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The Muon Detector of the LHCb experiment at Upgrade II

Thursday, July 20, 2023 12:15 PM (25 minutes)

LHCb is a dedicated b-physics experiment at the CERN Large Hadron Collider (LHC).

Designed to perform precision measurements of CP violation as well as rare decays of beauty and charm hadrons, its detector was successfully operated during Run 1 and Run 2 of the LHC and is currently taking data after having being upgraded to run at a luminosity of 2×10ˆ33cm−2s−1. A further upgrade phase, the Upgrade II, has been proposed for LHCb to fully exploit the flavour physics opportunities of the High Luminosity era, probing a wide range of physics observables with unprecedented accuracy. Starting from 2035, LHCb Upgrade II is expected to run at an instantaneous luminosity up to 2×10ˆ34cm−2s−1 and to collect a data sample corresponding to about 300 fb−1.

The LHCb Muon Detector plays a key role in b mesons tagging. A new design for the Muon Detector is under study, in order to deal with the luminosity and readout rate increase while preserving its stable operation together with highly efficient muon detection capability. An intense R&D activity on new technologies is currently ongoing.

In this talk, an overview on the state of the art of the Muon Detector project and its perspectives towards future upgrades will be presented.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

LHCb, CERN

Is the speaker for that presentation defined?

Yes

Details

Alessandra Pastore - INFN Bari
https://www.ba.infn.it/it/

Internet talk

Yes

Author: PASTORE, Alessandra (INFN Bari)

Presenter: PASTORE, Alessandra (INFN Bari)

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