

MALABO YIZHOU ENERGY STORAGE



Caffeine as an energy storage material for next-generation lithium batteries. Wontae Lee, Yeongjin Lee, Hyunyoung Park, Munhyeok Choi, Won-Sub Yoon. Pages 13-24 View PDF. Article preview.



The development of high-performance energy storage systems that can deliver energy with a high power rate is critical for future success in global e ??? orts on sustainable and renewable energy.



Dual-doped carbon hollow nanospheres achieve boosted pseudocapacitive energy storage for aqueous zinc ion hybrid capacitors. Jie Li, Jihua Zhang, Lai Yu, Jingyu Gao, Genqiang Zhang. Pages 705-714 View PDF. Article preview. select article High-voltage K/Zn dual-ion battery with 100,000-cycles life using zero-strain ZnHCF cathode.



Recently, the attention to sodium-ion batteries has been refocused on large-scale energy storage applications, due to sodium's low cost and infinite abundance. Sodium is one of the most abundant elements on earth and exhibits chemical properties similar to lithium. Owing to their superior sodium storage capa



High energy storage performance of triple-layered nanocomposites with aligned conductive nanofillers over a broad electric field range. Fengwan Zhao, Jie Zhang, Hongmiao Tian, Chengping Lv, Jinyou Shao. Article 103013 View PDF. Article preview.



The ever-increasing global energy consumption has driven the development of renewable energy technologies to reduce greenhouse gas emissions and air pollution 1,2.Electrochemical energy storage

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energy storage. As an alternative energy storage strategy, rechargeable anion-shuttle batteries (ASBs) with anions, as charge carriers compensating charge neutrality of electrodes, have attracted great attention because of the prospect of low costs, long cycle life, and/or high energy density. Unraveling the anion-shuttle chemistries will



MITEI's three-year Future of Energy Storage study explored the role that energy storage can play in fighting climate change and in the global adoption of clean energy grids. Replacing fossil fuel-based power generation with power generation from wind and solar resources is a key strategy for decarbonizing electricity. Storage enables electricity systems to remain in??? Read more



Nanomaterials provide many desirable properties for electrochemical energy storage devices due to their nanoscale size effect, which could be significantly different from bulk or micron-sized materials. Particularly, confined dimensions play important roles in determining the properties of nanomaterials, such as the kinetics of ion diffusion, the magnitude of ???



To meet the miniaturization demands of next-generation electronics and electrical systems, energy storage capacitors with both high energy density and efficiency have become a research hotspot.



Lithium-ion batteries (LIBs) are the dominant energy storage technology to power portable electronics and electric vehicles. However, their current energy density and cost cannot satisfy the ever

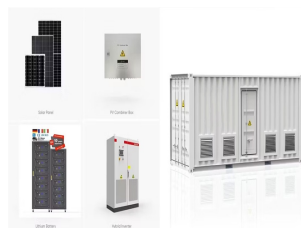
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Corrigendum to "A SAXS outlook on disordered carbonaceous materials for electrochemical energy storage" [Energy Storage Mater. 21 (2019) 162-173] Damien Saurel, Julie Sgalini, Marwa Juregui, Afshin Pendashteh, Montse Casas-Cabanas. ???



Potassium-based electrochemical energy storage devices: Development status and future prospect. Jie Xu, Shuming Dou, Xiaoya Cui, Weidi Liu, Yanan Chen. Pages 85-106 View PDF. Article preview. select article Encapsulation methods of sulfur particles for ???



A high-voltage and ultralong-life sodium full cell for stationary energy storage. S Guo, P Liu, Y Sun, K Zhu, J Yi, M Chen, M Ishida, H Zhou. Angewandte Chemie 127 (40), 11867-11871, 2015. 147: 2015: Tailoring the stability and kinetics of Zn anodes through trace organic polymer additives in dilute aqueous electrolyte.



Li-CO₂ electrochemistry: a new strategy for CO₂ fixation and energy storage. Y Qiao, J Yi, S Wu, Y Liu, S Yang, P He, H Zhou. Joule 1 (2), 359-370, 2017. 388: Energy & Environmental Science 11 (2), 299-305, 2018. 152: 2018: The potential of electrolyte filled MOF membranes as ionic sieves in rechargeable batteries.



Recycling metal resources from various spent batteries to prepare electrode materials for energy storage: a critical review J. Energy Storage, 68 (2023), Article 107652, 10.1016/j.est.2023.107652



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. The exploration on bifunctional electrocatalysts for oxygen reduction and evolution constitutes

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a key solution, where rational design strategies to

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The environmental characteristics of wind, sand and drought in the northwest have put forward higher requirements for the quality of energy storage power stations. The product quality of ???



Large energy is required for traditional CO₂ fixation, leading to more CO₂ emission and additional pollutants. Recently, integrating renewable energy with CO₂ fixation has attracted increasing attention as a sustainable strategy. Here, based on a systematic investigation on aprotic Li-CO₂ electrochemistry, we first provide an alternative strategy for either CO₂ ???



Remarkable energy storage performances of tungsten bronze Sr_{0.53}Ba_{0.47}Nb₂O₆-based lead-free relaxor ferroelectric for high-temperature capacitors application. Bian Yang, Yangfei Gao, Xiaojie Lou, Yaodong Yang, Shadong Sun. Pages 763-772 View PDF. Article preview.



Stationary energy storage technology is considered as a key technology for future society, especially to support the ecological transition toward renewable energies. 1 Among the available technologies (e.g., rechargeable batteries, fly wheels, and compressed air energy storage), rechargeable batteries are the most promising candidates for stationary energy ???



A bi-functional WO₃-based anode enables both energy storage and conversion in an intermediate-temperature fuel cell. Dai Dang, Bote Zhao, Dongchang Chen, Ben M. deGlee, Meilin Liu. Pages 79-84 View PDF. Article preview. select article Molecular insights into ether-based electrolytes for Li-FeS₂ batteries.

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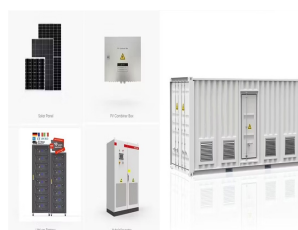
Molecular extension engineering constructing long-chain organic elastomeric interphase towards stable potassium storage[J]. Energy Lab, 2023, 1(2): 220014. doi: 10.54227/elab.20220014. Jun Peng, Xianhui Yi, Ling Fan, Jiang Zhou, Bingan Lu. Molecular extension engineering constructing long-chain organic elastomeric interphase towards stable



Flexible sodium-ion based energy storage devices: Recent progress and challenges. Hongsen Li, Xiao Zhang, Zhongchen Zhao, Zhengqiang Hu, Guihua Yu. Pages 83-104 View PDF. Article preview. select article Transparent and flexible cellulose dielectric films with high breakdown strength and energy density.



A defect-free MOF composite membrane prepared via in-situ binder-controlled restrained second-growth method for energy storage device. Jine Wu, Qing Dai, Huamin Zhang, Xianfeng Li. Pages 687-694 View PDF. Article preview.



Institute of High Energy Physics, Chinese Academy of Sciences, University of Chinese Academy of Sciences, Beijing, 100049 China. Search for more papers by this author. These metrics are superior to most reported MOF-based supercapacitors, demonstrating promising applications in energy-storage devices.



Corrigendum to "Aqueous alkaline acid hybrid electrolyte for zinc-bromine battery with 3V voltage window" [Energy Storage Materials Volume 19, May 2019, Pages 56-61] Feng Yu, Le Pang, Xiaoxiang Wang, Eric R. Waclawik, Hongxia Wang. Page 228 View PDF; Previous vol/issue.

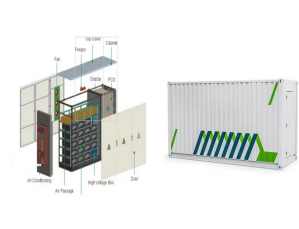


In the context of global decarbonisation, retrofitting existing coal-fired power plants (CFPPs) is an essential pathway to achieving sustainable transition of power systems. This paper explores the potential of using electric heaters and thermal energy storage based on molten salt heat

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transfer fluids to retrofit CFPPs for grid-side energy storage systems (ESSs), along with an ???

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In recent years, Prussian blue analogue (PBA) materials have been widely explored and investigated in energy storage/conversion fields. Herein, the structure/property correlations of PBA materials as host frameworks for various charge-carrier ions (e.g., Na^+ , K^+ , Zn^{2+} , Mg^{2+} , Ca^{2+} , and Al^{3+}) is reviewed, and the optimization strategies to achieve ???