

Membrane technologies with low environmental impacts and ease of use have a wide spectrum of applications, with the potential to provide more sustainable solutions in domains such as water, energy and pollution treatment. However, the design of membranes is subject to a trade-off between ion conductivity and selectivity. Here we show a composite polymeric membrane that ...

The resulting material exhibits a high recoverable energy storage density of 5.03 J cm^{-3} and a large strain of 0.60% under a relatively low electric field of 200 kV cm^{-1} , which proves the effectiveness of our synergistic strategy. Phenomenological modeling investigation associates these performances with the sharp jump in induced ...

materials for making flexible energy storage devices because of their electrical and mechanical properties. It remains a challenge to assemble nanoplatelets of these materials at room ...

DOI: 10.1016/j.est.2022.104107 Corpus ID: 246601750; Research on interest coordination model of wind power supply chain with energy storage participation @article{Liu2022ResearchOI, title={Research on interest coordination model of wind power supply chain with energy storage participation}, author={Jicheng Liu and Hongyan Bao}, journal={Journal of Energy Storage}, ...

These energy resources are greatly influenced by some natural factors such as climate, location, and so on, and have great instability. Therefore, proper energy storage systems are needed to realize the stable output of these natural energy sources [3, 4]. Batteries and supercapacitors are the hottest energy storage systems in recent years.

Xi Liu, Xinzhi Yu, Yong Tong, Yingjuan Sun, Wenjie Mai, Li Niu and Hongyan Li *, Potassium Storage in Bismuth Nanoparticles Embedded in N-doped Porous Carbon Facilitated by Ether-based Electrolyte, Chemical Engineering Journal, ... Storage mechanisms and Performance evaluation, Energy Storage Materials, 2021, 41, 108-132.

This work enables the design of membranes that combine otherwise mutually exclusively properties for many possible applications beyond energy storage. Suggested Citation Yongsheng Xia & Hongyan Cao & Fang Xu & Yuxin Chen & Yu Xia & Dezhu Zhang & Liheng Dai & Kai Qu & Cheng Lian & Kang Huang & Weihong Xing & Wanqin Jin & Zhi Xu, 2022.

Large-scale renewable energy storage devices are required and widely extended due to the issues of global energy shortage and environmental pollution [1, 2]. As low-cost and safe aqueous battery systems, lead-acid batteries have carved out a dominant position for a long time since 1859 and still occupy more than half of the global battery market [3, 4].

Hongyan Wan's 9 research works with 40 citations and 933 reads, including: Boosting energy storage performance in $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ -based lead-free ceramics modified by a synergistic design

In article number 1804508, Hongyan He, Suojiang Zhang, and co-workers explore the size-driven flow of confined ionic liquid (IL) inside carbon nanochannels, which can ...

A remarkable energy storage density of 7.29 J/cm^3 and record-high energy storage efficiency of 96.40 % are achieved via synergistic effect in $(\text{Pb}_{0.93} \text{La}_{0.02} \text{Sr}_{0.04})(\text{Hf}_{0.475} \text{Sn}_{0.475} \text{Ti}_{0.05})\text{O}_3$ (PLS4HST) ceramics under respective maximum applied field.

However, the energy storage efficiency of the composites after doping with inorganic nanoparticles is still unable to meet requirements, which is due to the electric field distortion at the interface between the inorganic nanofillers and the polymer matrix. ... Hongyan Yao received his Ph.D. degree from National University of Singapore in 2018 ...

Hongyan Lu's 8 research works with 162 citations and 694 reads, including: Layered double hydroxide-derived Fe-doped NiSe cathode toward stable and high-energy aluminum storage

Graphene and two-dimensional transition metal carbides and/or nitrides (MXenes) are important materials for making flexible energy storage devices because of their electrical and mechanical properties. It remains a challenge to assemble nanoplatelets of these materials at room temperature into in-pl ...

Graphene and two-dimensional transition metal carbides and/or nitrides (MXenes) are important materials for making flexible energy storage devices because of their electrical and mechanical properties. It remains a challenge to assemble nanoplatelets of these materials at room temperature into in-plane isotropic, free-standing sheets. Using nanoconfined water-induced ...

Energy storage has great application potential in the field of clean energy. This lays a foundation for in-depth cooperation in the study of wind power and energy storage. However, in China, the development of energy storage has been highly dependent on financial subsidies. ... Jicheng Liu and Hongyan Bao. Data availability statements ...

LAYERED MATERIALS Water-induced strong isotropic MXene-bridged graphene sheets for electrochemical energy storage Jiao Yang¹⁺, Mingzhu Li²⁺, Shaoli Fang³⁺, Yanlei Wang⁴⁺, Hongyan He⁴, Chenlu Wang⁴, Zejun Zhang¹, Bicheng Yuan, Lei Jiang^{1,2,5,6}, Ray H. Baughman^{3*}, Qunfeng Cheng^{1,5,6,7*} Graphene and two-dimensional transition metal carbides and/or ...

Jingyi Luan, Hongyan Yuan, Jie Liu, Cheng Zhong. Article 103206 View PDF. Article preview. ... Iodine-redox-chemistry-modulated ion transport channels in MXene enables high energy storage capacity. Jie Wang, Linlin Hao, Jinwen Qin, Xing Zhang, ... Minhua Cao. Article 103209 View PDF.

As the rising renewable energy demands and lithium scarcity, developing high-capacity anode materials to improve the energy density of potassium-based batteries (PBBs) is increasingly crucial. In this work, a unique orderly multilayered growth (OMLG) mechanism on a 2D-Ca₂Si monolayer is theoretically demonstrated for potassium storage by first-principles ...

The current need for energy storage has stimulated enormous efforts on studying high-powered electrodes materials for high-performance energy storage devices. For this reason, electrochemical capacitors has attracted attentions greatly as advanced energy-storage cells in that they can endow outstanding capacitance, superior power, and long ...

The Journal of Energy Storage focusses on all aspects of energy storage, in particular systems integration, electric grid integration, modelling and analysis, novel energy storage technologies, sizing and management strategies, business models for operation of storage systems and energy storage developments worldwide.

Hongyan Cao's 17 research works with 117 citations and 851 reads, including: Crystallizing Self-Standing Covalent Organic Framework Membranes for Ultrafast Proton Transport in Flow Batteries

13.Yunaji Wu, Yingjuan Sun, Yong Tong, Xi Liu, Jiefeng Zheng, Dongxue Han, Hongyan Li* and Li Niu*, Recent advances in potassium-ion hybrid capacitors: electrode materials, storage mechanisms and performance evaluation, Energy Storage Materials, 2021, 00204. (IF=16.28)

Digitalization in energy storage technology facilitate new opportunities toward modernized low-carbon energy systems. This study offers a technological perspective to help understand the role of ...

Renewable energy development is a critical method for achieving carbon neutrality and mitigating climate change (Tang et al., 2023). Countries must raise the amount of renewable energy, adapt the ...

Zhejiang Hongyan Electric Co., Ltd. offers advanced and efficient power quality solutions, specializing in power saving. Get reliable and customized solutions from a trusted high-tech enterprise. ... Title: Advancing Energy Storage: Introducing Smart CapacitorsIntroduction:In the ever-evolving field of energy storage, Smart Capacitor, a leading ...

Dr. Hongyan Zuo obtained her Ph. D in Safety Science & Engineering from Central South University in China in 2012. ... have good application prospects in the field of energy storage and conversion ...

Potassium Storage In article number 2204045, Hongyan Li and co-workers present a unique spindle-like bismuth-based composite (SPB@NC) employed as anode for a potassium ion battery, which ...

Lead zirconate PbZrO₃ (PZ)-based antiferroelectric (AFE) materials have received tremendous attention due to their potential applications in high density energy storage capacitors. However, PZ suffers from an ultrahigh

critical electric field (E F), making it unsuitable for practical applications. To develop new materials with better energy storage performances, a bismuth ...

Hongyan LI. Jinan University, Guangzhou. Verified email at jnu .cn - Homepage. Energy storage and conversion. Articles Cited by Public access Co-authors. Title. Sort. Sort by citations Sort by year Sort by title. ... Energy Storage Materials 41, 108-132, 2021. 98: 2021:

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