Contribution ID: **59** Type: **On-site project**

CMS Phase-2 Tracker endcap integration.

The student will participate in various activities related to the integration of the CMS Phase-2 Tracker endcap.

The integration of detector modules onto the supporting mechanical structure brings various challenges that have to be addressed. The thermal coupling of the PS detector modules using a thermal interface material has to be established. Candidate materials are being studied. The thermal and mechanical properties are evaluated and material application techniques have to be developed und conjunction with a module integration procedure that needs to be established. The quantification of the thermal conductivity of various materials used in the detector construction is needed, using a dedicated measurement setup. Module integration needs to be exercised including service routing.

A related activity studies the procedure of constructing double disks from individual half disks. The prototype tooling for the double disk integration is currently being developed and will be assembled over the next months. The procedure for the assembly has to be defined and tested using dummy structures. This involves various measurements of the tooling system using the precision metrology system.

These ongoing activities provide ample opportunities for a student to engage in hands on activities in the detector construction. Exact task descriptions have to be defined close in time depending on the progress of the project.

Field

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

DESY Place

Hamburg

DESY Division

FH

DESY Group

CMS

Special Qualifications:

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