Science and Engineering Research Program
Project Description

Institute:
Institute of Electrotechnology

Project title:
System integration of measuring instruments for electrothermal applications

Project description:
A numerical simulation is an essential tool in the design of electrothermal processes. In comparison to analytical calculations or empirical experiments, it is possible to simulate the entire heating process very close to reality and, the most significant advantage, to quickly analyse the influence of input parameters on the output of the process.
But even with all the advantage, numerical studies cannot be conducted without the use of experimental data to ensure the correct functionality or to review the quality of the numerical simulation. In the case of inductive or conductive heating a synchronized measurement of multiple electrical and thermal parameters is required to fully and most important correctly describe the heating process.
In the course of this project the student will engineer a software and a hardware solution for a measurement system which enables the synchronized use of thermal imaging, voltage and current measurement and thermal couple measurement for electrothermal processes.

Required skills:
Fundamental experience in Python/MATLAB/LABVIEW or similar programming languages.
Basic understanding of electronics and logic circuits

Contact/supervisor:
niedzwiecki@etp.uni-hannover.de
M.Sc. Igor Niedzwiecki

baake@etp.uni-hannover.de
Prof. Dr.-Ing. Egbert Baake