

Xinhui XIA | Cited by 19,528 | of Nanyang Technological University, Singapore (ntu) | Read 269 publications | Contact Xinhui XIA ... are regarded as one of the most viable energy storage devices ...

Self-supported hierarchical porous Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub>/carbon arrays for boosted lithium ion storage Jun Liua, Aixiang Weia,b, Guoxiang Panc, Shenghui Shend, Zhiming Xiaoa, Yu Zhaoa,?, Xinhui Xiad a Guangdong Provincial Key Laboratory of Functional Soft Condensed Matter, School of Materials and Energy, Guangdong University of Technology, Guangzhou 510006, ...

Advanced Energy Materials is your prime applied energy journal for research providing solutions to today's global energy challenges. Abstract Scrupulous design and smart hybridization of bespoke electrode materials are of great importance for the advancement of sodium ion batteries (SIBs).

Here we propose that the controllable thermal dynamics through nanoconfinement in ultrathin fi polymer films hold great promise for improving the thermal stability fi and high-temperature ...

Exploring self-healing liquid Na-K alloy for dendrite-free electrochemical energy storage Liyuan Zhang, Xinhui Xia, Yu Zhong, Dong Xie, Sufu Liu, Xiuli Wang, Jiangping Tu, Advanced Materials 2018 (11), 30 (46): 1804011. Spore carbon from aspergillus oryzae for advanced electrochemical energy storage Yu Zhong, Xinhui Xia, Shengjue Deng, Dong Xie ...

As a result, the enhanced high-rate energy storage performance has been triggered in the TNO -x @C 3 electrodes, which show superior rate capability (197 mA h g<sup>-1</sup> at 20 C, corresponding to 3 ...

Xinhui Xia. Professor. Zhejiang University. Hangzhou, China. View All. Xinhui Xia. Overview; Bio; Network; ... Energy Storage Materials. Published on 01 May 2018. 0 views XX downloads; XX citations; A novel durable double-conductive core-shell structure applying to the synthesis of silicon anode for lithium ion batteries ... Advanced Energy ...

This article provides an overview of solution-based methods for the controllable synthesis of metal oxides and their applications for electrochemical energy storage. Typical solution synthesis strategies are summarized and the detailed chemical reactions are elaborated for several common nanostructured transition metal oxides and their composites.

High-performance electrode materials are the key to advances in the areas of energy conversion and storage (e.g., fuel cells and batteries). In this Review, recent progress in the synthesis and electrochemical application of transition metal carbides (TMCs) and nitrides (TMNs) for energy storage and ...

Recently, bacterial cellulose carbon (BCC) with hetero-atom doping (N, S, P) is becoming a new pet as the conductive matrix for electrochemical energy storage (e.g., lithium-sulfur battery [18] and supercapacitor [19]) owing to its superior structural stability and good electrical conductivity.

Our work provides a new template for the construction of high-performance high-rate electrodes for electrochemical energy storage. Graphical abstract Self-supported hierarchical porous  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  /carbon arrays are fabricated via a new sacrificial NiO template method and exhibit impressive high-rate capacity (157 mAh g<sup>-1</sup> at 20 C) and ...

Scientific Reports - Integrated photoelectrochemical energy storage: solar hydrogen generation and supercapacitor. ... Xinhui Xia, Jingshan Luo, Cao Guan & Hong Jin Fan.

Metal-CO<sub>2</sub> batteries are among the most intriguing techniques for addressing the severe climate crisis and have matured significantly to simultaneously realize adequate fixation of CO<sub>2</sub>, energy storage, and conversion. Although significant efforts have been made, the practical application of metal-CO<sub>2</sub> battery techniques is still restricted by various tremendous ...

DOI: 10.1016/j.energy.2022.125564 Corpus ID: 252573585; Optimal load dispatch of energy hub considering uncertainties of renewable energy and demand response @article{Lu2022OptimalLD, title={Optimal load dispatch of energy hub considering uncertainties of renewable energy and demand response}, author={Xinhui Lu and Haobin Li and Kaile Zhou and Shanlin Yang}, ...

DOI: 10.1016/j.apenergy.2019.114195 Corpus ID: 213991832; A robust optimization approach for optimal load dispatch of community energy hub @article{Lu2020ARO, title={A robust optimization approach for optimal load dispatch of community energy hub}, author={Xinhui Lu and Zhaoxi Liu and Marion Li and Lingfeng Wang and Kaile Zhou and Nanping Feng}, journal={Applied ...

High-performance electrode materials are the key to advances in the areas of energy conversion and storage (e.g., fuel cells and batteries). In this Review, recent progress in the synthesis and electrochemical application of transition metal carbides (TMCs) and nitrides (TMNs) for energy storage and conversion is summarized. Their electrochemical properties in Li-ion and Na-ion ...

Energy hub (EH) as a multi-carrier energy system has been widely studied and concerned since ETH Zurich first proposed it in the "vision of future energy network" project [8] establishing the coupling relationship between input energy carriers and output energy flows, EH realizes the generation, transmission, conversion, and storage of multiple energy carriers [9].

The energy hub (EH) has become an important concept in terms of optimizing multi-carrier energy systems' efficiency and flexibility. In this regard, an optimal operation model for managing multiple EHs with electrical and heat energy demands is proposed, which aims to reduce the total cost of the EHs. The components of each EH include the combined heat and ...

Chem. A, 2019, Accepted. Shenghui Shen, Shengzhao Zhang, Xuan Cao, Shengjue Deng, Guoxiang Pan, Qi Liu, Xiuli Wang, Xinhui Xia\*, Jiangping Tu\*, Popcorn-like niobium oxide with cloned hierarchical architecture as advanced anode for solid-state lithium ion batteries, Energy Storage Materials, 2019, Accepted.

DOI: 10.1016/j.jechem.2020.06.017 Corpus ID: 224992482; Self-supported hierarchical porous Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub>/carbon arrays for boosted lithium ion storage @article{Liu2021SelfsupportedHP, title={Self-supported hierarchical porous Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub>/carbon arrays for boosted lithium ion storage}, author={Jun Liu and Aixiang Wei and Guoxiang Pan and Shenghui Shen and Zhiming Xiao ...

In this review, the recent progress in heterostructure from energy storage fields is summarized. Specifically, the fundamental natures of heterostructures, including charge redistribution, built ...

Current solar energy harvest and storage are so far realized by independent technologies (such as solar cell and batteries), by which only a fraction of solar energy is utilized. It is highly desirable to improve the utilization efficiency of solar energy. Here, we construct an integrated photoelect ...

Ferroelectric polymers with robust electrical polarization have been extensively investigated for capacitive energy storage. However, their inherent ferroelectric hysteresis loss ...

Transition Metal Carbides and Nitrides in Energy Storage and Conversion. This article corrects the following:,,,,, Yu Zhong, Yu Zhong. Search for more papers by this author. Xinhui Xia, Xinhui Xia. Search for more papers by this author ... Xinhui Xia, Xinhui Xia. Search for more papers by this author. Fan Shi, Fan Shi. Search for more ...

In this review, the recent progress in het-erostructure from energy storage fields is summarized. Specifically, the fun-damental natures of heterostructures, including charge ...

Carbon materials play a critical role in the advancement of electrochemical energy storage and conversion. Currently, it is still a great challenge to fabricate versatile carbon-based composites with controlled morphology, adjustable dimension, and tunable composition by a one-step synthesis process. In this work, a powerful one-step maltose-based puffing carbonization ...

Xinyi Energy, a leading solar farm operator in China, was listed on the Main Board of the Hong Kong Stock Exchange on 28 May 2019 with stock code of 03868.HK. As of 30 June 2024, total capacity operated and managed by the Group has exceeded 6.5GW. ... Xinyi Electric Storage;

All-solid-state batteries are believed to be the next-generation energy storage device that can meet the ever-growing market demand for high energy density and safety.

10th International Symposium on Heating, Ventilation and Air Conditioning, ISHVAC2017, 19- 22 October

2017, Jinan, China Combined solar heating and air-source heat pump system with energy storage: thermal performance analysis and optimization Zhang Yin\*, Long Enshen, Zhao Xinhui, Jin Zhenghao, Liu Qinjian, Liang Fei, Ming Yang College of ...

To address this problem, thermal energy storage (TES) equipment and auxiliary heat supply device are often installed in solar heating system to meet the fluctuating heating loads [9]. Mehrpooya et

When assembled as a quasi-solid-state device, it still delivers a prominent capacity of 271.2 mA h g<sup>-1</sup> and preserves a maximum energy density of 150.6 Wh kg<sup>-1</sup> at a power density of 7.9 kW kg<sup>-1</sup> based on the mass of the active material of MnO<sub>2</sub>, surpassing many of the recently reported flexible energy storage devices. Our results ...

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.

With the ever-increasing adaption of large-scale energy storage systems and electric devices, the energy storage capability of batteries and supercapacitors has faced increased demand and challenges. The electrodes of these devices have experienced radical change with the introduction of nano-scale materials. As new generation materials, heterostructure materials ...

Ingenious design and fabrication of advanced carbon-based sulfur cathodes are extremely important to the development of high-energy lithium-sulfur batteries, which hold promise as the next-generation power source. Herein, for the first time, we report a novel versatile hyphae-mediated biological assembly technology to achieve scale production of hyphae carbon fibers ...

High-performance electrode materials are the key to advances in the areas of energy conversion and storage (e.g., fuel cells and batteries). In this Review, recent progress ...

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