

Xiang Liu

List of Publications by Year in descending order

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39
papers

4,919
citations

201385

27
h-index

329751

37
g-index

39
all docs

39
docs citations

39
times ranked

3500
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal runaway mechanism of lithium ion battery for electric vehicles: A review. <i>Energy Storage Materials</i> , 2018, 10, 246-267.	9.5	1,939
2	Thermal Runaway of Lithium-Ion Batteries without Internal Short Circuit. <i>Joule</i> , 2018, 2, 2047-2064.	11.7	442
3	Investigating the thermal runaway mechanisms of lithium-ion batteries based on thermal analysis database. <i>Applied Energy</i> , 2019, 246, 53-64.	5.1	358
4	Building ultraconformal protective layers on both secondary and primary particles of layered lithium transition metal oxide cathodes. <i>Nature Energy</i> , 2019, 4, 484-494.	19.8	345
5	Model-based thermal runaway prediction of lithium-ion batteries from kinetics analysis of cell components. <i>Applied Energy</i> , 2018, 228, 633-644.	5.1	241
6	Challenges and Strategies to Advance High-Energy Nickel-Rich Layered Lithium Transition Metal Oxide Cathodes for Harsh Operation. <i>Advanced Functional Materials</i> , 2020, 30, 2004748.	7.8	146
7	Probing the Thermal-Driven Structural and Chemical Degradation of Ni-Rich Layered Cathodes by Co/Mn Exchange. <i>Journal of the American Chemical Society</i> , 2020, 142, 19745-19753.	6.6	122
8	Porous Co ₂ VO ₄ Nanodisk as a High-Energy and Fast-Charging Anode for Lithium-Ion Batteries. <i>Nano-Micro Letters</i> , 2022, 14, 5.	14.4	93
9	Kinetic Limitations in Single-Crystal High-Nickel Cathodes. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 17350-17355.	7.2	84
10	Suppressing electrolyte-lithium metal reactivity via Li ⁺ -desolvation in uniform nano-porous separator. <i>Nature Communications</i> , 2022, 13, 172.	5.8	83
11	Development of cathode-electrolyte-interphase for safer lithium batteries. <i>Energy Storage Materials</i> , 2021, 37, 77-86.	9.5	78
12	In situ observation of thermal-driven degradation and safety concerns of lithiated graphite anode. <i>Nature Communications</i> , 2021, 12, 4235.	5.8	74
13	Unlocking the self-supported thermal runaway of high-energy lithium-ion batteries. <i>Energy Storage Materials</i> , 2021, 39, 395-402.	9.5	74
14	Toward a high-voltage fast-charging pouch cell with TiO ₂ cathode coating and enhanced battery safety. <i>Nano Energy</i> , 2020, 71, 104643.	8.2	72
15	Full Concentration Gradient-Tailored Li-Rich Layered Oxides for High-Energy Lithium-Ion Batteries. <i>Advanced Materials</i> , 2021, 33, e2001358.	11.1	65
16	Entropy and crystal-facet modulation of P2-type layered cathodes for long-lasting sodium-based batteries. <i>Nature Communications</i> , 2022, 13, .	5.8	61
17	High-Voltage and High-Safety Practical Lithium Batteries with Ethylene Carbonate-Free Electrolyte. <i>Advanced Energy Materials</i> , 2021, 11, 2102299.	10.2	59
18	Origin and regulation of oxygen redox instability in high-voltage battery cathodes. <i>Nature Energy</i> , 2022, 7, 808-817.	19.8	55

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19	Simultaneously Blocking Chemical Crosstalk and Internal Short Circuit via Gelâ€Stretching Derived Nanoporous Nonâ€Shrinkage Separator for Safe Lithiumâ€Ion Batteries. <i>Advanced Materials</i> , 2022, 34, e2106335.	11.1	51
20	In-built ultraconformal interphases enable high-safety practical lithium batteries. <i>Energy Storage Materials</i> , 2021, 43, 248-257.	9.5	49
21	A Cr ₂ O ₃ /MWCNTs composite as a superior electrode material for supercapacitor. <i>RSC Advances</i> , 2017, 7, 25019-25024.	1.7	39
22	Electrolytes Polymerizationâ€Induced Cathodeâ€Electrolyteâ€Interphase for High Voltage Lithiumâ€Ion Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2101956.	10.2	39
23	Chemistry Design Towards a Stable Sulfideâ€Based Superionic Conductor Li ₄ Cu ₈ Ge ₃ S ₁₂ . <i>Angewandte Chemie - International Edition</i> , 2019, 58, 7673-7677.	7.2	37
24	Uncommon Behavior of Li Doping Suppresses Oxygen Redox in P2â€Type Manganeseâ€Rich Sodium Cathodes. <i>Advanced Materials</i> , 2021, 33, e2107141.	11.1	34
25	In-depth investigation of the exothermic reactions between lithiated graphite and electrolyte in lithium-ion battery. <i>Journal of Energy Chemistry</i> , 2022, 69, 593-600.	7.1	34
26	Solid-State Synthesis of Highly Dispersed Nitrogen-Coordinated Single Iron Atom Electrocatalysts for Proton Exchange Membrane Fuel Cells. <i>Nano Letters</i> , 2021, 21, 3633-3639.	4.5	32
27	Enabling Highâ€Performance NASICONâ€Based Solidâ€State Lithium Metal Batteries Towards Practical Conditions. <i>Advanced Functional Materials</i> , 2021, 31, 2102765.	7.8	32
28	Boosting Superior Lithium Storage Performance of Alloyâ€Based Anode Materials via Ultraconformal Sb Coatingâ€Derived Favorable Solidâ€Electrolyte Interphase. <i>Advanced Energy Materials</i> , 2020, 10, 1903186.	10.2	29
29	<i>in Situ</i> Construction of an Ultrarobust and Lithiophilic Li-Enriched Liâ€N Nanoshield for High-Performance Ge-Based Anode Materials. <i>ACS Energy Letters</i> , 2020, 5, 3490-3497.	8.8	29
30	Native lattice strain induced structural earthquake in sodium layered oxide cathodes. <i>Nature Communications</i> , 2022, 13, 436.	5.8	29
31	A general strategy for batch development of high-performance and cost-effective sodium layered cathodes. <i>Nano Energy</i> , 2021, 89, 106371.	8.2	22
32	Multiscale Understanding of Surface Structural Effects on Highâ€Temperature Operational Resiliency of Layered Oxide Cathodes. <i>Advanced Materials</i> , 2022, 34, e2107326.	11.1	21
33	â€Rose Flowersâ€assembled from mesoporous NiFe ₂ O ₄ nanosheets for energy storage devices. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 14058-14068.	1.1	20
34	Nanomaterials for the electrochemical nitrogen reduction reaction under ambient conditions. <i>Nanoscale Advances</i> , 2021, 3, 5525-5541.	2.2	13
35	Chemistry Design Towards a Stable Sulfideâ€Based Superionic Conductor Li ₄ Cu ₈ Ge ₃ S ₁₂ . <i>Angewandte Chemie</i> , 2019, 131, 7755-7759.	1.6	9
36	Kinetic analysis of anaerobic phosphorus release during biological phosphorus removal process. <i>Frontiers of Environmental Science and Engineering in China</i> , 2007, 1, 233-239.	0.8	5

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37	A Study on Anaerobic Biodegradation of BTEX in Soil. , 2009, , .		2
38	Kinetic Limitations in Singleâ€Crystal Highâ€Nickel Cathodes. Angewandte Chemie, 2021, 133, 17490-17495.	1.6	2
39	Experiments and modelling of phenanthrene biodegradation in the aqueous phase by a mixed culture. Journal of Environmental Sciences, 2006, 18, 147-53.	3.2	0