Lithium battery series detection

Online detection of early stage internal short circuits in series-connected lithium-ion battery packs based on state-of-charge correlation

In this paper, a consistency diagnosis method based on charging curve transformation is utilized to diagnose capacity and SOC differences within the battery pack. Since traditional curve ...

Internal short circuit (ISC) is a critical cause for the dangerous thermal runaway of lithium-ion battery (LIB); thus, the accurate early-stage detection of the ISC failure is critical ...

Sheikh, M., Elmarakbi, A. & Elkady, M. Thermal runaway detection of cylindrical 18650 lithium-ion battery under quasi-static loading conditions. Journal of Power Sources 370 ...

In particular, we offer (1) a thorough elucidation of a general state-space representation for a ...

Rapid advancements in electric vehicle (EV) technology have highlighted the importance of lithium-ion (Li) batteries. These batteries are essential for safety and reliability. ...

Improving battery safety is important to safeguard life and strengthen trust in lithium-ion batteries. Schaeffer et al. develop fault probabilities based on recursive ...

Overcharge [8], over discharge [9], short circuit [10, 11] and other battery faults will cause a generation of over-heat and gas within the lithium battery, probably leading to ...

A novel approach for real-time detection of lithium-ion battery thermal runaway has been proposed to enable the monitoring of thermal runaway states during storage, ...

A reasonable threshold considering capacity change characteristics is established to initially identify the fault and for further quantitative diagnosis. The experimental results show that a ...

This paper presents a connecting fault detection method of lithium-ion power batteries in series. The cross-voltage test is adopted to distinguish contact resistance ...

Lithium-ion batteries (LIBs) have a profound impact on the modern industry and they are applied extensively in aircraft, electric vehicles, portable electronic devices, robotics, ...

Abstract: In this paper, the multi-fault diagnosis problem is investigated for series-connected lithium-ion battery packs based on an improved correlation coefficient ...

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Abusive lithium-ion battery operations can induce micro-short circuits, which can develop into severe short circuits and eventually thermal runaway events, a significant safety concern in ...

DOI: 10.1016/j.jclepro.2020.120277 Corpus ID: 213338368; Internal short circuit detection for lithium-ion battery pack with parallel-series hybrid connections @article{Yue2020InternalSC, ...

Aiming at the phenomenon of individual battery abnormalities during the actual operation of electric vehicles, this paper proposes a lithium-ion battery anomaly detection ...

Lithium deposition on anode surfaces can lead to fast capacity degradation and decreased safety properties of Li-ion cells. To avoid the critical aging mechanism of lithium ...

The 3D point cloud-based defect detection of lithium batteries used feature-based techniques to downscale the point clouds to reduce the computational cost, extracting ...

Vehicle #C1 consists of 96 battery cells connected in series, so each battery has a different voltage value and the same current value. Vehicle #C3 is the same as #C1, except that it is a faulty vehicle. ... this paper ...

In particular, we offer (1) a thorough elucidation of a general state-space representation for a faulty battery model, involving the detailed formulation of the battery system state vector and ...

Web: https://centrifugalslurrypump.es