Fuqiang LIU, Associate Professor | Cited by 2,707 | of University of Massachusetts Lowell, MA (UML) | Read 100 publications | Contact Fuqiang LIU ... Greater levels of solar energy storage provide ...

75. Lingyu Wu, Kai Wu, Dingyao Liu, Rui Huang, Jinlei Huo,Feng Chen* and Qiang Fu*, Largely Enhanced Energy Storage Density of Poly(vinylidene Fluoride) Nanocomposites Based on Surface Hydroxylation of Boron Nitride Nanosheets, Journal of Materials Chemistry A,2018,6, 7573-7584 . 74.

Alloying-type metal sulfides with high sodiation activity and theoretical capacity are promising anode materials for high energy density sodium ion batteries. However, the large ...

Rationally designed heterostructures provide attractive prospects for energy storage electrodes by combining different active materials with distinct electrochemical properties. Herein, through a phase separation strategy, a heterostructure of SnO2 encapsulated by amorphous Nb2O5 is spontaneously synthesized. Insertion-type anode Nb2O5 outer shell, ...

In this study, TiNCl was designed and applied in high-rate lithium-ion batteries (LIBs), and the mechanism of the energy storage in TiNCl was uncovered. The Ti-N layer serves as the electronic conductive unit for its high conductivity, while the polyhedral channels constructed with Cl facilitate the transmission of Li ions serving as the ionic conductive units. In ...

The instability of photovoltaic output leads to pressure fluctuations, and the high investment, low water head of traditional energy storage and pressure regulation measures have seriously limited the application of solar powered sprinkler irrigation. This study provides an innovative idea for storing, regulating and utilizing solar energy through compressed air energy storage to meet ...

Correspondence Dr. Hui Bi and Fuqiang Huang, State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, ... limiting its application in the energy storage fields. 16 The traditional chemical vapor deposition process with high-temperature treatment has been used to construct NHPC with high ...

Journal Article: Nitrogen-doped mesoporous carbon of extraordinary capacitance for electrochemical energy storage ... Fuqiang [1] State Key Laboratory of High Performance Ceramics and Superfine Microstructure and CAS Key Laboratory of Materials for Energy Conversion, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai ...

Lithium-ion batteries (LIBs) have successfully dominated the energy storage device market in recent decades owing to their high energy density and reversibility [1], [2], [3]. ...

Lithium-ion batteries (LIBs) have successfully dominated the energy storage device market in recent decades

owing to their high energy density and reversibility [1], [2], [3]. However, based on the flammable liquid carbonate electrolyte, there are intrinsic safety issues and leakage risks. ... Fuqiang Huang: Conceptualization, Investigation ...

decoupled and scalable power and energy density, long cycle life, and reasonable storage volumes. It has been shown that the all-V PESC achieved a high Faradaic efficiency of 95% 12 ...

Theoretically, any solar image generated by concentrating systems has a particular size, which depends on the geometry of the concentrating system and the perspective of solar energy [77] this research, the detailed derivations for the values of relative aperture (n), rim angle (ps), and the maximum geometrical concentrating ratio in theory are given when the ...

DOI: 10.1002/adma.202200863 Corpus ID: 248526899; Tailoring Ultrafast and High-Capacity Sodium Storage via Binding-Energy-Driven Atomic Scissors @article{Peng2022TailoringUA, title={Tailoring Ultrafast and High-Capacity Sodium Storage via Binding-Energy-Driven Atomic Scissors}, author={Baixin Peng and Zhuoran Lv and Shumao ...

2 · DURHAM, N.C.--(BUSINESS WIRE)--Strata Clean Energy is excited to announce a 20-year tolling agreement with Arizona Public Service (APS) for the 100 MW/400 MWh White ...

Fuqiang Huang. Fuqiang Huang. ... The rapidly increasing demand for energy storage has been consistently driving the exploration of different materials for Li-ion batteries, where the olivine ...

E-mail: fuqiang@uta Fax: +1-814-272-2538 Tel: +1-817-272-2704 . Abstract. The properties of a supporting electrolyte are critically important to any photo- or electrochemical cells. ... for highly efficient solar energy storage using methanesulfonic acid (MSA) as a promising supporting electrolyte. Linear sweep voltammetry (LSV) and zero ...

An energy-efficient glass using biomimetic structures with excellent energy saving features in both hot and cold weather F Wang, X Zhang, H Wang, Y Li, Y Dong, B Lin, H Liang, Z Cheng Journal of Quantitative Spectroscopy and Radiative Transfer 286, 108180, 2022

2 · It is still a great challenge for dielectric materials to meet the requirements of storing more energy in high-temperature environments. In this work, lead-free ...

Crystal structure determines electrochemical energy storage characteristics; this is the underlying logic of material design. To date, hundreds of electrode materials have been developed to pursue superior performance. However, it remains a great challenge to understand the fundamental structure-performance relationship and achieve quantitative crystal structure design for ...

Fuqiang Wan"s 14 research works with 136 citations and 1,102 reads, including: Biotemplating synthesis of

organized structures inspired by biological processes ... humidity sensing, energy storage ...

Semantic Scholar profile for Fuqiang Huang, with 235 highly influential citations and 567 scientific research papers. ... Nitrogen-doped mesoporous carbon of extraordinary capacitance for electrochemical energy storage. Tianquan Lin I. Chen +4 authors Fuqiang Huang. Materials Science, Engineering.

Sodium-ion batteries are promising new-generation energy storage devices due to the low cost and rich resource of sodium. Among various cathodes, tunnel-type Na0.44MnO2 with large S-shaped Na+ transport tunnels is considered an appropriate cathode for fast-charging batteries, yet still suffering from sluggish Na+ kinetics. Herein, a novel ion-exchange method is ...

Fuqiang Huang CAS Key Laboratory of Materials for Energy Conversion, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, P. R. China ... for thermal energy storage. This work displays the great potential of CVD direct growth of graphene on dielectric porous substrates for thermal conduction and ...

Crystal structure determines electrochemical energy storage characteristics; this is the underlying logic of material design. To date, hundreds of electrode materials have been developed to pursue superior performance. However, it remains a great challenge to understand the fundamental structure-performance relationship and achieve quantitative crystal structure design for efficient ...

Photovoltaic (PV) energy plays an important role in the energy transition, especially for off-grid contexts, through a format of Hybrid Energy System (HES) with storage system.

Store more energy with a touch of nitrogen In contrast to batteries, capacitors typically can store less power, but they can capture and release that power much more quickly. Lin et al. fabricated a porous carbon material that was then doped with nitrogen. This raised the energy density of the carbon more than threefold--an increase that was retained in full capacitors, without losing ...

In particular, we focus on electrochemical and photoelectrochemical energy generation and storage, solar energy conversion through photoelectrochemical reactions, ion-conductive membranes for electrochemical systems, nanostructured materials, CFD ... Prof. Fuqiang Liu. Associate professor. Department of Mechanical Engineering.

Energy Storage Zi Wei 1, Yi Shen2, Dong Liu2 & Fuqiang Liu1 Greater levels of solar energy storage provide an effective solution to the inherent nature of intermittency, and can substantially ...

Store more energy with a touch of nitrogen. In contrast to batteries, capacitors typically can store less power, but they can capture and release that power much more quickly. ...

Wang Fuqiang; Yaping Fan ... As one of the most effective methods of thermal energy storage, packed-bed

(PB) systems using phase change material (PCM) as heat storage media have been vigorously ...

S Xianzhi, LI Jiacheng, SHI Yu, XU Fuqiang, Z Yijin. Petroleum Drilling Techniques 49 (1), 81-87, 2021. 14: 2021: The characteristics and laws of fracture damage in the long-term production process of high-temperature geothermal resources. ...