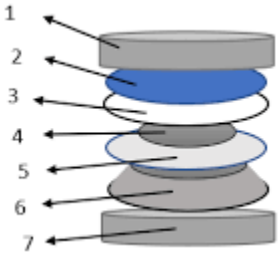
Technische Universität Braunschweig

Institute of Energy and Process Systems Engineering

Studentische Hilfskräfte for Lithium-ion Coin Cells Assembly and Performance Study

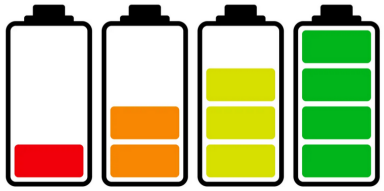
Ongoing research aims to enhance the performance of lithium-ion batteries by improving energy density, charging speeds, and overall safety. This joint project based in the Battery LabFactory Braunschweig (BLB) investigate and develop advanced batteries from laboratory to pilot plant scale, especially to explore how cell manufacturing processes influence battery performance.

This HiWi job focuses on the coin cells assembly, their formation and early life cycling tests. Further analysis and study about cells performance can be conducted using model-based or statistical methods, e.g., the comparison of available capacity, capacity fading and C-rate stability under different processing conditions. (Therefore, a combined thesis with this HiWi job at the same time is also encouraged.)



Schematic:

1. Negative Casing
2. Counter electrode (Li-Chip)
3. Separator
4. Working electrode
5. Stainless steel spacer
6. Stainless steel conical spring
7. Positive Casing



Requirements or Interested in:

- Electrochemical basics
- Lab work basics
- Mathematical methods
- Lithium-ion battery technology

Programming skills are wished (Python, etc.)

Contact:

Binbin Zhu

Tel.: 0531 / 391 - 3037

b.zhu@tu-braunschweig.de

From September/Oktober 2023: HiWi and Student/Bachelor/Master Thesis