

Rui Cai

List of Publications by Year in descending order

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36
papers

1,524
citations

304743

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all docs

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docs citations

36
times ranked

2248
citing authors

#	ARTICLE	IF	CITATIONS
1	A simple strategy that may effectively tackle the anode-electrolyte interface issues in solid-state lithium metal batteries. <i>Chemical Engineering Journal</i> , 2022, 427, 131001.	12.7	38
2	Smart Construction of an Intimate Lithium Garnet Interface for All-Solid-State Batteries by Tuning the Tension of Molten Lithium. <i>Advanced Functional Materials</i> , 2021, 31, 2101556.	14.9	97
3	Chemo-mechanical analysis of ratcheting deformation in silicon particle electrode under cyclic charging and discharging. <i>Mechanics of Materials</i> , 2021, 162, 104062.	3.2	3
4	Coupling chemo-mechanical model for smart structured electrode with great mechanical long life and electrochemical performance. <i>International Journal of Solids and Structures</i> , 2021, 233, 111179.	2.7	4
5	Modeling of the ratcheting behavior in flexible electrodes during cyclic deformation. <i>Journal of Power Sources</i> , 2020, 446, 227353.	7.8	11
6	Theoretical analysis of the mechanical behavior in Li-ion battery cylindrical electrodes with phase transformation. <i>Acta Mechanica</i> , 2020, 231, 1045-1062.	2.1	6
7	A comparative study on ratcheting deformation between negative Poisson's ratio electrode and thin film electrode in Li-ion battery cyclic operation. <i>Mechanics of Materials</i> , 2020, 150, 103567.	3.2	8
8	Low Ca ²⁺ concentration doping enhances the mechanical properties and ionic conductivity of Na ₃ PS ₄ superionic conductors based on first-principles. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 19816-19822.	2.8	14
9	A Self-Assembled Hetero-Structured Inverse-Spinel and Anti-Perovskite Nanocomposite for Ultrafast Water Oxidation. <i>Small</i> , 2020, 16, e2002089.	10.0	40
10	A new lithium-rich layer-structured cathode material with improved electrochemical performance and voltage maintenance. <i>International Journal of Energy Research</i> , 2019, 43, 7547.	4.5	3
11	An analytical model for the fracture behavior in hollow cylindrical anodes. <i>International Journal of Mechanical Sciences</i> , 2019, 157-158, 87-97.	6.7	13
12	Rational design of strontium antimony co-doped Li ₇ La ₃ Zr ₂ O ₁₂ electrolyte membrane for solid-state lithium batteries. <i>Journal of Alloys and Compounds</i> , 2019, 794, 347-357.	5.5	42
13	Realizing fourfold enhancement in conductivity of perovskite Li _{0.33} La _{0.557} TiO ₃ electrolyte membrane via a Sr and Ta co-doping strategy. <i>Journal of Membrane Science</i> , 2019, 582, 194-202.	8.2	51
14	Optimization of SnO ₂ Nanoparticles Confined in a Carbon Matrix towards Applications as High-Capacity Anodes in Sodium-Ion Batteries. <i>ChemistrySelect</i> , 2018, 3, 4015-4022.	1.5	10
15	Analytical model of Li-ion diffusion-induced stress in nanowire and negative Poisson's ratio electrode under different operations. <i>International Journal of Mechanical Sciences</i> , 2018, 141, 245-261.	6.7	35
16	Optimal synthesis and new understanding of P2-type Na _{2/3} Mn _{1/2} Fe _{1/4} Co _{1/4} O ₂ as an advanced cathode material in sodium-ion batteries with improved cycle stability. <i>Ceramics International</i> , 2018, 44, 5184-5192.	4.8	34
17	Two-Step Fabrication of Li ₄ Ti ₅ O ₁₂ -Coated Carbon Nanofibers as a Flexible Film Electrode for High-Power Lithium-Ion Batteries. <i>ChemElectroChem</i> , 2017, 4, 2286-2292.	3.4	21
18	Lithium-Ion Batteries: Mesoporous and Nanostructured TiO ₂ layer with Ultra-High Loading on Nitrogen-Doped Carbon Foams as Flexible and Free-Standing Electrodes for Lithium-Ion Batteries (Small 48/2016). <i>Small</i> , 2016, 12, 6768-6768.	10.0	0

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19	Trapping sulfur in hierarchically porous, hollow indented carbon spheres: a high-performance cathode for lithium-sulfur batteries. <i>Journal of Materials Chemistry A</i> , 2016, 4, 9526-9535.	10.3	100
20	Mesoporous and Nanostructured TiO ₂ layer with Ultra-High Loading on Nitrogen-Doped Carbon Foams as Flexible and Free-Standing Electrodes for Lithium-Ion Batteries. <i>Small</i> , 2016, 12, 6724-6734.	10.0	79
21	Analytical model for crack propagation in spherical nano electrodes of lithium-ion batteries. <i>Electrochimica Acta</i> , 2016, 210, 7-14.	5.2	22
22	Process Investigation of a Solid Carbon-Fueled Solid Oxide Fuel Cell Integrated with a CO ₂ -Permeating Membrane and a Sintering-Resistant Reverse Boudouard Reaction Catalyst. <i>Energy & Fuels</i> , 2016, 30, 1841-1848.	5.1	16
23	The solid-state chelation synthesis of LiNi _{1/3} Co _{1/3} Mn _{1/3} O ₂ as a cathode material for lithium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2015, 3, 10536-10544.	10.3	66
24	Combustion-derived nanocrystalline LiMn ₂ O ₄ as a promising cathode material for lithium-ion batteries. <i>Journal of Power Sources</i> , 2015, 275, 38-44.	7.8	58
25	Free-standing nitrogen doped V-O-C nanofiber film as promising electrode for flexible lithium-ion batteries. <i>RSC Advances</i> , 2014, 4, 51062-51066.	3.6	1
26	A freestanding composite film electrode stacked from hierarchical electrospun SnO ₂ nanorods and graphene sheets for reversible lithium storage. <i>RSC Advances</i> , 2014, 4, 9367-9371.	3.6	26
27	A 3D porous architecture composed of TiO ₂ nanotubes connected with a carbon nanofiber matrix for fast energy storage. <i>Journal of Materials Chemistry A</i> , 2013, 1, 12310.	10.3	75
28	Binder-free \pm -MoO ₃ nanobelt electrode for lithium-ion batteries utilizing van der Waals forces for film formation and connection with current collector. <i>Journal of Materials Chemistry A</i> , 2013, 1, 4736.	10.3	142
29	Synthesis of well-crystallized Li ₄ Ti ₅ O ₁₂ nanoplates for lithium-ion batteries with outstanding rate capability and cycling stability. <i>Journal of Materials Chemistry A</i> , 2013, 1, 13233.	10.3	67
30	Nitrogen- and TiN-modified Li ₄ Ti ₅ O ₁₂ : one-step synthesis and electrochemical performance optimization. <i>Journal of Materials Chemistry</i> , 2012, 22, 17773.	6.7	112
31	Solution combustion synthesis of high-rate performance carbon-coated lithium iron phosphate from inexpensive iron (<sc>iii</sc>) raw material. <i>Journal of Materials Chemistry</i> , 2012, 22, 2900-2907.	6.7	54
32	A novel method to enhance rate performance of an Al-doped Li ₄ Ti ₅ O ₁₂ electrode by post-synthesis treatment in liquid formaldehyde at room temperature. <i>Journal of Materials Chemistry</i> , 2012, 22, 8013.	6.7	67
33	Electrospinning based fabrication and performance improvement of film electrodes for lithium-ion batteries composed of TiO ₂ hollow fibers. <i>Journal of Materials Chemistry</i> , 2011, 21, 15041.	6.7	68
34	Different Effect of the Atmospheres on the Phase Formation and Performance of Li ₄ Ti ₅ O ₁₂ Prepared from Ball-Milling-Assisted Solid-Phase Reaction with Pristine and Carbon-Precoated TiO ₂ as Starting Materials. <i>Journal of Physical Chemistry C</i> , 2011, 115, 4943-4952.	3.1	84
35	Preparation and re-examination of Li ₄ Ti _{4.85} Al _{0.15} O ₁₂ as anode material of lithium-ion battery. <i>International Journal of Energy Research</i> , 2011, 35, 68-77.	4.5	32
36	Comparative Study on Constitutive Modeling of Tantalum and Tantalum Tungsten Alloy. <i>Journal of Iron and Steel Research International</i> , 2006, 13, 68-74.	2.8	25