

Abstract To address increasing energy supply challenges and allow for the effective utilization of renewable energy sources, transformational and reliable battery chemistry are critically needed to obtain higher energy densities. Here, significant progress has been made in the past few decades in energetic battery systems based on the concept of multi-electron ...

This study proposes an advanced energy storage (ES) control strategy based on wind speed prediction. First, according to the wind speed fluctuation in a future forecast period, the model predictive control (MPC) method is used to modify the current charging and discharging behavior in advance to improve the FM reliability of WT in the forecast ...

Ever-increasing global energy consumption has driven the development of renewable energy technologies to reduce greenhouse gas emissions and air pollution. Battery energy storage systems (BESS) with high electrochemical performance are critical for enabling renewable yet intermittent sources of energy such as solar and wind. In recent years, ...

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Compressed Air Energy Storage (CAES) ... Chen H, Cong TN, Yang W, et al. Progress in electrical energy storage system: a critical review. Pro Nat Sci 2009; 19: 291-312. Crossref. ... Mr Xinran Wang is the Doctoral Student at Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS). He is mainly engaged in the ...

Probing the Energy Storage Mechanism of Quasi-Metallic Na in Hard Carbon for Sodium-Ion Batteries. Zhaohua Wang, Zhaohua Wang. ... Xinran Wang. Beijing Key Laboratory of Environmental Science and Engineering, School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, 100081 P. R. China ...

Abandoned roadways of coal mines are suitable for compressed air energy storage after proper treatment with grouting reinforcement and concrete lining. According to the theoretical analysis, the rock mass and concrete lining will experience cyclic tensile stress in the air injection-withdrawal process which is unfavorable to the long-term stability of the roadway. ...

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cold energy storage, release and transport using CO₂ double hydrate slurry}, author={Kairan Yang and Zuo Zhou Chen and ...

Mater., 2020, 30, 2003511. Zhaohua Wang, Haoyi Yang, Yiran Liu, Ying Bai*, Guanghai Chen, Ying Li, Xinran Wang, Huajie Xu, Chuan Wu*, Jun Lu*, Analysis of the stable interphase responsible for the excellent electrochemical performance of graphite electrodes in sodium-ion batteries, Small, 2020, 16, 2003268. ... Energy Storage Mater., 2020, 25 ...

energy storage. Specially, aqueous batteries have become a focus in the last few years due to their low-cost, nontoxic, and high-safety merits, showing an unprecedented potential for large-scale energy storage systems. MINI REVIEW Received: May 14, 2022 | Accepted: June 16, 2022 | Published: July 1, 2022 DOI: 10.31635/ccschem.022.202202125

AgNbO₃-based antiferroelectric ceramics have been actively studied for energy-storage applications, where numerous compositional modifications have been implemented to improve their energy-storage performance. In this work, Sm₂O₃-doped AgNbO₃ ceramics were fabricated; the microstructure, dielectric property, and phase transition behavior were ...

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Abstract Abandoned roadways of coal mines are suitable for compressed air energy storage after proper treatment with grouting reinforcement and concrete lining. ... {Xinran Xue and Kai Zhang and Weiming Chen and K. Deng}, journal={Geomechanics and Geophysics for Geo-Energy and Geo-Resources}, year={2021}, volume={7}, pages={1-20}, url={https ...

Iron-based mixed polyanion phosphate $\text{Na}_4\text{Fe}_3(\text{PO}_4)_2\text{P}_2\text{O}_7$ (NFPP) is recognized as a promising cathode for Sodium-ion Batteries (SIBs) due to its low cost and environmental friendliness. However, its inherent low conductivity and sluggish Na^+ diffusion limit fast charge and low-temperature sodium storage. This study pioneers a scalable synthesis of ...

@article{Changqing2021ReliabilityIO, title={Reliability improvement of wind power frequency modulation based on look-ahead control strategy and stage of charge optimization of energy storage}, author={Chen Changqing and Li Xinran and Liu Xiaolong and Yang Yang}, journal={International Journal of Energy Research}, year={2021}, volume={46 ...

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