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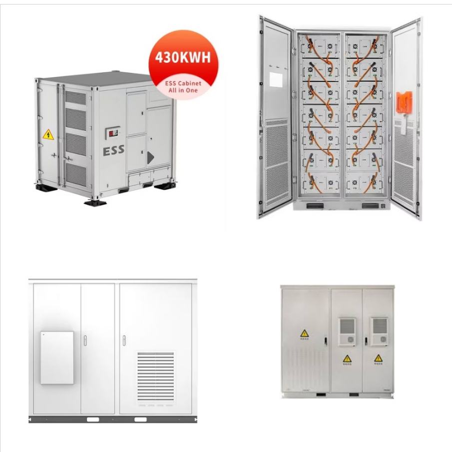
This study establishes a mechanistic calendar aging model of lithium-ion battery considering solid electrolyte interface growth. The model can not only simulate the battery capacity degradation and the evolution of battery charging voltage profiles but also capture the internal degradation of the electrodes during the aging process.

In this study, the calendar aging of lithium-ion batteries is investigated at different temperatures for 16 states of charge (SoCs) from 0 to 100%. Three types of 18650 lithium-ion cells, containing different cathode materials, have been examined. Our study demonstrates that calendar aging does not increase steadily with the SoC.

CALENDAR AGING OF LITHIUM ION BATTERIES

Calendar aging contributes to the limited operating lifetime of lithium-ion batteries. Therefore, its consideration in addition to cyclical aging is essential to understand battery degradation. This study consequently examines the same graphite/NCA pouch cell that was the subject of previously published cyclic aging tests.

In this paper, two experimental studies on calendar aging of nickel cobalt aluminum oxide (NCA) lithium-ion batteries are presented and evaluated. Differential voltage analysis (DVA) and coulometry are employed to gain a deeper understanding of the degradation mechanisms and side reactions leading to calendar aging.



This paper aims to analyze the aging mechanism of lithium-ion batteries in calendar aging test processes and propose a SOH estimation model which does not rely on the input of battery aging history. In the aging mechanism analysis, both time domain data and frequency data are analyzed to explore the internal behaviors of lithium-ion

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In this work we present a novel mechanistic calendar aging model for a commercial lithium-ion cell with NCA cathode and silicon-graphite anode. The mechanistic calendar aging model is a semi-empirical aging model that is parameterized on component states of health, instead of capacity.

To optimize costs and ensure safety, investigation and modeling of battery aging is very important. Calendar aging analysis consist of a periodic sequence of calendar aging and cell characterization. The influence of the characterization on the results of the

CALENDAR AGING OF LITHIUM ION BATTERIES

This dataset encompasses a comprehensive investigation of combined calendar and cycle aging in commercially available lithium-ion battery cells (Samsung INR21700-50E). A total of 279 cells