

Investigation of the cyclic behavior of Metal Hydrides for Hydrogen Storage

Topic suitable for a paid Master Thesis

At CEET, you can become part of a team of experienced researchers, with expertise in materials preparation, electrochemistry and cell characterization. The research group has access to a fully equipped laboratory with the necessary infrastructure for the planned experimental work.

Amongst hydrogen storage technologies, metal hydrides (MH) offer various benefits such low energy demand due to moderate operating conditions, high storage density and safe operation due to low storage pressures. Diverse array of metal hydride material exist for various application scenarios yet a deeper understanding on the performance is needed. This work aims to evaluate the performance of different metal hydride material on their activation requirements, cyclic stability and chemical kinetics in operation.

Workpackages are:

- Design of the testing infrastructure
- Operation and evaluation of the system
- Characterization of the cyclic performance and kinetics

