

Trainee's Project Report

Job Code	PH2842
Department	PH
Discipline	Electronics Engineering
Supervisor	BLANCHOT Georges

Description

To participate in the development of custom DC-DC converters for Trackers at the Super LHC. The front-end DCDC converters need to be optimized for minimum noise emission and size, and they need to be tolerant to intense magnetic fields and to high levels of radiation. Prototypes of these converters have been produced: they need to be characterized and tested with front-end systems. The compatibility between the converters and the systems needs to be studied.

Special Requirements

Design of power electronics.
Remote control of instruments.
Computing for data analysis.

Training Value

The project will bring the trainee in the field of electromagnetic compatibility of front-end electronics for particle detectors, which is of primary importance for the SLHC experiments. Also, the tests of DCDCs offers the possibility to learn the design and operation of different types of front-end electronics systems. The work will be performed in close collaboration with the radiation tolerant power ASICs designers at CERN.

