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The hydrogen storage mechanism of Mg-based hydrogen storage materials mainly involves hydrogen dissociation and diffusion processes whose activation energies are ~ 1.4 eV and ~ 0.16

Lithium-based batteries are promising and encouraging energy storage devices in different fields such as portable electronic equipment and new-energy vehicles. Separator, which serves as a ...

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The development of antiferroelectric (AFE) materials with high recoverable energy-storage density (W_{rec}) and energy-storage efficiency (?) is ...

Trans. Nonferrous Met. Soc. China 32 (2022) 4041-4049 3D MoS₂/graphene nanoflowers as anode for advanced lithium-ion batteries Han-bing HE1, Zhen LIU1, Chao-qun ...

The perspectives for applications of Mg-based energy materials are provided. Abstract Magnesium-based energy materials, which combine promising energy-related ...

3 ; The journal reports significant new findings related to the formation, fabrication, textures, structures, properties, performances, and technological applications of materials and ...

Here, taking dielectric capacitors and lithium-ion batteries as two representative examples, we review substantial advances of machine learning in the research and ...

HAN Guangshun, WANG Peilun, JIN Yi, et al. Numerical simulations on performance enhancement of a

cross-flow latent thermal energy storage heat exchanger [J]. Energy Storage ...

As a mainstream energy storage device, the lithium-ion batteries (LIBs) with low cost and considerable energy density have been widely implemented in electric vehicles, portable ...

This work presents a feasible approach for constructing robust ZnP-based anodes for the development of next-generation FZIBs. Driven by the rapid development of wear-able ...

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The development of antiferroelectric (AFE) materials with high recoverable energy-storage density (W_{rec}) and energy-storage efficiency (?) is of great importance for ...

[2] Zhao C Y, Wu Z G. Heat transfer enhancement of high temperature thermal energy storage using metal foams and expanded graphite [J]. Solar Energy Materials & Solar Cells, 2011, 95 ...

Bismuth (Bi)-based materials have been receiving considerable attention as promising electrode materials in the fields of electrochemical energy storage, due to their excellent physical and ...

Numerical modeling was performed to simulate the melting process of a fixed volume/mass phase-change material (PCM) in different shell-and-tube type latent thermal ...

TL;DR: This review summarizes recent progress in Mg-based energy materials, including batteries, hydrogen storage, and thermoelectric materials, highlighting composition and ...

Energy Storage Materials covers a wide range of topics, including the synthesis, fabrication, structure, properties, performance, and technological applications ...

A comparative study on the performances of different shell-and-tube type latent heat thermal energy storage units including the effects of natural convection[J].

These examples indicate that nanostructured materials and nanoarchitected electrodes can provide solutions for designing and realizing ...

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This article reviews the latest progress in thermal storage material research. It focuses on phase-change thermal storage materials covering the organic, molten salt and alloy and composites. ...

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