Short Communication

High-temperature Aging Behavior of Commercial Li-Ion Batteries

Xiaoyi Xie, Li Wang^{*}, Xuning Feng, Dongsheng Ren, Xiangming He^{*}

Institute of Nuclear & New Energy Technology, Tsinghua University, Beijing 100084, China

^{*}E-mail: wang-l@tsinghua.edu.cn ; hexm@tsinghua.edu.cn

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Herein, we report high-temperature aging behavior of commercial Li-ion batteries (LIBs) after heating at 100 °C in which environment. After thermal aging, the results reveal a capacity drop of 61.1% during initial 2 charge/discharge cycles, however, the capacity started to recover after the 2nd cycle and became stable after 24th cycle. In 16 charge/discharge cycles, we have observed a capacity recovery rate of 94.5%. The recovery rate linearly increased during initial four charge/discharge cycles, followed by an exponential decrease. The present report demonstrates that thermal aging can be accelerated by increasing the aging temperature, which is an efficient and fast route for performance evaluation of LIBs.

Keywords: high-temperature aging; Li-ion batteries; capacity retention; capacity recovery rate

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