



Contribution ID: 180

Type: Talk

【341】 Radiation damage in the LHCb silicon tracker

Thursday 24 August 2017 14:00 (15 minutes)

The purpose of LHCb is to search for indirect evidence of new physics in decays of heavy hadrons. The LHCb detector is a single-arm forward spectrometer with precise silicon-strip detectors in the regions with highest particle occupancies. The non-uniform exposure of the LHCb sensors makes it an ideal laboratory to study radiation damage effects in silicon detectors.

Dedicated scans are regularly taken, which allow a precise measurement of the charge collection efficiency (CCE) and the calibration of the operational voltages.

The measured evolution of the effective depletion voltage V_{depl} will be shown, and compared with the Hamburg model prediction. The overall performance of the LHCb silicon tracker will be presented.

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Session Classification: Nuclear, Particle-and Astrophysics (TASK-FAKT)

Track Classification: Nuclear, Particle- and Astrophysics (TASK - FAKT)