

SEMINAR TEILCHENPHYSIK

Thema

The LHCb SciFi Tracker: Assembly, Commissioning & First Data Taking

Abstract

The LHCb detector has undergone a major upgrade for Run 3 of the LHC, enabling it to operate at a five times higher instantaneous luminosity and to be read out at the LHC bunch crossing frequency of 40 MHz. The new operating conditions require the replacement of the complete tracking system. The main tracking stations have been replaced by the SciFi Tracker, a large high granular tracking detector based on 250 μm scintillating fibres read out by silicon photomultipliers (SiPMs) arrays. A custom ASIC is used to digitise the SiPM signals at 40 MHz, further digital electronics perform clustering and data compression before the data is sent via optical links to the data acquisition system.

Assembly and installation of the SciFi Tracker took place from 2019 to 2022 and was accompanied by an extensive commissioning procedure. This talk will give an overview of the detector and present experiences from the assembly, commissioning, and first operation during Run 3 of the LHC.

Vortragender

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Ort

CP-O3-123

Zeit

Donnerstag, 11.07.2024
16:00 – 17:00 Uhr

im Auftrag:

Dr. Maik Becker