Contribution ID: **54** Type: **On-site planned, but remote also possible**

Calibration of the new CMS luminosity detector BCM1F

The BCM1F detector of the CMS experiment consists of 48 silicon pad sensors situated close to the beam pipe on both sides of the interaction point. The detector provides an online, quasi-real-time measurement of the instantaneous luminosity the CMS and the LHC control rooms. For the Run-3 data taking, BCM1F was completely refurbished.
The topic of the Summer Student project is data analysis and calibration of the detector using the new Run-3 data, recorded in Spring and Summer 2022. The results of the analysis will be implemented in the online software calculation of the instantaneous luminosity of the LHC.

Field

B1: Particle physics analysis (software-oriented)

DESY Place

Hamburg

DESY Division

FH

DESY Group

CMS

Special Qualifications:

Basic knowledge in particle physics. Experience with the programming language python is very useful. C++ is a nice to have.

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