Jia-Jun Wang

List of Publications by Year
in descending order

71 papers	3,628 citations	117625 34 h-index	138484 58 g-index
73 all docs	73 docs citations	73 times ranked	3464 citing authors

#	Article	IF	Citations
1	Interface Issues and Challenges in Allâ€Solidâ€State Batteries: Lithium, Sodium, and Beyond. Advanced Materials, 2021, 33, e2000721.	21.0	248
2	Surface regulation enables high stability of single-crystal lithium-ion cathodes at high voltage. Nature Communications, 2020, 11, 3050.	12.8	225
3	In operando tracking phase transformation evolution of lithium iron phosphate with hard X-ray microscopy. Nature Communications, 2014, 5, 4570.	12.8	155
4	In Operando XRD and TXM Study on the Metastable Structure Change of NaNi_{1/3}Fe_{1/3}Mn_{1/3}O₂ under Electrochemical Sodiumâ€Ion Intercalation. Advanced Energy Materials, 2016, 6, 1601306.	19.5	147
5	Synergistically coupling of 3D FeNi-LDH arrays with Ti3C2Tx-MXene nanosheets toward superior symmetric supercapacitor. Nano Energy, 2022, 91, 106633.	16.0	127
6	Probing three-dimensional sodiationâ€“desodiation equilibrium in sodium-ion batteries by in situ hard X-ray nanotomography. Nature Communications, 2015, 6, 7496.	12.8	123
7	Insights into interfacial effect and local lithium-ion transport in polycrystalline cathodes of solid-state batteries. Nature Communications, 2020, 11, 5700.	12.8	122
8	Tiâ€Based Oxide Anode Materials for Advanced Electrochemical Energy Storage: Lithium/Sodium Ion Batteries and Hybrid Pseudocapacitors. Small, 2019, 15, e1904740.	10.0	121
9	Visualization of anisotropic-isotropic phase transformation dynamics in battery electrode particles. Nature Communications, 2016, 7, 12372.	12.8	113
10	Inâ€…Situ Threeâ€Dimensional Synchrotron Xâ€Ray Nanotomography of the (De)lithiation Processes in Tin Anodes. Angewandte Chemie - International Edition, 2014, 53, 4460-4464.	13.8	105
11	Unravelling the origin of irreversible capacity loss in NaNiO2 for high voltage sodium ion batteries. Nano Energy, 2017, 34, 215-223.	16.0	94
12	In situ chemical mapping of a lithium-ion battery using full-field hard X-ray spectroscopic imaging. Chemical Communications, 2013, 49, 6480.	4.1	87
13	Synergistic engineering of defects and architecture in Co3O4@C nanosheets toward Li/Na ion batteries with enhanced pseudocapacitances. Nano Energy, 2020, 78, 105366.	16.0	86
14	Bifunctional LaMn_{0.3}Co_{0.7}O₃ Perovskite Oxide Catalyst for Oxygen Reduction and Evolution Reactions: The Optimized e_g Electronic Structures by Manganese Dopant. ACS Applied Materials & Interfaces, 2020, 12, 24717-24725.	8.0	85
15	Visualization of electrochemically driven solid-state phase transformations using operando hard X-ray spectro-imaging. Nature Communications, 2015, 6, 6883.	12.8	80
16	Structural Distortion Induced by Manganese Activation in a Lithium-Rich Layered Cathode. Journal of the American Chemical Society, 2020, 142, 14966-14973.	13.7	79
17	A dual-salt coupled fluoroethylene carbonate succinonitrile-based electrolyte enables Li-metal batteries. Journal of Materials Chemistry A, 2020, 8, 2066-2073.	10.3	75
18	Emerging X-ray imaging technologies for energy materials. Materials Today, 2020, 34, 132-147.	14.2	70

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19	Dendrites in Solidâ€State Batteries: Ion Transport Behavior, Advanced Characterization, and Interface Regulation. Advanced Energy Materials, 2021, 11, 2003250.	19.5	69
20	Multi-scale Imaging of Solid-State Battery Interfaces: From Atomic Scale to Macroscopic Scale. CheM, 2020, 6, 2199-2218.	11.7	64
21	Elucidating the Irreversible Mechanism and Voltage Hysteresis in Conversion Reaction for Highâ€Energy Sodiumâ€"Metal Sulfide Batteries. Advanced Energy Materials, 2017, 7, 1602706.	19.5	61
22	Understanding the initial irreversibility of metal sulfides for sodium-ion batteries via operando techniques. Nano Energy, 2018, 43, 184-191.	16.0	61
23	Origin of hetero-nuclear Au-Co dual atoms for efficient acidic oxygen reduction. Applied Catalysis B: Environmental, 2022, 301, 120782.	20.2	57
24	Inducing uniform lithium nucleation by integrated lithium-rich li-in anode with lithiophilic 3D framework. Energy Storage Materials, 2020, 33, 423-431.	18.0	56
25	Probing Battery Electrochemistry with In Operando Synchrotron Xâ€Ray Imaging Techniques. Small Methods, 2018, 2, 1700293.	8.6	52
26	A bifunctional perovskite oxide catalyst: The triggered oxygen reduction/evolution electrocatalysis by moderated Mn-Ni co-doping. Journal of Energy Chemistry, 2021, 54, 217-224.	12.9	49
27	In-situ thermal polymerization boosts succinonitrile-based composite solid-state electrolyte for high performance Li-metal battery. Journal of Power Sources, 2021, 496, 229861.	7.8	49
28	Triggering ambient polymer-based Li-O2 battery via photo-electro-thermal synergy. Nano Energy, 2022, 98, 107248.	16.0	47
29	Stable Silicon Anodes by Molecular Layer Deposited Artificial Zincone Coatings. Advanced Functional Materials, 2021, 31, 2010526.	14.9	46
30	Pseudocapacitive Li+ storage boosts ultrahigh rate performance of structure-tailored CoFe2O4@Fe2O3 hollow spheres triggered by engineered surface and near-surface reactions. Nano Energy, 2019, 66, 104179.	16.0	45
31	Ultrafine CoO nanoparticles as an efficient cocatalyst for enhanced photocatalytic hydrogen evolution. Nanoscale, 2019, 11, 15633-15640.	5.6	44
32	Mechanistic Insights into the Structural Modulation of Transition Metal Selenides to Boost Potassium Ion Storage Stability. ACS Nano, 2021, 15, 14697-14708.	14.6	44
33	Anisotropically Electrochemicalâ€"Mechanical Evolution in Solidâ€State Batteries and Interfacial Tailored Strategy. Angewandte Chemie - International Edition, 2019, 58, 18647-18653.	13.8	43
34	Solid-state batteries: from fundamental interface characterization to realize sustainable promise. Rare Metals, 2020, 39, 743-744.	7.1	39
35	Reversible Silicon Anodes with Long Cycles by Multifunctional Volumetric Buffer Layers. ACS Applied Materials & Interfaces, 2021, 13, 4093-4101.	8.0	34
36	Unraveling the Origins of the â€œUnreactive Coreâ€• in Conversion Electrodes to Trigger High Sodium-Ion Electrochemistry. ACS Energy Letters, 2019, 4, 2007-2012.	17.4	33

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37	Uncovering the design principle of conversion-based anode for potassium ion batteries via dimension engineering. Energy Storage Materials, 2021, 34, 536-544.	18.0	33
38	Uncovering the underlying science behind dimensionality in the potassium battery regime. Energy Storage Materials, 2020, 25, 416-425.	18.0	30
39	Coupling two-dimensional fillers with polymer chains in solid polymer electrolyte for room-temperature dendrite-free lithium-metal batteries. Energy Storage Materials, 2021, 43, 358-364.	18.0	30
40	Surfaceâ€toâ€Bulk Synergistic Modification of Single Crystal Cathode Enables Stable Cycling of Sulfideâ€Based Allâ€Solidâ€State Batteries at 4.4 V. Advanced Energy Materials, 2022, 12, .	19.5	30
41	Shedding X-ray Light on the Interfacial Electrochemistry of Silicon Anodes for Li-Ion Batteries. Accounts of Chemical Research, 2019, 52, 2673-2683.	15.6	25
42	Coral-like S-doped CoSe2 with enriched 1T-phase as efficient electrocatalyst for hydrogen evolution reaction. Electrochimica Acta, 2019, 322, 134739.	5.2	25
43	An Interphase-enhanced Liquid Na-K Anode for Dendrite-free Alkali Metal Batteries Enabled by SiCl4 Electrolyte Additive. Energy Storage Materials, 2021, 37, 199-206.	18.0	25
44	Insights into enhanced sodium ion storage mechanism in Fe3S4: The coupling of surface chemistry, microstructural regulation and 3D electronic transport. Nano Energy, 2019, 62, 384-392.	16.0	24
45	Stable lithium anode enabled by biphasic hybrid SEI layer toward high-performance lithium metal batteries. Chemical Engineering Journal, 2022, 433, 133570.	12.7	24
46	Investigating the Origin of the Enhanced Sodium Storage Capacity of Transition Metal Sulfide Anodes in Etherâ€Based Electrolytes. Advanced Functional Materials, 2022, 32, .	14.9	24
47	Constructing Interfacial Nanolayer Stabilizes 4.3 V Highâ€Voltage Allâ€Solidâ€State Lithium Batteries with PEOâ€Based Solidâ€State Electrolyte. Advanced Functional Materials, 2022, 32, .	14.9	23
48	Flame-Retardant and Polysulfide-Suppressed Ether-Based Electrolytes for High-Temperature Liâ€"S Batteries. ACS Applied Materials & Interfaces, 2021, 13, 38296-38304.	8.0	21
49	Regulating Li deposition by constructing homogeneous LiF protective layer for high-performance Li metal anode. Chemical Engineering Journal, 2022, 427, 131625.	12.7	21
50	A novel coral-like garnet for high-performance PEO-based all solid-state batteries. Science China Materials, 2022, 65, 364-372.	6.3	20
51	Stabilizing Lithium Metal Anode Enabled by a Natural Polymer Layer for Lithiumâ€"Sulfur Batteries. ACS Applied Materials & Interfaces, 2021, 13, 28252-28260.	8.0	19
52	Rapid Prediction of the Open-Circuit-Voltage of Lithium Ion Batteries Based on an Effective Voltage Relaxation Model. Energies, 2018, 11, 3444.	3.1	18
53	Investigation of an Anode Catalyst for a Direct Dimethyl Ether Fuel Cell. Energy & Fuels, 2009, 23, 903-907.	5.1	17
54	Fast lithium transport kinetics regulated by low energy-barrier LixMnO2 for long-life lithium metal batteries. Energy Storage Materials, 2021, 41, 1-7.	18.0	15

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55	Tracking Battery Dynamics by Operando Synchrotron X-ray Imaging: Operation from Liquid Electrolytes to Solid-State Electrolytes. Accounts of Materials Research, 2021, 2, 1177-1189.	11.7	15
56	High-dimensional and high-resolution x-ray tomography for energy materials science. MRS Bulletin, 2020, 45, 283-289.	3.5	13
57	Flyash/polymer composite electrolyte with internal binding interaction enables highly-stable extrinsic-interfaces of all-solid-state lithium batteries. Chemical Engineering Journal, 2022, 428, 131041.	12.7	13
58	Construction of polysulfides defense system for greatly improving the long cycle life of metal sulfide anodes for sodium-ion batteries. Journal of Energy Chemistry, 2022, 71, 210-217.	12.9	13
59	Anisotropically Electrochemicalâ€"Mechanical Evolution in Solidâ€State Batteries and Interfacial Tailored Strategy. Angewandte Chemie, 2019, 131, 18820-18826.	2.0	12
60	Unraveling the advances of trace doping engineering for potassium ion battery anodes via tomography. Journal of Energy Chemistry, 2021, 58, 355-363.	12.9	12
61	Unraveling the Relationship between Ti⁴⁺ Doping and Li⁺ Mobility Enhancement in Ti⁴⁺ Doped Li₃V₂(PO₄)₃. ACS Applied Energy Materials, 2020, 3, 715-722.	5.1	11
62	One-dimensional channel to trigger high-performance sodium-ion battery via doping engineering. Nano Energy, 2021, 84, 105875.	16.0	11
63	Deactivated Pt Electrocatalysts for the Oxygen Reduction Reaction: The Regeneration Mechanism and a Regenerative Protocol. ACS Catalysis, 2021, 11, 9293-9299.	11.2	11
64	Hierarchical NiMn/NiMn-LDH/ppy-C induced by a novel phase-transformation activation process for long-life supercapacitor. Journal of Colloid and Interface Science, 2022, 622, 1020-1028.	9.4	9
65	Deactivation and regeneration of a benchmark Pt/C catalyst toward oxygen reduction reaction in the presence of poisonous SO₂ and NO. Catalysis Science and Technology, 2022, 12, 2929-2934.	4.1	8
66	Low-cost and facile synthesis of LAGP solid state electrolyte via a co-precipitation method. Applied Physics Letters, 2022, 121, 023904.	3.3	8
67	Tailoring Porous Transition Metal Oxide for High-Performance Lithium Storage. Journal of Physical Chemistry C, 2021, 125, 22435-22445.	3.1	7
68	Developing a Double Protection Strategy for High-Performance Spinel LiNi_{0.5}Mn_{1.5}O₄ Cathodes. ACS Applied Energy Materials, 2022, 5, 6401-6409.	5.1	6
69	Surface/Nearâ€Surface Structure of Highly Active and Durable Ptâ€Based Catalysts for Oxygen Reduction Reaction: A Review. Advanced Energy and Sustainability Research, 2021, 2, 2100025.	5.8	4
70	Nanocomposite of platinum and prussian blue: A highly active and stable electrocatalyst towards oxygen reduction reaction in acidic media. International Journal of Hydrogen Energy, 2021, 46, 30718-30726.	7.1	2
71	Principles and Applications of Industrial X-ray Computed Tomography. , 2021, , 179-204.		0