Master-Thesis: Experimental investigation of a compact thermal energy storage system for passenger cars

AEE INTEC

AEE – Institute for Sustainable Technologies (AEE INTEC) is an independent research association which was founded in 1988. Currently over 60 employees from 8 different nations are working at AEE INTEC. The institute constantly contracts out dissertations, master theses and internships. The activities of AEE INTEC include:

- Fundamental- as well as applied research
- National and international R&D projects
- Cooperation with universities, technical colleges, other research facilities and industry

The three major departments of AEE INTEC are “Thermal Energy Technologies and Hybrid Systems”, “Buildings and Renovation” as well as “Industrial Processes and Energy Systems”.

Research Project

The Austrian flagship-project Tes4seT is dedicated to the development of thermal energy storage systems for five different applications in buildings, transport and industry. In the course of this project, AEE INTEC works on seasonal thermal energy storage systems for solar thermal energy and also develops new technologies for the storage of thermal energy in hybrid and electrical passenger cars.

The research topic of this Master-Thesis is the design and development of a compact thermal energy storage system for passenger cars. The compact thermal energy storage is used for the thermal conditioning of the battery in hybrid and electrical passenger cars. The storage technology is based on the adsorption of water vapor on a porous solid, e.g. zeolite. The goal of the Master-Thesis is the optimization of the individual components as well as the assembly and testing of the whole system.

Outline of the Master-Thesis

- Performing dedicated experiments with the critical components
- Assembly of the components in a system
- Experimental assessment of the system
- Analysis of the experimental results and comparison with theoretical predictions
- Summarizing the activities, methods and insights in an academic thesis (master-thesis)

We expect…

- Solution-focused, autonomous and motivated attitude to work
- Knowledge in the field of heat engineering
- Interest in experimental investigations and practical work

We offer...

- Salaried position with a master-thesis embedded in a current research-project
- Supervision by experienced researchers and highly qualified technical support
- *Period:* Starting by 15.4.2017, lasting for 6 months
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Gleisdorf, 04th of October 2016