

CMS MTD BTL timing detector in Phase2 upgrade

Thursday, 15 August 2024 11:55 (15 minutes)

The LHC will resume operations in 2026, entering the High Luminosity (HL-LHC) era. MTD (MIP Timing Detector) is a pivotal component in the HL-LHC CMS upgrade, promising a remarkable enhancement in time resolution to 30 ps. In the part of the BTL (Barrel Timing Layer), we have formulated a comprehensive research and development plan, along with an assembly and testing strategy for the Sensor Module. Readout Units testing is nearly complete, with large-scale production set to commence soon. Peking University, along with other institutions, has played an important role in this work. Our contributions mainly encompass the optimization of the sensor module coupling tool and the implementation of the sensor module QA/QC system through production, construction, and testing. Additionally, we participated in specific test beam projects, collaboratively determining specifications for SiPM and LYSO. In large-scale production, our responsibilities will extend to assembling a quarter of the modules while also undertaking other associated tasks.

Primary author: WANG, jin (school of physics Peking University)

Presenter: WANG, jin (school of physics Peking University)

Session Classification: 分会场五

Track Classification: 粒子物理实验技术