

Zhenpeng Yao

List of Publications by Year in descending order

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56
papers

3,514
citations

172457

29
h-index

175258

52
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65
all docs

65
docs citations

65
times ranked

4076
citing authors

#	ARTICLE	IF	CITATIONS
1	Rational design of layered oxide materials for sodium-ion batteries. <i>Science</i> , 2020, 370, 708-711.	12.6	616
2	Interface chemistry of an amide electrolyte for highly reversible lithium metal batteries. <i>Nature Communications</i> , 2020, 11, 4188.	12.8	226
3	Revealing High Na-Content P2-Type Layered Oxides as Advanced Sodium-Ion Cathodes. <i>Journal of the American Chemical Society</i> , 2020, 142, 5742-5750.	13.7	206
4	Inverse design of nanoporous crystalline reticular materials with deep generative models. <i>Nature Machine Intelligence</i> , 2021, 3, 76-86.	16.0	172
5	Machine learning the quantum-chemical properties of metal-organic frameworks for accelerated materials discovery. <i>Matter</i> , 2021, 4, 1578-1597.	10.0	170
6	Data-Driven Strategies for Accelerated Materials Design. <i>Accounts of Chemical Research</i> , 2021, 54, 849-860.	15.6	168
7	Electrochemistry of Selenium with Sodium and Lithium: Kinetics and Reaction Mechanism. <i>ACS Nano</i> , 2016, 10, 8788-8795.	14.6	155
8	Intermediate phases in sodium intercalation into MoS ₂ nanosheets and their implications for sodium-ion batteries. <i>Nano Energy</i> , 2017, 38, 342-349.	16.0	151
9	Enabling the high capacity of lithium-rich anti-fluorite lithium iron oxide by simultaneous anionic and cationic redox. <i>Nature Energy</i> , 2017, 2, 963-971.	39.5	140
10	Identification Schemes for Metal-Organic Frameworks To Enable Rapid Search and Cheminformatics Analysis. <i>Crystal Growth and Design</i> , 2019, 19, 6682-6697.	3.0	123
11	Niobium-doped layered cathode material for high-power and low-temperature sodium-ion batteries. <i>Nature Communications</i> , 2022, 13, .	12.8	85
12	Self-Optimized Metal-Organic Framework Electrocatalysts with Structural Stability and High Current Tolerance for Water Oxidation. <i>ACS Catalysis</i> , 2021, 11, 7132-7143.	11.2	77
13	Ti Substitution Facilitating Oxygen Oxidation in Na ₂ /3Mg ₁ /3Ti ₁ /6Mn ₁ /2O ₂ Cathode. <i>CheM</i> , 2019, 5, 2913-2925.	11.7	75
14	Direct Observation of Defect-Aided Structural Evolution in a Nickel-Rich Layered Cathode. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 22092-22099.	13.8	75
15	In Situ Atomic-Scale Observation of Reversible Potassium Storage in Sb ₂ S ₃ @Carbon Nanowire Anodes. <i>Advanced Functional Materials</i> , 2020, 30, 2005417.	14.9	75
16	Dynamic imaging of crystalline defects in lithium-manganese oxide electrodes during electrochemical activation to high voltage. <i>Nature Communications</i> , 2019, 10, 1692.	12.8	68
17	Kinetically-Driven Phase Transformation during Lithiation in Copper Sulfide Nanoflakes. <i>Nano Letters</i> , 2017, 17, 5726-5733.	9.1	67
18	Discovery of Calcium-Metal Alloy Anodes for Reversible Ca-Ion Batteries. <i>Advanced Energy Materials</i> , 2019, 9, 1802994.	19.5	61

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19	Revealing the Conversion Mechanism of Transition Metal Oxide Electrodes during Lithiation from First-Principles. <i>Chemistry of Materials</i> , 2017, 29, 9011-9022.	6.7	60
20	Interplay of cation and anion redox in $\text{Li}_4\text{Mn}_2\text{O}_5$ cathode material and prediction of improved $\text{Li}_4(\text{Mn,M})_2\text{O}_5$ electrodes for Li-ion batteries. <i>Science Advances</i> , 2018, 4, eaao6754.	10.3	58
21	Theory-guided experimental design in battery materials research. <i>Science Advances</i> , 2022, 8, eabm2422.	10.3	52
22	Multistep Lithiation of Tin Sulfide: An Investigation Using <i>In Situ</i> Electron Microscopy. <i>ACS Nano</i> , 2018, 12, 3638-3645.	14.6	50
23	Strain-Induced Metastable Phase Stabilization in Ga_2O_3 Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 5536-5543.	8.0	42
24	Atomic-Scale Observation of Electrochemically Reversible Phase Transformations in SnSe_2 Single Crystals. <i>Advanced Materials</i> , 2018, 30, e1804925.	21.0	38
25	A high-performance anode material based on FeMnO_3 /graphene composite. <i>Journal of Alloys and Compounds</i> , 2017, 695, 1223-1230.	5.5	34
26	Unblocking Oxygen Charge Compensation for Stabilized High-Voltage Structure in P_2 -Type Sodium-Ion Cathode. <i>Advanced Science</i> , 2022, 9, e2200498.	11.2	32
27	First-Principles Study of Lithium Cobalt Spinel Oxides: Correlating Structure and Electrochemistry. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 13479-13490.	8.0	31
28	<i>In Situ</i> Electron Microscopy Investigation of Sodiation of Titanium Disulfide Nanoflakes. <i>ACS Nano</i> , 2019, 13, 9421-9430.	14.6	30
29	Origin of Fracture-Resistance to Large Volume Change in Cu -Substituted Co_3O_4 Electrodes. <i>Advanced Materials</i> , 2018, 30, 1704851.	21.0	29
30	Revealing the Effects of Electrode Crystallographic Orientation on Battery Electrochemistry <i>via</i> the Anisotropic Lithiation and Sodiation of ReS_2 . <i>ACS Nano</i> , 2018, 12, 7875-7882.	14.6	28
31	Constructing Na-Ion Cathodes via Alkali-Site Substitution. <i>Advanced Functional Materials</i> , 2020, 30, 1910840.	14.9	28
32	Probing Electrochemically Induced Structural Evolution and Oxygen Redox Reactions in Layered Lithium Iridate. <i>Chemistry of Materials</i> , 2019, 31, 4341-4352.	6.7	26
33	Dynamic imaging of metastable reaction pathways in lithiated cobalt oxide electrodes. <i>Nano Energy</i> , 2018, 44, 15-22.	16.0	24
34	<i>In Situ</i> , Atomic-Resolution Observation of Lithiation and Sodiation of WS_2 Nanoflakes: Implications for Lithium-Ion and Sodium-Ion Batteries. <i>Small</i> , 2021, 17, e2100637.	10.0	22
35	Artificial Neuron Networks Enabled Identification and Characterizations of 2D Materials and van der Waals Heterostructures. <i>ACS Nano</i> , 2022, 16, 2721-2729.	14.6	22
36	Expanded lithiation of titanium disulfide: Reaction kinetics of multi-step conversion reaction. <i>Nano Energy</i> , 2019, 63, 103882.	16.0	21

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37	Computational Discovery of Stable Heteroanionic Oxychalcogenides ABXO (A, B = Metals; X = S, Se, and Tl) <i>ETQq1</i> 1.0.784314 rgBT / OX	6.7	21
38	Frank-van der Merwe growth in bilayer graphene. <i>Matter</i> , 2021, 4, 3339-3353.	10.0	20
39	Direct Observation of Defect-Aided Structural Evolution in a Nickel-Rich Layered Cathode. <i>Angewandte Chemie</i> , 2020, 132, 22276-22283.	2.0	15
40	Stability and conductivity of cation- and anion-substituted LiBH_4 -based solid-state electrolytes. <i>Physical Review Materials</i> , 2018, 2, .	2.0	15
41	All roads lead to Rome: Sodiation of different-stacked SnS ₂ . <i>Nano Energy</i> , 2020, 67, 104276.	16.0	14
42	On the irreversible sodiation of tin disulfide. <i>Nano Energy</i> , 2021, 79, 105458.	16.0	14
43	Quaternary Pavanites $\text{A}_{1-x}\text{Sn}_2\text{Bi}_{5-x}\text{S}_{10}$ ($A^{\text{sup}} + \text{Na}^{\text{sup}}$): Site Occupancy Disorder Defines Electronic Structure. <i>Inorganic Chemistry</i> , 2018, 57, 2260-2268.	4.0	12
44	Cubine, a Quasi Two-Dimensional Copper-Bismuth Nanosheet. <i>Chemistry of Materials</i> , 2017, 29, 9819-9828.	6.7	11
45	Stable bismuth-antimony alloy cathode with a conversion-dissolution/deposition mechanism for high-performance zinc batteries. <i>Materials Today</i> , 2021, 51, 87-95.	14.2	10
46	Exploring the Origin of Anionic Redox Activity in Super Li-Rich Iron Oxide-Based High-Energy-Density Cathode Materials. <i>Chemistry of Materials</i> , 2022, 34, 4536-4547.	6.7	10
47	Accelerated discovery of boron-dipyrromethene sensitizer for solar cells by integrating data mining and first principle. <i>Journal of Materiomics</i> , 2021, 7, 790-801.	5.7	7
48	Fast and extensive intercalation chemistry in Wadsley-Roth phase based high-capacity electrodes. <i>Journal of Energy Chemistry</i> , 2022, 69, 601-611.	12.9	6
49	Toward MXene interconnects. <i>Matter</i> , 2021, 4, 1447-1449.	10.0	5
50	Kinetics of Sodium and Selenium Reactions in Sodium Ion Batteries. <i>Microscopy and Microanalysis</i> , 2016, 22, 826-829.	0.4	4
51	Lithium-Ion Batteries: Atomic-Scale Observation of Electrochemically Reversible Phase Transformations in SnSe ₂ Single Crystals (<i>Adv. Mater.</i> 51/2018). <i>Advanced Materials</i> , 2018, 30, 1870393.	21.0	4
52	Anisotropic Lithiation and Sodiation of ReS ₂ Studied by In-situ TEM. <i>Microscopy and Microanalysis</i> , 2018, 24, 1570-1571.	0.4	2
53	Atomic-resolution in-situ TEM Studies of Lithium Electrochemistry in Co ₃ O ₄ -Carbon Nanotube Nanocomposite. <i>Microscopy and Microanalysis</i> , 2016, 22, 762-763.	0.4	0
54	In-situ Electron Diffraction Studies of Sodium Electrochemistry in MoS ₂ . <i>Microscopy and Microanalysis</i> , 2017, 23, 2050-2051.	0.4	0

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55	In-situ Investigation of Multi-Step Lithiation of Tin Sulfide. <i>Microscopy and Microanalysis</i> , 2018, 24, 1864-1865.	0.4	0
56	Lithium/Sodium-Ion Batteries: In Situ, Atomic-Resolution Observation of Lithiation and Sodiation of WS ₂ Nanoflakes: Implications for Lithium-Ion and Sodium-Ion Batteries (<i>Small</i> 24/2021). <i>Small</i> , 2021, 17, 2170120.	10.0	0