

Low cost, safety, and environmental benignity make rechargeable aqueous Zn/MnO<sub>2</sub> batteries promising candidates for large-scale energy storage. However, the synthesis of MnO<sub>2</sub> with excellent electrochemical performance is limited to the traditional hydrothermal method, which is difficult to scale up for mass production. Herein, a ball-milling approach is ...

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

Zinc-air batteries deliver great potential as emerging energy storage systems but suffer from sluggish kinetics of the cathode oxygen redox reactions that render unsatisfactory cycling lifespan.

DOI: 10.1016/j.ensm.2021.09.007 Corpus ID: 244583317; In-built ultraconformal interphases enable high-safety practical lithium batteries @article{Wu2021InbuiltUI, title={In-built ultraconformal interphases enable high-safety practical lithium batteries}, author={Yu Wu and Xuning Feng and Xiang Liu and Xuefeng Wang and Dongsheng Ren and Li Wang and Min ...

The compelling demand for higher energy performance, flexibility, and miniaturization is the main driving force of the energy storage and conversion industry's quest for flexible devices based on ...

Chen ZHANG | Cited by 64 | of Shanghai Jiao Tong University, Shanghai (SJTU) | Read 11 publications | Contact Chen ZHANG ... Long-term thermal energy storage is one of the potential and critical ...

There is an urgent need for high-safety and high-energy lithium-ion batteries to satisfy the rapidly increasing need for energy storage. Nickel-rich layered cathodes have been ...

Zhu K, Sun Z, Jin T, Chen X, Si Y, Li H, Jiao L (2022) Tailoring pure inorganic electrolyte for aqueous sodium-ion batteries operating at -60 °C. Batter Supercaps 5(12):1-8. Cheng Y, Chi X, Yang J, Liu Y (2021) Cost attractive hydrogel electrolyte for low- temperature aqueous sodium-temperature aqueous sodium-ion batteries. J Energy Storage 40 ...

There is an urgent need for high-safety and high-energy lithium-ion batteries to satisfy the rapidly increasing need for energy storage. Nickel-rich layered cathodes have been at the forefront of the revolution for batteries due to their relatively high capacity and low cost. However, with the increase of nickel content, the batteries suffer from severe safety concerns, which caused by ...

DOI: 10.1016/j.joule.2020.03.011 Corpus ID: 218808392; A Stirred Self-Stratified Battery for Large-Scale Energy Storage @article{Meng2020ASS, title={A Stirred Self-Stratified Battery for Large-Scale Energy Storage}, author={Jintao Meng and Qi Tang and Liangyi Zhou and Chang Zhao and Ming Chen and Yiding Shen and Jun Zhou and Guang Feng and ...

Linghong Xu, Guibin Li, Jianxin Guan, Lulu Wang, Jitao Chen, ... first choice of energy storage for many portable devices, electric vehicles and large power grids [3,4]. Lithium metal is regarded as an ideal anode for lithium batteries, because it has an unprecedented theoretical capacity (3860mAh g<sup>-1</sup>)

Khai Chen Tan and Yang Yu conducted the experiment and wrote the manuscript. Ruting Chen and Anan Wu calculated the dehydrogenation thermodynamics of metallated organics. ... industrial wastes to synthesize polyethylene glycol/silica-hydroxyl form-stable phase change materials for thermal energy storage applications. Solar Energy Materials ...

Xu Linghong<sup>+</sup>, Li Guibin, Guan Jianxin, Wang Lulu, Chen Jitao\*, Zheng Junrong\*; Garnet-doped composite polymer electrolyte with high ionic conductivity for dendrite-free lithium batteries; Journal of Energy Storage; 2019, 24: 100767.

The energy storage process is synergistically controlled by ionic diffusion and pseudocapacitance, endowing the large specific capacity and good rate performance (Supplementary Fig. 31).

Chen JIE | Cited by 580 | of Shanghai Jiao Tong University, Shanghai (SJTU) | Read 29 publications | Contact Chen JIE. ... increasingly desirable for capacitive energy storage in renewable energy ...

[1,2] Lithium-ion batteries (LIBs) are the most widely used energy storage systems in EVs, considering its relative high energy/power density and long cycle life [3]. However, range-anxiety and safety are often quoted among the main issues hindering wider adoption of EVs [4], [5], [6].

Along with the great success of traditional lithium-ion batteries, the increasing energy demand has been promoting the rapid development of novel battery systems for even large energy density and high power density, and good safety. Typically, novel types of rechargeable batteries based on redox reactions of 2020 Frontier and Perspective articles

Kang Li, Si Chen, Song Chen, Xinxin Shu, Jintao Zhang. On the Functionalization of chemically derived graphene for high-performance supercapacitors Ed: Jintao Zhang, RSC publisher, 2018, Chapter 9. ... Redox reactions of halogens for reversible electrochemical energy storage. Dalton Trans., 2020,49,9929-9934. 75. Song Chen, Kang Li, Kwan San ...

Metallo-N-Heterocycles - A new family of hydrogen storage material Khai Chen Tana,b 1, Yang Yua,c 1, Ruting Chend,1, Teng Hea,\*, Zijun Jinga,c, Qijun Peia,c, ... K.C. Tan et al. Energy Storage Materials 26 (2020) 198-202. 2. Metallo-N-Heterocycles - A new family of hydrogen storage material ...

The doping of Nd resulted in reduced dissipation factor and improved energy storage performance, leading to an ultrahigh  $W_{rec}$  of 4.2 J/cm<sup>3</sup> and efficiency of 78% at 460 kV/cm. Manal et al. [24] doped Dy<sup>3+</sup> in an NBT matrix, following which the coercive field decreased significantly, the resistivity increased, and the system showed good energy ...

Storing hydrogen efficiently in condensed materials is a key technical challenge. Tremendous efforts have been given to inorganic hydrides containing B-H, Al-H and/or N-H bonds, while organic compounds with a great variety and rich chemistry in manipulating C-H and unsaturated bonds, however, are undervalued mainly because of their unfavorable thermodynamics and ...

Rechargeable aqueous zinc-ion batteries are promising candidates for large-scale energy storage but are plagued by the lack of cathode materials with both excellent rate ...

Aqueous energy-storage systems have attracted wide attention due to their advantages such as high security, low cost, and environmental friendliness. However, the specific chemical properties of water induce the problems of narrow electrochemical stability window, low stability of water-electrode interface reactions, and dissolution of electrode materials and intermediate products.

I utilize integrated sedimentology, stratigraphy, and sedimentary geochemistry (stable and radiogenic isotopes) to better understand the interplay and feedbacks between tectonic processes ...

DOI: 10.1016/j.ensm.2019.12.035 Corpus ID: 211527337; Metallo-N-Heterocycles - A new family of hydrogen storage material. @article{Tan2020MetalloNHeterocyclesA, title={Metallo-N-Heterocycles - A new family of hydrogen storage material.}, author={Khai Chen Tan and Yang Yu and Ruting Chen and Teng He and Zijun Jing and Qijun Pei and Jintao Wang and Yong Shen ...

Since every energy harvester working alone in practical application inevitably faces the shared challenge of discontinuous source energy (e.g., intermittent motion, sunlight, biofuel, etc.), the synergy strategy of hybridizing different energy harvesters is highly valued due to its benefits of scavenging energy sources surrounding the wearer ...

DOI: 10.1016/S1872-5805(23)60710-3 REVIEW Recent advances in porous carbons for electrochemical energy storage Yu-si Liu<sup>1</sup>, Chao Ma<sup>1</sup>, Kai-xue Wang<sup>2,\*</sup>, Jie-sheng Chen<sup>2,\*</sup> <sup>1</sup>College of Smart Energy, Shanghai Jiao Tong University, Shanghai 200240, China; <sup>2</sup>Shanghai Electrochemical Energy Devices Research Center, School of Chemistry and Chemical ...

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 ...

Aqueous energy-storage systems have attracted wide attention due to their advantages such as high security, low cost, and environmental friendliness. ... He and Weijian Wang and Wenjun Deng and Xinlei Ma and Yushu Wang and Wei Rao and Yuqiao Chai and Hui Ma and Rui Li and Jitao Chen and Yapei Wang and Mianqi Xue}, journal={Advanced Materials ...

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 ...

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