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Upgrades and Performances of ALICE on muon detection at forward rapidities for LHC Run 3

Saturday 20 July 2024 16:45 (15 minutes)

During runs 1 and 2 of the LHC, the ALICE Muon Spectrometer (MS) has produced many results at forward pseudorapidities (2.5<η<4) and down to p_{T}=0, mainly on quarkonia and open heavy flavors. However, the frontal absorber of the MS prevented the separation of charm and beauty contributions because of the lack of spatial resolution in the interaction point region. To remove this limitation, a new tracker, the Muon Forward Tracker (MFT), has been installed in front of the frontal absorber. Covering almost the full acceptance of the MS, the MFT is composed of 936 high-performance pixel sensors (ALPIDE). In addition, the front-end and the readout electronics of the MS have been upgraded to cope with the increase of event rate from about 10kHz to 50kHz in Pb-Pb collisions.
After an overview of the design of these upgrades, this contribution will focus on the performance of the muon detection in terms of data taking, track reconstruction and measurement of displaced vertices.

Alternate track

I read the instructions above

Yes

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