

What is advanced energy materials?

Advanced Energy Materials, part of the prestigious Advanced portfolio, is your prime applied energy journal for research providing solutions to today's global energy challenges.

What is direct battery material recycling?

Direct battery material recycling, emphasizing the rejuvenation of degraded materials, stands out as an environmentally benign alternative to conventional pyro- and hydro-metallurgical processes that are intrinsically destructive.

What is Wiley advanced?

The Advanced portfolio from Wiley is a family of globally respected, high-impact journals that disseminate the best science from well-established and emerging researchers so they can fulfill their mission and maximize the reach of their scientific discoveries.

Can lithium metal be used in high-energy-density sulfide-based all-solid-state batteries (ASSL)?

This susceptibility to mechanical damages and the subsequent lithium filament penetration, manifesting as micro-short circuit events, seriously hinders the practical application of lithium metal in high-energy-density sulfide-based all-solid-state lithium metal batteries (ASSLMBs).

Should lithium-ion batteries be recycled?

Learn more. The ambitious pursuit of carbon neutrality underscores the pressing demand for closed-loop recycling of lithium-ion batteries (LIBs), amid escalating production and disposal challenges.

The Li-S batteries with 4Mpy achieve a high capacity of 10.05 mAh cm<sup>-2</sup> after 10 cycles under a high loading of 10.88 mg cm<sup>-2</sup>. This work provides an electrolyte additive strategy to promote the slow kinetics of LiPSs.

Advanced Energy Materials. Volume 13, Issue 43 2301886. Perspective. Open Access. A Roadmap for Solid-State Batteries. Thomas Schmaltz ... (>500 km) electric vehicles (EV). This can only be solved by larger (heavier) battery packs and/or batteries with higher energy density. Volume and weight can be saved by more efficient engineering of the ...

In article number 1702619, Yunhui Huang, Hanxi Yang, and co-workers summarize the recent advances and progresses on the synthesis, structure and intercalation ...

Here, an operando and quantitative measurement of the stress evolution of an LTO/SSE/Li configuration all-solid-state battery (ASSB) operating with various parameters, including cell capacity and current density, is shown.

Rechargeable batteries have popularized in smart electrical energy storage in view of energy density, power density, cyclability, and technical maturity. 1-5 A great success has ...

2 ???&#0183; Mixed conductors streamline ion and electron pathways, boosting the capacity of sulfur electrodes in all-solid-state Li-S batteries.

Advanced Energy Materials is your prime applied energy journal for research providing solutions to today's global energy challenges. ... A Versatile InF 3 Substituted Argyrodite Sulfide Electrolyte Toward Ultrathin Films for All-Solid-State Lithium Batteries (Adv. Energy Mater. 47/2024) Dabing Li, Xinyu Liu, Yang Li, Xiaoxue Zhao, Meng Wu ...

Advanced Energy Materials is your prime applied energy journal for research providing solutions to today's global energy challenges. Abstract As a prospective next-generation energy storage solution, lithium-sulfur batteries ...

Frontiers Science Center for New Organic Matter, Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), State Key Laboratory of Advanced Chemical Power Sources, College of Chemistry, Nankai University, Tianjin, 300071 China. Search for more papers by this author

Advanced Energy Materials is your prime applied energy journal for research providing solutions to today's global energy challenges. Abstract The ever-increasing demand of lithium-ion batteries (LIBs) caused by the rapid development of various electronics and electric vehicles will be hindered by the limited lithium resource.

Abstract Aqueous zinc ion batteries (AZIBs) are steadily gaining attention based on their attractive merits regarding cost and safety. ... Advanced Energy Materials. Volume 9, Issue 14 1900083. ... However, there are many ...

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