



Sample Project: ATLAS Tile Calorimeter high voltage system

Code	PH4154
Programme	FCT
Department	PH
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Title

ATLAS Tile Calorimeter high voltage system

Description

The Tile Calorimeter is a sub-system of the ATLAS experiment, one of the experiments that operate at the CERN LHC collider. The Tile calorimeter is built in three cylindrical sections, two 3 m long sections and one 6 m long section. Each cylinder is built by joining 64 modules. Most of the front end electronics is installed in drawers in the outer part of the modules, including high voltage (HV) regulation and distribution boards that need to be radiation hard. New HV boards are being designed for the upgrade of the Tile Calorimeter, following two different approaches for the location of the boards (in detector or remote) and tests need to be done using prototypes of both systems. The context of the job offer is to be integrated in the team in charge of developing the HV boards and integrating them in the calorimeter "demonstrator" modules (modules equipped with new electronics that is being developed). The HV boards and the respective control systems will be tested in several environments (laboratory, testbeam with high energy particles, etc) to ensure that they correspond to the requirements.

By being involved in this project, it is possible to get an overall view of the execution of an electronics and control project. Last "state of art" resources will be applied for these tasks. The candidate will take part in the analysis of the data collected by the monitoring system and will interact with the physicists and engineers that are developing the new electronics for the upgrade of the Tile calorimeter.

Skills

electronics, control systems

Disciplines

Electronic Engineering

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