Influence of dynamic mechanical stress on lithium-ion-battery aging

Abstract:
This paper presents the investigation results of the effects on battery cell aging from onetime crash acceleration loads. In official safety tests, like the UN38.3 or UNECE R100 test aging behavior after the test is not investigated. To investigate possible negative effects after crash loads, two types of battery cells were tested with three different types of crash acceleration loads from real crash data. To observe the effects from mounting orientation, both axial and radial loads were applied. Effects on instant capacity loss after the incident and the overall aging behavior could be observed. Non-destructive computer tomography showed internal damage of the cell that could not be detected externally.

Stichworte:
FTM Komponenten von Elektrofahrzeugen

Kongress- / Buchtitel:
6. Conference on Future Automotive Technology

Datum der Konferenz:
09.-10.05.2017

Jahr:
2017

Revied:
ja

TUM Einrichtung:
Lehrstuhl für Fahrzeugtechnik

Occurences:
- Hochschulbibliographie > 2017 > Fakultäten > Maschinenwesen > Lehrstuhl für Fahrzeugtechnik (Prof. Lienkamp)
entries: