Universität Ulm
Institut für Energiewandlung und -speicherung

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12.04.2018

Master thesis

The Institute for Energy Conversion and Storage is engaged in state of the art research in Hybrid aircrafts. As a part of a research project, a powertrain for a hybrid-electric fuel cell passenger aircraft, the HY4, will be developed and assembled. The development and optimization of the hybrid powertrain, requires a model of the fuel cell. To be included are the electrical and thermal behaviour & load changes and operating conditions.

Main tasks:

1st Month: Literature review

2nd Month: Modelling and parameterization

3rd Month: Simulation and validation

4th – 5th Month: Model Improvement

6th Month: Conclusion and documentation

This thesis allows gathering experience in practical constructive as well as theoretical-simulative aspects of modern fuel-cell systems. Knowledge in Matlab, Simulink and Comsol is helpful, but not mandatory and can be obtained over the course of the thesis. The student is expected to work independently and achieve meaningful scientific results.

For further inquiries, please contact:

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