Status of Aachen-1B Activities for the Si-D Consortium

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Objective:

- Characterization of novel DC-DC converters, both standalone and in-system
 - Efficiency, line and load regulation, conducted and radiated noise, thermal aspects, module noise performance, ...
- Explore the use of DC-DC converters with a high conversion ratio in silicon modules, using bPOL48V by CERN
- Characterization of DC-DC converters developed by FH Dortmund, targeting an application in pixel modules

Funding situation:

- Received funding for 1 PhD position, travel money, 45k invest money for setups & PCB production
- Position filled in September: Joelle Savelberg

Status of the project:

- On the international level, we are part of DRD7, not DRD3 (DRD7.1.b: "Powering Next Generation Detector Systems")
- Several setups have been re-commissioned and adapted and are fully operational
 - Now working on cold tests in a climatic chamber
- We received two bPOL48 prototypes from CERN and started to characterize them
 - Results presented to Stefano Michelis (DRD7.1.b coordinator & bPOL48V team leader), well received
- Measurements with a "2S" CMS silicon strip module have also started
- Many ideas as well as requests for further measurements; expect to receive improved bPOL48V version soon

Katja Klein



Impressions







Setup for electrical and thermal characterization



Setup for measurements of radiated emissions

