

Introduction In the quest for sustainable energy solutions amidst the escalating global energy demand and environmental concerns, photothermal conversion materials have ...

Rechargeable aqueous Zn-ion batteries (ZIBs) featuring the advantages of high safety, low cost, environmental friendliness, and satisfactory energy density have been considered as one of ...

The present review summarizes the state-of-the-art in the preparation and applications of nanocellulose in PCM-based thermal energy storage, as well as the challenges in the further ...

1. Introduction Polymer dielectric capacitors are favorable due to their high-power density, rapid charging-discharging cycles, excellent flexibility and self-healing performance, as well as the ...

High-Energy Ball Milling Promoted Sulfur Immobilization for Constructing High-Performance Na-Storage Carbon Anodes ACS Applied Materials & Interfaces (IF 8.3) Pub Date : 2023-08-08, ...

Zincophilic 3D ZnOHF nanowire arrays with ordered and continuous Zn²⁺ Ion modulation layer enable long-term stable Zn metal anodes Energy Storage Materials (IF 20.2) Pub Date : 2022 ...

The ionic transport in sub-nanochannels plays a key role in energy storage, yet suffers from a high energy barrier. Wetting sub-nanochannels is crucial to accelerate ionic transport, but the ...

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The development of solid hydrogen storage materials is an important part of the large-scale application of hydrogen energy. The gravimetric density of hydrogen storage ...

The leakage and low thermal conductivity of paraffin phase change material (PCM) must be addressed to achieve a more efficient energy storage process. In this study, ...

"Introduction to Energy Storage and Conversion". It provides an in-depth examination of fundamental principles, technological advancements, and practical implementations relevant to ...

Thermal energy storage and utilization is gathering intensive attention due to the renewable nature of the energy source, easy operation and economic competency. Among all the ...

The efficient utilization of solar energy requires advanced heat storage technology, while phase change heat storage materials cannot utilize their high-density latent ...

The safety of high-energy density batteries remains a significant challenge due to the risk of thermal runaway, which can result in catastrophic damage. Phase change materials (PCMs) ...

This is an electronic reprint of the original article. This reprint may differ from the original in pagination and typographic detail. Preparation and application of composite phase change ...

Introduction Energy storage techniques have received intense attention due to ever-increasing concerns about the energy crisis and the sustainable development of human ...

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