

LHCb Muon Detector

Saturday 20 July 2024 14:30 (18 minutes)

LHC restarted in April 2022 and the plan is to run at an average instantaneous luminosity of $2.0 \times 10^{33} \text{ cm}^{-2} \text{ s}^{-1}$ at the LHCb interaction point, a factor of five higher than in the past. In order to cope with the increased luminosity and to take data at the full bunch crossing frequency (30MHz visible interaction rate) in trigger-less mode, the LHCb Detector has undergone a major upgrade, allowing LHCb to collect approximately 50 fb^{-1} in the next 10 years. The upgraded Muon Detector with new off-detector and control electronics, able to cope with the full LHC bunch crossing frequency in trigger-less mode also features updated control systems and reconstruction softwares. Steady progress has been made in finalising the detector control system, calibration and alignment using data collected in 2022 and 2023. In 2024, the detector is expected to reach its nominal performance. Current status and prospects of the LHCb muon detector will be discussed in detail.

Alternate track

I read the instructions above

Yes

Author: CONTU, Andrea (INFN)

Co-author: VOS, Keri (Nikhef National institute for subatomic physics (NL))

Presenter: CONTU, Andrea (INFN)

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