Energy storage xiao deng

@article{Zheng2017ResearchPT, title={Research Progress towards Understanding the Unique Interfaces between Concentrated Electrolytes and Electrodes for Energy Storage Applications}, author={Jianming Zheng and Joshua A. Lochala and Alexander Kwok and Zhiqun Daniel Deng and Jie Xiao}, journal={Advanced Science}, year={2017}, ...

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Mingjun Chen, Xiang Zhang, Dukang Yan, Jianbo Deng, Wenhai Sun, Zitong Li, Yingjun Xiao, Zhenmin Ding, Jiupeng Zhao, Yao Li. Oxygen vacancy modulated amorphous tungsten oxide ...

A handful of PNNL"s highly cited energy storage researchers. From left to right: Jie Xiao, Yuyan Shao, Jason Zhang, and Jun Liu. (Photo by Andrea Starr | Pacific Northwest National Laboratory) PNNL"s energy storage experts are leading the ...

1 Introduction. The ever-increasing energy demand and global environmental concerns have accelerated the efforts to develop low-emission or zero-emission electric vehicles (EVs) powered by high energy batteries. 1 There is also increasing demand for high-energy-density battery systems for stationary wind and solar energy storage. Rechargeable lithium-ion ...

Jie Xiao. Pacific Northwest National Laboratory, Richland, WA, 99352, USA. Search for more papers by this author. Gordon Xia, ... Large-scale electrical energy storage has become more important than ever for reducing fossil energy consumption in transportation and for the widespread deployment of intermittent renewable energy in electric grid ...

Dual-band electrochromic energy storage (DEES) windows, which are capable of selectively controlling visible (VIS) and near-infrared (NIR) light transmittance, have attracted research attention as energy-saving devices that integrate electrochromic (EC) and energy storage functions. ... J. Deng, W. Sun, Z. Li, Y. Xiao, Z. Ding, J. Zhao and Y ...

5 · A collaboratively optimized P2-type Na 0.67 Mn 0.8 Cu 0.15 Ti 0.05 O 2 cathode with a complete and stable solid-solution reaction accompanied by reversible oxygen redox reaction ...

Thermochemical Energy Storage. In article number 2315529, Gang Xiao and co-workers essentially provide an innovative insight into the development of metal oxides that are both sinter-resistant and highly reactive

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Here, one of the most important ternary layered cathode materials, LiNi 0.5 Co 0.2 Mn 0.3 O 2, which possesses medium lattice change upon cycling, [32] was used as a model cathode material to explore the structural evolution and kinetic characteristics in NCM/graphite full cell during charge/discharge process. By applying the Rietveld refinement as well as the ...

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High-temperature thermochemical energy storage materials with high energy density is the key technical support for the third generation concentrated solar power plants equipped with advanced energy storage system. CuO/Cu2O redox couple is one of the most promising systems due to its low cost and high energy density, but its application is limited by poor reaction performance.

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Electrodes for Energy Storage Applications Jianming Zheng,* Joshua A. Lochala, Alexander Kwok, Zhiqun Daniel Deng, and Jie Xiao* DOI: 10.1002/advs.201700032 1. Introduction The ever-increasing energy demand and global environmental concerns have accel-erated the efforts to develop low-emission or zero-emission electric vehicles (EVs)

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K Wang, S Xiao, H Deng, W Zhu, W Hu. International Journal of Plasticity 59, 180-198, 2014. 123: 2014: ... Energy Storage Materials 14, 129-135, 2018. 76: 2018: Point-defect properties in HCP rare earth metals with analytic modified embedded atom potentials. W Hu, H ...

@article{Deng2023SelfassemblyCS, title={Self-assembly CuO surface decorated with NiAl2O4 for high-temperature thermochemical energy storage: Excellent performance and strong interaction mechanism}, author={Jiali Deng and Chang-dong Gu and Haoran Xu and Gang Xiao}, journal={Journal of Energy Storage}, year={2023}, url={https://api ...

The electrolyte is an indispensable component in all electrochemical energy storage and conversion devices with batteries being a prime example. ... Alexander Kwok, Zhiqun Daniel Deng, and Jie ...

@article{Xiao2023ASA, title={A stochastic analysis of the energy and reserve operation for battery storage-assisted prosumer aggregator in the Southwest Power Pool Market}, author={Dongliang Xiao and Shengsheng Deng and Haixiang Zhang and Weijun Cai and Yirui Li and Haoyong Chen}, journal={Energy Reports}, year={2023}, url={https://api ...

Introducing interlayer water between reduced graphene oxide (rGO) nanoplatelets can help align these nanoplatelets ().Ti 3 C 2 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-Ti 3 C 2 T x sheets (26, ...

Metal oxides as high-temperature thermochemical energy storage systems with high energy density based on the gas-solid reaction are a critical demand for the future development of concentrated ...

Solar energy is regarded as one of the most promising sources of sustainable and renewable energy because it is plentiful, pollution-free and clean [1], [2], [3].However, its large-scale application is limited by the intermittency and inefficiency of solar radiation [4], [5], [6].Therefore, an efficient energy storage system is urgently needed to store daytime solar ...

Xiao Xiao. School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou, 225009 Jiangsu, P. R. China. Search for more papers by this author. ... areas and adjustable pore sizes have attracted wide research interest for use in next-generation electrochemical energy-storage devices. This review introduces the synthesis of ...

The development of sodium-ion batteries (SIBs) calls for a cathode material with high specific capacity to store energy, long lifespan to reduce maintenance cost, and flexible power storage capability to adapt climate change [[1], [2], [3], [4]].Sodium super-ionic conductor (NASICON) materials have attracted great attention due to their distinctive crystallographic ...