

This work presents a method to parametrize a battery cell model from field data. It enhances the equivalent circuit model with Gaussian process regression to fit the OCV curve and the non-linear SOC dependency of the cell's internal resistance, with no prior knowledge of the cell required.

- Hybrid method to parametrize Li-ion battery cell model from field data.
- Benchmark against state-of-the-art using dataset of cells with 100%-70% SOH.
- The conventional method loses accuracy with increasing cell degradation.
- The novel method can accurately reconstruct the cell's OCV curve and resistance.
- Suitable over the whole cell's lifetime and under high states of degradation.

