

Dr EIS - Advancing Distribution of Relaxation Times (DRT) Analysis for Lithium-Ion Battery Testing with Multi-Sine EIS

Partners: LiU, Scania CV, Epiroc, Polestar, Alstom

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Challenges:

This project is an SEC prestudy that aims at making an ambitious effort to unify new and ongoing developments in multi-sine electrochemical impedance spectrum (EIS) measurement, invented in Sweden, with a promising data analysis method based on the Distribution of relaxation times (DRT). It addresses a gap in the current battery research, namely automating the analysis step from pure EIS data to useful information for a user.

Goal:

To develop a tool chain that offers a clear pathway toward more effective and insightful diagnostic capabilities.

Approach:

To achieve the goal through a combination of novel EIS testing and mathematical innovation in the optimization based DRT analysis.

