimental studies on the effects of sheet resistance and wettability of catalyst layer on electro-catalytic activities for oxygen evolution reaction in proton exchange membrane electrolysis cells. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 26595-26603.	3.8	14
52	Role of electron pathway in dimensionally increasing water splitting reaction sites in liquid electrolytes. <i>Electrochimica Acta</i> , 2020, 362, 137113.	2.6	13
53	Direct Synthesis of Conformal Layered Protonated Titanate Nanoarray Coatings on Various Substrate Surfaces Boosted by Low-Temperature Microwave-Assisted Hydrothermal Synthesis. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 35164-35174.	4.0	10
54	Morphology engineering of iridium electrodes via modifying titanium substrates with controllable pillar structures for highly efficient oxygen evolution reaction. <i>Electrochimica Acta</i> , 2022, 405, 139797.	2.6	9

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55	High-speed and micro-scale measurements of flow and reaction dynamics for sustainable energy storage. , 2015, , .		8
56	Investigation of titanium felt transport parameters for energy storage and hydrogen/oxygen production. , 2015, , .		8
57	Impacts of catalyst nanolayers on water permeation and swelling of polymer electrolyte membranes. Journal of Power Sources, 2020, 448, 227582.	4.0	8
58	Favorable morphology and electronic conductivity of functional sublayers for highly efficient water splitting electrodes. Journal of Energy Storage, 2021, 36, 102342.	3.9	7
59	Recent progress in in-situ visualization of electrochemical reactions in electrochemical energy devices. Current Opinion in Electrochemistry, 2022, 35, 101088.	2.5	7
60	Experimental Study of Key Issues on Pulse Detonation Engine Development. Transactions of the Japan Society for Aeronautical and Space Sciences, 2003, 45, 243-248.	0.4	6
61	Electrocatalysts: Building Electron/Proton Nanohighways for Full Utilization of Water Splitting Catalysts (Adv. Energy Mater. 16/2020). Advanced Energy Materials, 2020, 10, 2070075.	10.2	3
62	An absorption sensor system for arcjet multi-parameter measurements. Measurement Science and Technology, 2000, 11, N95-N99.	1.4	2
63	Visualization on rapid and micro-scale dynamics of oxygen bubble evolution in PEMECs. , 2017, , .		2
64	Micro/nano manufacturing of novel multifunctional layers for hydrogen production from water splitting. , 2017, , .		2
65	Determination of Parameters in Arcjet Plume by Tomographic Reconstruction. Transactions of the Japan Society for Aeronautical and Space Sciences, 2000, 43, 77-87.	0.4	2
66	Unveiling mechanism of surface-guided platinum nanowire growth. Journal of Materials Science, 2022, 57, 12875-12885.	1.7	2
67	Advanced High Resolution Characterization Techniques for Degradation Studies in Fuel Cells. , 2012, , 365-421.		1
68	Additive manufactured micro-sensor from silver nanoparticles for measuring shear stress and pressure. , 2017, , .		1
69	Direct Visualization of Ultra-Fast and Micro-Scale Bubble Evolutions and Electrochemical Reactions in Proton Exchange Membrane Electrolyzer Cells. ECS Meeting Abstracts, 2019, , .	0.0	1
70	Pore Morphology Effects of Liquid/Gas Diffusion Layers in Proton Exchange Membrane Electrolyzer Cells. ECS Meeting Abstracts, 2019, , .	0.0	1
71	(Invited) In-Situ investigation of Triple-Phase Boundary Electrochemical Reactions in PEM Electrolyzer Cells. ECS Meeting Abstracts, 2017, , .	0.0	0
72	Novel Liquid/Gas Diffusion Layers with Micro/Nano Surface Modifications for High-Efficiency Water Electrolysis. ECS Meeting Abstracts, 2017, , .	0.0	0

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73	3D Printed Bipolar Plate for Water Electrolysis. ECS Meeting Abstracts, 2017, , .	0.0	0
74	Highly Conductive Catalyst with Advanced Manufacturing for Efficient Oxygen Evolution Reaction. ECS Meeting Abstracts, 2019, , .	0.0	0
75	(Invited) Developing Thin and Tunable Catalyst “Coated Liquid/Gas Diffusion Layers with Ultralow Catalyst Loadings. ECS Meeting Abstracts, 2019, , .	0.0	0