

Lithium batteries are widely used in power storage and new energy vehicles due to their high energy density and long cycle life. The accurate and real-time estimation for the state-of-charge (SoC ...

Quasi-solid-state lithium-metal battery with an optimized 7.54  $\mu\text{m}$ -thick lithium metal negative electrode, a commercial  $\text{LiNi}_{0.83}\text{Co}_{0.11}\text{Mn}_{0.06}\text{O}_2$  positive electrode, and a negative/positive electrode ...

A battery energy storage system is one of the practical and effective ways to achieve carbon neutrality. Lithium-ion batteries are widely used because of their long cycle life, high energy density, high rated voltage, and low self-discharge rate, etc. Their large-scale application has put forward higher requirements for the battery management system (BMS) to ensure the reliable ...

Real-time electrochemical state information of lithium-ion batteries attributes to a high-fidelity estimation of state-of-charge (SOC) and state-of-health (SOH) in advanced battery management systems. However, the consumption of recyclable lithium ions, loss of the active materials, and the interior resistance increase resulted from the irreversible side reactions cause severe ...

DOI: 10.1016/j.electacta.2020.136070 Corpus ID: 216315342; A novel quantitative electrochemical aging model considering side reactions for lithium-ion batteries @article{Zhang2020ANQ, title={A novel quantitative electrochemical aging model considering side reactions for lithium-ion batteries}, author={Xi Zhang and Yizhao Gao and Bangjun Guo ...

Silicon anodes can be used both in traditional lithium-ion batteries and in more recent Li-O<sub>2</sub> and Li-S batteries as a replacement for the dendrite-forming lithium metal anodes.

strategies for commercial lithium-ion batteries Yizhao Gao<sup>1</sup>, Student member IEEE, Xi Zhang<sup>1\*</sup>, Senior member IEEE, Qiyu Cheng<sup>1</sup>, ... Lithium-ion battery charging speed becomes a

Bangjun Guo, Chenghao Liu, Yizhao Gao, ... 5 ?? (Scopus) ??; ??; ??. The mounting requirement for advanced lithium-ion batteries (LIBs) is based on the enhancement of their whole work life. The application of battery models is vital to improve the control and management ability of sophisticated battery system.

Preparation of carbon-based nanocomposites and its application in the field of battery energy storage . ... Yi Zhao, Zhenxing Feng, Zhichuan J. Xu,\* Yolk-shell  $\text{Fe}_2\text{O}_3$  circle dot C composites anchored on MWNTs with enhanced lithium and sodium storage. Nanoscale 2015, 7, 9520-9525. 9.

A Novel Model for Lithium-ion Battery Aging Quantitative Analysis Based on Pseudo Two-Dimension Expressions Yizhao Gao <sup>1</sup>, Xi Zhang<sup>1\*</sup>, Jun Yang, Bangjun Guo<sup>1</sup>, Xuan Zhou<sup>2</sup> <sup>1</sup> School of Mechanical

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The growing demand for lithium-ion battery in electric vehicles has expedited the need for new optimal charging approaches to improve speed and reliability of the charging process without ...

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