SUPER – Stuttgart University Program for Experiencing Research Project Information

Institute’s Information

Name of Institute Institute of Electrical Energy Conversion
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Duration of Project/Number of Students

| June/July | x |
| June/July/August | x |
Number of Students 1

Name of Project Topics in the area of electrical machines and contactless energy transfer

Beneficial Skills & Knowledge

Programming Skills (C, HDL), Matlab/Simulink, Circuit Design and Analysis
Control Engineering, Signal and Power Electronics

Description of Work

At the Institute of Electrical Energy Conversion (IEW) there are two major research topics: Electrical Machines and Contactless Energy Transfer (CET). In the area of electrical machines, the IEW focuses on the research of electromagnetic and constructional design of electrical machines, that are not state of the art, i.e. the transversal flux machines. Examples for the research in the CET area are topics on inductive charging of mobile devices but also for higher power levels such as inductive energy transfer to electrical vehicles and heavy rail trains. Both areas also include topics like power and signal electronics or control engineering. In addition to our basic research in this field, we follow various application-oriented projects, e.g. in the area of electromobility and renewable energies. The specific project description will be defined together with the student, depending on current research topics and the student’s knowledge. Possible topics include programming, simulation, measuring and signal or power electronics hardware design.