University of Stuttgart

Institute of Robust Power Semiconductor Systems

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10.04.2021

HiWi / Student assistance position

to be assigned

ILH RF-group

Software interface for lab power supply for measurement automation in MATLAB

Motivation:

The stability of terahertz analog circuits is highly dependent on the quality of the DC supply. MMICs usually require several different DC levels for operation, which must maintain certain ramp-up and ramp-down sequences to avoid damaging the analog circuits. Further, to generate measurements over different operating points, DC voltages must be swept. Measurement automation ensures repeatability and high quality of performed measurements.

Coding will be done in MATLAB

Goals:

For the lab power supply of analog integrated circuits *Keysight* and *National Instrument* SMUs are used. An interface should be developed to connect the SMUs within an existing environment for measurement automation in MATLAB.

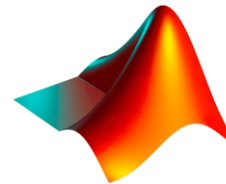*Exemplary instrument setup for measurement automation*

Your Tasks:

- Programming and debugging of a custom software interface / driver library in MATLAB
- Provision of ramp-up and ramp-down sequences
- Validation
- Documentation and creation of user manual

Your Qualifications:

- Hands-on experience coding in C / MATLAB
- Familiar with VISA API for instrument communication
- Passion for comprehensible and carefully coding
- Knowledge of test automation is advantageous

gewissenhaft

Others:

Form, scope and reimbursement of the student assistant position will be arranged in consultation with the supervisors.

Language: German/English