



Contribution ID: 129

Type: **Talk**

Heading to HL-LHC: the Muon Detector for the LHCb Upgrade II

Friday 2 September 2022 11:40 (20 minutes)

The LHCb experiment, operating at the Large Hadron Collider (LHC) at CERN, is designed to perform precision measurements of CP violation as well as rare decays of beauty and charm hadrons, hunting for hints of Physics beyond the Standard Model.

The detector is a single-arm spectrometer covering a pseudo-rapidity range of $2 < \eta < 5$. In runs 1 and 2, a total luminosity of about 9 fb^{-1} was integrated.

The LHCb Muon Detector plays a crucial role for tagging the flavour of b mesons through their semileptonic decays. While the detector commissioning for Run 3 is in progress, parallel studies are being carried out in order to define a new layout of the Muon Detector to comply with the challenging operating conditions foreseen at LHC Upgrade II. Instantaneous luminosities up to a factor ten higher than the design value are expected to produce particle rates ranging from several kHz/cm^2 up to $1\text{MHz}/\text{cm}^2$ in the innermost regions. An intense R&D activity on new detector technologies is currently ongoing. The talk will give an overview on the present status of the Muon Detector project and its perspectives towards future upgrades.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

LHCb (CERN)

Is the speaker for that presentation defined?

No

Details

N/A

Internet talk

Maybe

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Session Classification: Mini-Workshop on Instruments and Methods in HEP