

# Determination of degradation modes of lithium-ion batteries considering aging-induced changes in the half-cell open-circuit potential curve of silicon-graphite

The influence of a change in the shape of the open-circuit potential (OCP) curve of Silicon-Graphite (SiC) on the estimation of degradation modes based on the full-cell OCV is investigated:

- Aging-induced change in SiC OCP curve is analyzed using a blend electrode model
- Aged full-cell OCV curves are reconstructed using measured aged SiC OCP curves
- Full-cell OCV curves are reconstructed using simulated SiC OCP curves
- Degradation modes are estimated with higher validity avoiding misinterpretations
- Destruction-free estimation method for component degradation in SiC is presented

