Contribution ID: **312** Type: **Parallel session talk**

The Phase-2 CMS BRIL system for precision luminometry

Friday 19 July 2024 17:57 (15 minutes)

The CMS Beam Radiation, Instrumentation and Luminosity (BRIL) system aims to provide high-precision bunch-by-bunch luminosity determination in the harsh conditions of the High-Luminosity LHC. Luminosity instrumentation will use diverse technologies, including a dedicated detector, the fast beam conditions monitor (FBCM) with Si-pad sensors and a fast triggerless readout. Various CMS subsystems' back ends will be adapted to provide luminosity information, including the tracker endcap pixel detector (TEPX), the outer tracker, the muon barrel, the hadron forward calorimeter, as well as the 40 MHz trigger scouting system. The BRIL Trigger Board will enable the independent operation of FBCM and the innermost layer of TEPX from the rest of CMS at all times by providing a dedicated timing and luminosity trigger infrastructure.

Alternate track

I read the instructions above

Yes

Primary authors: CMS; MALLOWS, Sophie (KIT - Karlsruhe Institute of Technology (DE))

Presenter: MALLOWS, Sophie (KIT - Karlsruhe Institute of Technology (DE))

Session Classification: Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors

Track Classification: 12. Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors