Contribution ID: **41** Type: **On-site project**

Testing new hardware prototypes for the CMS HGCAL calorimeter upgrade

The CMS experiment will need to upgrade its calorimeter endcaps for the HL-LHC phase. The backward part of the High Granularity CALorimeter (HGCAL) upgrade will consist of small scintillator tiles read out by silicon photomultipliers (SiPMs). DESY develops the readout units and the production and testing procedures for this part. The HGCAL will operate at -30 degrees C, in a high radiation environment, so the components as well as the readout units will have to be thoroughly tested in harsh conditions. We expect the first units with final components this year, for which we will check that they fulfil all the requirements.

The project consists of participation in setting up these tests, performing them, and analysing the data.
Estimated shares: 20% physics, 40% programming, 40% hardware & measurement

Field

B3: Development of experimental particle physics equipment (hardware-oriented)

DESY Place

Hamburg

DESY Division

FH

DESY Group

FTX-DTA, CMS

Special Qualifications:

Interest in detector technologies. Prior experience with electronics would be a bonus.

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