

Jian Liu

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120
papers

10,795
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47
h-index

103
g-index

138
ext. papers

12,480
ext. citations

10.7
avg, IF

6.43
L-index

#	Paper	IF	Citations
120	Graphitic carbon nitride materials: controllable synthesis and applications in fuel cells and photocatalysis. <i>Energy and Environmental Science</i> , 2012 , 5, 6717	35.4	1385
119	Platinum single-atom and cluster catalysis of the hydrogen evolution reaction. <i>Nature Communications</i> , 2016 , 7, 13638	17.4	1085
118	Nanoporous graphitic-C ₃ N ₄ @carbon metal-free electrocatalysts for highly efficient oxygen reduction. <i>Journal of the American Chemical Society</i> , 2011 , 133, 20116-9	16.4	869
117	A facile soft-template synthesis of mesoporous polymeric and carbonaceous nanospheres. <i>Nature Communications</i> , 2013 , 4,	17.4	475
116	Tailoring grain boundary structures and chemistry of Ni-rich layered cathodes for enhanced cycle stability of lithium-ion batteries. <i>Nature Energy</i> , 2018 , 3, 600-605	62.3	402
115	Nitrogen doping effects on the structure of graphene. <i>Applied Surface Science</i> , 2011 , 257, 9193-9198	6.7	400
114	Tin Oxide with Controlled Morphology and Crystallinity by Atomic Layer Deposition onto Graphene Nanosheets for Enhanced Lithium Storage. <i>Advanced Functional Materials</i> , 2012 , 22, 1647-1654	15.6	359
113	Mesoporous LiFePO ₄ /C nanocomposite cathode materials for high power lithium ion batteries with superior performance. <i>Advanced Materials</i> , 2010 , 22, 4944-8	24	352
112	Atomic layer deposition of solid-state electrolyte coated cathode materials with superior high-voltage cycling behavior for lithium ion battery application. <i>Energy and Environmental Science</i> , 2014 , 7, 768-778	35.4	284
111	Nitrogen-doped carbon nanotubes as cathode for lithium-air batteries. <i>Electrochemistry Communications</i> , 2011 , 13, 668-672	5.1	237
110	Ultrafine Pt Nanoparticle-Decorated Pyrite-Type CoS ₂ Nanosheet Arrays Coated on Carbon Cloth as a Bifunctional Electrode for Overall Water Splitting. <i>Advanced Energy Materials</i> , 2018 , 8, 1800935	21.8	217
109	Extremely stable platinum nanoparticles encapsulated in a zirconia nanocage by area-selective atomic layer deposition for the oxygen reduction reaction. <i>Advanced Materials</i> , 2015 , 27, 277-81	24	206
108	Highly compact TiO ₂ layer for efficient hole-blocking in perovskite solar cells. <i>Applied Physics Express</i> , 2014 , 7, 052301	2.4	181
107	Significant impact on cathode performance of lithium-ion batteries by precisely controlled metal oxide nanocoatings via atomic layer deposition. <i>Journal of Power Sources</i> , 2014 , 247, 57-69	8.9	178
106	High concentration nitrogen doped carbon nanotube anodes with superior Li ⁺ storage performance for lithium rechargeable battery application. <i>Journal of Power Sources</i> , 2012 , 197, 238-245	8.9	138
105	Rational design of atomic-layer-deposited LiFePO ₄ as a high-performance cathode for lithium-ion batteries. <i>Advanced Materials</i> , 2014 , 26, 6472-7	24	138
104	Highly stable Li _{1.2} Mn _{0.54} Co _{0.13} Ni _{0.13} O ₂ enabled by novel atomic layer deposited AlPO ₄ coating. <i>Nano Energy</i> , 2017 , 34, 120-130	17.1	137

103	Highly stable Zn metal anodes enabled by atomic layer deposited Al ₂ O ₃ coating for aqueous zinc-ion batteries. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 7836-7846	13	136
102	Hierarchically porous LiFePO ₄ /nitrogen-doped carbon nanotubes composite as a cathode for lithium ion batteries. <i>Journal of Materials Chemistry</i> , 2012 , 22, 7537		126
101	Safe and Durable High-Temperature Lithium-Sulfur Batteries via Molecular Layer Deposited Coating. <i>Nano Letters</i> , 2016 , 16, 3545-9	11.5	126
100	Facile controlled synthesis and growth mechanisms of flower-like and tubular MnO ₂ nanostructures by microwave-assisted hydrothermal method. <i>Journal of Colloid and Interface Science</i> , 2012 , 369, 123-8	9.3	122
99	Transition-Metal Phosphides: Activity Origin, Energy-Related Electrocatalysis Applications, and Synthetic Strategies. <i>Advanced Functional Materials</i> , 2020 , 30, 2004009	15.6	122
98	Tuning Zn ²⁺ coordination environment to suppress dendrite formation for high-performance Zn-ion batteries. <i>Nano Energy</i> , 2021 , 80, 105478	17.1	118
97	Elegant design of electrode and electrode/electrolyte interface in lithium-ion batteries by atomic layer deposition. <i>Nanotechnology</i> , 2015 , 26, 024001	3.4	106
96	Atomic Layer Deposition of Lithium Tantalate Solid-State Electrolytes. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 20260-20267	3.8	106
95	Chemical Structure of Nitrogen-Doped Graphene with Single Platinum Atoms and Atomic Clusters as a Platform for the PEMFC Electrode. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 3890-3900	3.8	105
94	Atomic scale enhancement of metal-support interactions between Pt and ZrC for highly stable electrocatalysts. <i>Energy and Environmental Science</i> , 2015 , 8, 1450-1455	35.4	101
93	Structurally tailored graphene nanosheets as lithium ion battery anodes: an insight to yield exceptionally high lithium storage performance. <i>Nanoscale</i> , 2013 , 5, 12607-15	7.7	96
92	Ultrathin atomic layer deposited ZrO ₂ coating to enhance the electrochemical performance of Li ₄ Ti ₅ O ₁₂ as an anode material. <i>Electrochimica Acta</i> , 2013 , 93, 195-201	6.7	93
91	Enhanced Performance of P ₂ -Na _{0.66} (Mn _{0.54} Co _{0.13} Ni _{0.13})O ₂ Cathode for Sodium-Ion Batteries by Ultrathin Metal Oxide Coatings via Atomic Layer Deposition. <i>Advanced Functional Materials</i> , 2017 , 27, 1701870	15.6	92
90	Nanoscale Manipulation of Spinel Lithium Nickel Manganese Oxide Surface by Multisite Ti Occupation as High-Performance Cathode. <i>Advanced Materials</i> , 2017 , 29, 1703764	24	91
89	Unravelling the Role of Electrochemically Active FePO ₄ Coating by Atomic Layer Deposition for Increased High-Voltage Stability of LiNiMnO Cathode Material. <i>Advanced Science</i> , 2015 , 2, 1500022	13.6	89
88	Pseudocapacitive Co ₉ S ₈ /graphene electrode for high-rate hybrid supercapacitors. <i>Carbon</i> , 2019 , 141, 134-142	10.4	85
87	Controllable synthesis of graphene-based titanium dioxide nanocomposites by atomic layer deposition. <i>Nanotechnology</i> , 2011 , 22, 165602	3.4	82
86	Tunable porous structure of metal organic framework derived carbon and the application in lithium-sulfur batteries. <i>Journal of Power Sources</i> , 2016 , 302, 174-179	8.9	81

85	Highly stable Na _{2/3} (Mn _{0.54} Ni _{0.13} Co _{0.13})O ₂ cathode modified by atomic layer deposition for sodium-ion batteries. <i>ChemSusChem</i> , 2015 , 8, 2537-43	8.3	80
84	Non-Aqueous Approach to Synthesize Amorphous/Crystalline Metal Oxide-Graphene Nanosheet Hybrid Composites. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 18330-18337	3.8	70
83	Self-stacked nitrogen-doped carbon nanotubes as long-life air electrode for sodium-air batteries: Elucidating the evolution of discharge product morphology. <i>Nano Energy</i> , 2015 , 12, 698-708	17.1	69
82	Atomic layer deposition of lithium phosphates as solid-state electrolytes for all-solid-state microbatteries. <i>Nanotechnology</i> , 2014 , 25, 504007	3.4	67
81	Atomic layer deposited coatings to significantly stabilize anodes for Li ion batteries: effects of coating thickness and the size of anode particles. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 2306	13	63
80	Size-dependent surface phase change of lithium iron phosphate during carbon coating. <i>Nature Communications</i> , 2014 , 5, 3415	17.4	62
79	Toward a Sodium Air Battery: Revealing the Critical Role of Humidity. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 13433-13441	3.8	58
78	Microwave-assisted hydrothermal synthesis of nanostructured spinel Li ₄ Ti ₅ O ₁₂ as anode materials for lithium ion batteries. <i>Electrochimica Acta</i> , 2012 , 63, 100-104	6.7	54
77	Superior stable sulfur cathodes of Li-S batteries enabled by molecular layer deposition. <i>Chemical Communications</i> , 2014 , 50, 9757-60	5.8	51
76	Enabling High-Energy-Density Cathode for Lithium-Sulfur Batteries. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 23094-23102	9.5	48
75	Atomic layer deposited Li ₄ Ti ₅ O ₁₂ on nitrogen-doped carbon nanotubes. <i>RSC Advances</i> , 2013 , 3, 7285	3.7	47
74	Suppressing Zn dendrite growth by molecular layer deposition to enable long-life and deeply rechargeable aqueous Zn anodes. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 22100-22110	13	47
73	Nitrogen-doped carbon nanotubes with tunable structure and high yield produced by ultrasonic spray pyrolysis. <i>Applied Surface Science</i> , 2011 , 257, 7837-7844	6.7	44
72	High stability and activity of Pt electrocatalyst on atomic layer deposited metal oxide/nitrogen-doped graphene hybrid support. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 15967-15974	6.7	43
71	Atomic Layer Deposited Lithium Silicates as Solid-State Electrolytes for All-Solid-State Batteries. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 31786-31793	9.5	43
70	Atomic layer deposition of amorphous iron phosphates on carbon nanotubes as cathode materials for lithium-ion batteries. <i>Electrochimica Acta</i> , 2015 , 162, 275-281	6.7	42
69	Controlled synthesis of Zirconium Oxide on graphene nanosheets by atomic layer deposition and its growth mechanism. <i>Carbon</i> , 2013 , 52, 74-82	10.4	42
68	Synthesis and characterization of phosphorus/nitrogen doped multiwalled carbon nanotubes. <i>Carbon</i> , 2011 , 49, 5014-5021	10.4	40

67	Atomic/molecular layer deposition for energy storage and conversion. <i>Chemical Society Reviews</i> , 2021 , 50, 3889-3956	58.5	39
66	Formation of size-dependent and conductive phase on lithium iron phosphate during carbon coating. <i>Nature Communications</i> , 2018 , 9, 929	17.4	35
65	Nanoscale stabilization of Li-Sulfur batteries by atomic layer deposited Al ₂ O ₃ . <i>RSC Advances</i> , 2014 , 4, 27126	3.7	33
64	Structural and interface design of hierarchical porous carbon derived from soybeans as anode materials for potassium-ion batteries. <i>Journal of Power Sources</i> , 2020 , 463, 228172	8.9	32
63	Crystallinity-Controlled Synthesis of Zirconium Oxide Thin Films on Nitrogen-Doped Carbon Nanotubes by Atomic Layer Deposition. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 14656-14664	3.8	32
62	Atomic Layer Deposited Non-Noble Metal Oxide Catalyst for Sodium-Air Batteries: Tuning the Morphologies and Compositions of Discharge Product. <i>Advanced Functional Materials</i> , 2017 , 27, 1606662	15.6	30
61	Atomically precise growth of sodium titanates as anode materials for high-rate and ultralong cycle-life sodium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 24281-24288	13	29
60	Engineering interfacial layers to enable Zn metal anodes for aqueous zinc-ion batteries. <i>Energy Storage Materials</i> , 2021 , 43, 317-336	19.4	29
59	Benchmarking Three Ruthenium Phosphide Phases for Electrocatalysis of the Hydrogen Evolution Reaction: Experimental and Theoretical Insights. <i>Chemistry - A European Journal</i> , 2019 , 25, 7826-7830	4.8	28
58	Atomic layer deposited aluminium phosphate thin films on N-doped CNTs. <i>RSC Advances</i> , 2013 , 3, 4492	3.7	26
57	Improving LiNi _{0.9} Co _{0.08} Mn _{0.02} O ₂ cyclic stability via abating mechanical damages. <i>Energy Storage Materials</i> , 2020 , 28, 1-9	19.4	25
56	Study on the hydrogen desorption mechanism of a Mg-V composite prepared by SPS. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 984-989	6.7	25
55	Titanium Dioxide/Lithium Phosphate Nanocomposite Derived from Atomic Layer Deposition as a High-Performance Anode for Lithium Ion Batteries. <i>Advanced Materials Interfaces</i> , 2016 , 3, 1600369	4.6	24
54	The effect of rapid solidification on the microstructure and hydrogen storage properties of V ₃₅ Ti ₂₅ Cr ₄₀ hydrogen storage alloy. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 8094-8100	6.7	23
53	Enhanced reversibility and electrochemical window of Zn-ion batteries with an acetonitrile/water-in-salt electrolyte. <i>Chemical Communications</i> , 2021 , 57, 1246-1249	5.8	22
52	Improving hydrogen storage properties of Laves phase related BCC solid solution alloy by SPS preparation method. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 8597-8602	6.7	21
51	Hierarchically porous carbon from waste coffee grounds for high-performance Li-Be batteries. <i>Electrochimica Acta</i> , 2019 , 325, 134931	6.7	20
50	Visualizing the Oxidation Mechanism and Morphological Evolution of the Cubic-Shaped Superoxide Discharge Product in Na-Air Batteries. <i>Advanced Functional Materials</i> , 2019 , 29, 1808332	15.6	20

49	Perspectives on the Active Sites and Catalyst Design for the Hydrogenation of Dimethyl Oxalate. <i>ACS Catalysis</i> , 2020 , 10, 4465-4490	13.1	20
48	Tracking the Effect of Sodium Insertion/Extraction in Amorphous and Anatase TiO ₂ Nanotubes. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 11773-11782	3.8	19
47	Emerging applications of spark plasma sintering in all solid-state lithium-ion batteries and beyond. <i>Journal of Power Sources</i> , 2018 , 391, 10-25	8.9	19
46	Activation-free synthesis of microporous carbon from polyvinylidene fluoride as host materials for lithium-selenium batteries. <i>Journal of Power Sources</i> , 2019 , 438, 227059	8.9	18
45	Toward 3D Solid-State Batteries via Atomic Layer Deposition Approach. <i>Frontiers in Energy Research</i> , 2018 , 6,	3.8	17
44	Role of graphene in enhancing the mechanical properties of TiO/graphene heterostructures. <i>Nanoscale</i> , 2017 , 9, 11678-11684	7.7	17
43	Atomic Layer Deposition of Hierarchical CNTs@FePO ₄ Architecture as a 3D Electrode for Lithium-Ion and Sodium-Ion Batteries. <i>Advanced Materials Interfaces</i> , 2016 , 3, 1600468	4.6	16
42	Minimizing Polysulfide Shuttle Effect in Lithium-Ion Sulfur Batteries by Anode Surface Passivation. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 21965-21972	9.5	16
41	Hydrogen storage performance of Mg-based composites prepared by spark plasma sintering. <i>Journal of Alloys and Compounds</i> , 2009 , 486, 338-342	5.7	16
40	Intercalation-pseudocapacitance hybrid anode for high rate and energy lithium-ion capacitors. <i>Journal of Energy Chemistry</i> , 2021 , 55, 459-467	12	15
39	A novel approach in controlling the conductivity of thin films using molecular layer deposition. <i>Applied Surface Science</i> , 2015 , 357, 1319-1324	6.7	14
38	Pseudocapacitive Crystalline MnCoO and Amorphous MnCoS Core/Shell Heterostructure with Graphene for High-Performance K-Ion Hybrid Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 54773-54781	9.5	14
37	Potassium-ion battery cathodes: Past, present, and prospects. <i>Journal of Power Sources</i> , 2021 , 484, 22938-22950	10.7	14
36	High-temperature treatment to engineer the single-atom Pt coordination environment towards highly efficient hydrogen evolution. <i>Journal of Energy Chemistry</i> , 2021 , 59, 212-219	12	14
35	Orientation and Ordering of Organic and Hybrid Inorganic Organic Polyurea Films Using Molecular Layer Deposition. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 11757-11764	3.8	13
34	Origin of phase inhomogeneity in lithium iron phosphate during carbon coating. <i>Nano Energy</i> , 2018 , 45, 52-60	17.1	12
33	Template-assisted molten-salt synthesis of hierarchical lithium-rich layered oxide nanowires as high-rate and long-cycling cathode materials. <i>Electrochimica Acta</i> , 2020 , 333, 135558	6.7	12
32	A durable lithium-tellurium battery: Effects of carbon pore structure and tellurium content. <i>Carbon</i> , 2021 , 173, 11-21	10.4	10

31	Deciphering pitting behavior of lithium metal anodes in lithium sulfur batteries. <i>Journal of Energy Chemistry</i> , 2020 , 49, 257-261	12	9
30	Surface modification of nitrogen-doped carbon nanotubes by ozone via atomic layer deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014 , 32, 01A124	2.9	9
29	Lignin-derived hard carbon anode for potassium-ion batteries: Interplay among lignin molecular weight, material structures, and storage mechanisms. <i>Chemical Engineering Journal</i> , 2022 , 427, 131547	14.7	9
28	Enhanced Potassium Storage Performance for K-Te Batteries Electrode Design and Electrolyte Salt Chemistry. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 16345-16354	9.5	8
27	High-performance sodium-selenium batteries enabled by microporous carbon/selenium cathode and fluoroethylene carbonate electrolyte additive. <i>Journal of Power Sources</i> , 2020 , 453, 227855	8.9	7
26	Morphology- and lattice stability-dependent performance of nanostructured Li ₄ Ti ₅ O ₁₂ probed by in situ high-pressure Raman spectroscopy and synchrotron X-ray diffraction. <i>CrystEngComm</i> , 2016 , 18, 736-743	3.3	7
25	Spark Plasma Sintering of Lithium Aluminum Germanium Phosphate Solid Electrolyte and its Electrochemical Properties. <i>Nanomaterials</i> , 2019 , 9,	5.4	7
24	The roles of electrolyte chemistry in hard carbon anode for potassium-ion batteries. <i>Chemical Engineering Journal</i> , 2021 , 427, 130972	14.7	7
23	A facile and low-cost AlO coating as an artificial solid electrolyte interphase layer on graphite/silicon composites for lithium-ion batteries. <i>Nanotechnology</i> , 2021 , 32, 144001	3.4	7
22	The role of spark plasma sintering on the improvement of hydrogen storage properties of Mg-based composites. <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 8080-8087	6.7	6
21	Materials design and fundamental understanding of tellurium-based electrochemistry for rechargeable batteries. <i>Energy Storage Materials</i> , 2021 , 40, 166-188	19.4	6
20	The role of carbon pore structure in tellurium/carbon cathodes for lithium-tellurium batteries. <i>Electrochimica Acta</i> , 2021 , 388, 138621	6.7	5
19	Hydrogen storage properties of Mg ₅₀ vol.%V _{7.4} Zr _{7.4} Ti _{7.4} Ni composite prepared by spark plasma sintering. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 4365-4370	6.7	4
18	Microstructure and ionic conductivity of Li _{1.5} Al _{0.5} Ge _{1.5} (PO ₄) ₃ solid electrolyte prepared by spark plasma sintering. <i>Ceramics International</i> , 2020 , 46, 7634-7641	5.1	4
17	Molecular-layer-deposited tincone: a new hybrid organic-inorganic anode material for three-dimensional microbatteries. <i>Chemical Communications</i> , 2020 , 56, 13221-13224	5.8	4
16	Polyacrylonitrile-Reinforced Composite Gel Polymer Electrolytes for Stable Potassium Metal Anodes.. <i>Small</i> , 2022 , e2107186	11	3
15	Low temperature induced highly stable Zn metal anodes for aqueous zinc-ion batteries. <i>Chemical Communications</i> , 2021 , 57, 11477-11480	5.8	3
14	Nanoscale Al ₂ O ₃ coating to stabilize selenium cathode for sodium-selenium batteries. <i>Journal of Materials Research</i> , 2020 , 35, 747-755	2.5	3

13	Materials and Structure Design for Solid-State Zinc-Ion Batteries: A Mini-Review. <i>Frontiers in Energy Research</i> , 2021 , 8,	3.8	3
12	Eutectic Electrolytes Chemistry for Rechargeable Zn Batteries.. <i>Small</i> , 2022 , e2200550	11	3
11	Investigation of amorphous to crystalline phase transition of sodium titanate by X-ray absorption spectroscopy and scanning transmission X-ray microscopy. <i>Canadian Journal of Chemistry</i> , 2017 , 95, 1163-1169	9.9	2
10	Atomic layer deposited aluminum oxynitride coating for high-performance Si anode in lithium-ion batteries. <i>Applied Surface Science</i> , 2022 , 578, 151982	6.7	2
9	Quasi-solid-state lithium-tellurium batteries based on flexible gel polymer electrolytes. <i>Journal of Colloid and Interface Science</i> , 2022 , 605, 547-555	9.3	2
8	3D Nano-heterostructure of ZnMnO@Graphene-Carbon Microtubes for High-Performance Li-Ion Capacitors. <i>ACS Applied Materials & Interfaces</i> , 2021 ,	9.5	1
7	Platinum single-atom and cluster catalysis of the hydrogen evolution reaction		1
6	Water/acetonitrile hybrid electrolyte enables using smaller ions for achieving superior energy density in carbon-based supercapacitors. <i>Journal of Power Sources</i> , 2021 , 498, 229905	8.9	1
5	Durable Lithium/Selenium Batteries Enabled by the Integration of MOF-Derived Porous Carbon and Alucone Coating. <i>Nanomaterials</i> , 2021 , 11,	5.4	1
4	Waste to Value-Added Product: Developing Electrically Conductive Nanocomposites Using a Non-Recyclable Plastic Waste Containing Vulcanized Rubber. <i>Polymers</i> , 2021 , 13,	4.5	1
3	Characteristics of interface between solid electrolyte and electrode in all-solid-state batteries prepared by spark plasma sintering. <i>Journal of Power Sources</i> , 2022 , 521, 230964	8.9	0
2	High-Performance Potassium-Tellurium Batteries Stabilized by Interface Engineering.. <i>Small</i> , 2022 , e2200085	10.85	0
1	Improving the Stability of Lithium Aluminum Germanium Phosphate with Lithium Metal by Interface Engineering. <i>Nanomaterials</i> , 2022 , 12, 1912	5.4	