

Interest in flexible and wearable electronics has surged in the past several years. The development of these electronics critically demands flexible and wearable energy storage devices (ESDs) that possess both high energy and power density and superior flexibility and durability to power various wearable systems. 1 Thus, extensive efforts have been devoted ...

DOI: 10.1016/j.trd.2024.104241 Corpus ID: 269891119; Photovoltaic-energy storage-integrated charging station retrofitting: A study in Wuhan city @article{Chen2024PhotovoltaicenergySC, title={Photovoltaic-energy storage-integrated charging station retrofitting: A study in Wuhan city}, author={Xinyu Chen and Xiaotian Geng and Dong Xie and Zhonghua Gou}, ...

The global demand for safe and environmentally sustainable electrochemical energy storage has vastly increased in the recent years. Aqueous lithium-ion energy storage systems (ALESS), such as aqueous Li-ion batteries and supercapacitors, are designed to address safety and sustainability concerns (1, 2). However, significant capacity fading after repeated ...

Introducing interlayer water between reduced graphene oxide (rGO) nanoplatelets can help align these nanoplatelets ($\text{Ti}_3\text{C}_2\text{T}_x$ MXene is a 2D material with metallic conductivity, hydrophilicity, and strong mechanical properties (18-27) has been widely used to reinforce composites and prepare free-standing graphene- $\text{Ti}_3\text{C}_2\text{T}_x$ sheets (26, ...

American Association of Physics Teachers ... Fei Cao, Shiguang Yan, Xuefeng Chen, Zhi-Sheng Lin, Yunxiong Song, Yonghong Chen, Xianlin Dong, Genshui Wang ... energy is a key parameter, which represents the ability to store energy. However, many existing evaluation methods for energy storage calculation have not been systematically implemented ...

Aqueous rechargeable zinc ion batteries (ZIBs) have been deemed to be possible candidates for large-scale energy storage due to their ecoefficiency, substantial reserve, safety, and low cost. However, the challenges inherent in aqueous electrolytes, such as water splitting reactions, water evaporation, and liquid leakage, have greatly hindered ...

Sodium-ion battery (SIB) is a very promising alternative to lithium-ion batteries (LIBs) [[1], [2], [3]]. However, due to the larger ionic radius and weaker ion-substrate coupling interactions of Na^+ compared with those of Li^+ , one of the critical challenges for SIBs remains searching for efficient anode materials [1,2,[4], [5], [6], [7]]. Among many anode hosts, hard ...

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Hui Chen. Key Laboratory of the Ministry of Education for Advanced Catalysis Materials, Department of Chemistry, Zhejiang Normal University, Jinhua, 321004 China ... As one of the most appealing energy storage technologies, aqueous zinc-iodine batteries still suffer severe problems such as low energy density, slow iodine conversion kinetics ...

Zhi-Hong Liu's 552 research works with 15,953 citations and 7,037 reads, including: Etiological classification and manifestation of pulmonary artery dissection: A literature review and case analysis

Increasing research interest has been attracted to develop the next-generation energy storage device as the substitution of lithium-ion batteries (LIBs), considering the potential safety issue and the resource deficiency [1], [2], [3] particular, aqueous rechargeable zinc-ion batteries (ZIBs) are becoming one of the most promising alternatives owing to their reliable ...

The diverse and tunable surface and bulk chemistry of MXenes affords valuable and distinctive properties, which can be useful across many components of energy storage devices. MXenes offer diverse ...

@article{Li2023RoleOD, title={Role of different energy storage methods in decarbonizing urban distributed energy systems: A case study of thermal and electricity storage}, author={Zhi Li and Xiaohua Zhi and Zhanjun Wu and Gao Qian and Ruicheng Jiang and Bingzheng Wang and Rui Huang and Xiaoli Yu}, journal={Journal of Energy Storage}, ...

Aqueous Zn batteries that provide a synergistic integration of absolute safety and high energy density have been considered as highly promising energy-storage systems for powering electronics. Despite the rapid progress made in developing high-performance cathodes and electrolytes, the underestimated but non-negligible dendrites of Zn anode ...

The diverse and tunable surface and bulk chemistry of MXenes affords valuable and distinctive properties, which can be useful across many components of energy storage devices. MXenes offer diverse functions in batteries and supercapacitors, including double-layer and redox-type ion storage, ion tran ...

the further development of novel electrochemical energy storage applications. Organic Electrodes 1. Introduction Electrochemical energy storage (EES) technology is one of the most promising means to store the electricity in large- and small-scale applications because of its flexibility, high energy conversion efficiency, and simple maintenance.

We conclude with a perspective on the challenges faced by the community and opportunities towards practical applications of high-energy halogen cathodes in energy-storage devices. View Show abstract

Suppressing passivation layer on Al anode in aqueous electrolytes by complexation of H₂PO₄⁻ to Al³⁺ and an electrochromic Al ion battery H Lv, S Yang, C Han, Y Tang, X Li, W Wang, C Zhi, H Li Energy Storage

Materials 10.1016/j.ensm.2021.04.044 (2021) Regulating Nitrogenous Adsorption and Desorption on Pd Clusters by the Acetylene Linkages ...

The first report of metal-Te battery was in 2014, and it has been deeply investigated due to its potential for next-generation energy storage devices since then. Despite metal-Te batteries are suffering from the same problems as metal-S batteries, such as intermediates dissolution and large electrode volume change, the research direction can go ...

Besides, the byproduct during energy-storage process is confirmed to be $2[\text{Zn}(\text{CF}_3\text{SO}_3)_2 \cdot \text{Zn}(\text{OH})_2] \cdot 3\text{H}_2\text{O}$. When employing a unique anti-freezing hydrogel as electrolyte and separator, the as-assembled quasi-solid-state Zn//PSC-A600 was still highly rechargeable, which can sustain about 63.9% of initial capacitance (20 °C) and ~100% Coulombic ...

As one of the most appealing energy storage technologies, aqueous zinc-iodine batteries still suffer severe problems such as low energy density, slow iodine conversion kinetics, and polyiodide shuttle. This review summarizes the recent development of Zn-I₂ batteries with a focus on the electrochemistry of iodine conversion and the underlying working mechanism. ...

Two-dimensional (2D) MXenes have garnered considerable critical acclaim in the realm of energy storage [1-6] as electrodes typically exhibit a capacitive electrochemical characteristic in aqueous environments, where non-Faradaic adsorption and pseudo-capacitive behaviors dominate [7-10]. Limited by the sluggish redox of transition metal layers and ...

Herein, the energy storage mechanisms of aqueous rechargeable ZIBs are systematically reviewed in detail and summarized as four types, which are traditional Zn insertion chemistry, dual ions ...

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