



Development of fast dedicated readout systems for positron emission tomography applications

Code	EP7644
Programme	FCT
Department	EP
Responsible	33777 - Dr. Etienne Auffray Hillemanns 1

Title
Development of fast dedicated readout systems for positron emission tomography applications

The group of CERN Lab27 is actively working on the development of Positron Emission Tomography, with a particular focus on fast timing. In this frame, you will participate to the development of front-end electronics for fast readout of multi-channel detectors. You will support our team by:

Designing printed circuit boards (PCB) to host high speed and highly integrated front end electronics for multichannel SiPM readout. Performing electrical simulations in order to reduce electrical crosstalk and reflections of the transmission lines to the front-end electronics. Taking part in the integration and in the validation measurements of the prototypes.

Skills required: Experience with PCB designing tool (Altium). Experience in high frequency design and corresponding simulation packages. Good knowledge of English required.

Skills
Networks and Systems: Integrated circuits. Theory of Electrical Engineering: Modeling and simulation
Disciplines
Electronic Engineering
Training Value
The engineer will get valuable insight in the whole production process from simulation, design and production of high-end PCBs used on the forefront of timing in PET. He/she as well will get solid knowledge of PET detector modules and, i.e. scintillator plus photodetectors (SiPMs), and their integration in PET prototypes.

