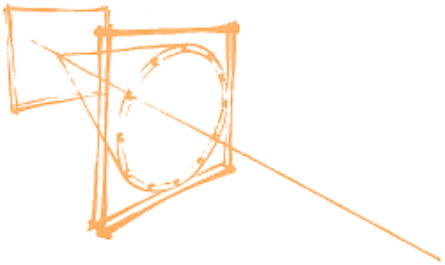

ID de Contribution: **51** Type: **Poster**

Magnetic calibration of the LHCb RICH detectors

jeudi 6 mai 2010 10:00 (1 minute)

The LHCb experiment will search for new physics in CP violation and rare decays of b hadrons at the LHC. Particle identification is provided by two RICH detectors, RICH-1 and RICH-2, equipped with 484 Hybrid Photon Detectors to read the Cherenkov light.
The RICH detectors are located in the fringe field of the LHCb dipole magnet, and fields as large as 2.5 mT have been measured in some regions occupied by the RICH 1 photodetectors. Hence it is necessary to make corrections for the distortion of the ring-images measured by the HPDs. RICH 1 incorporates a magnetic calibration system comprising a series of collimated LEDs mounted on x-y stages which scan over the front-faces of the HPD arrays. The system allows mapping of the magnetic distortions to a precision better than 1 mm at each HPD photocathode level. The magnetic calibration procedure is performed in dedicated LED scans with dipole field on and off for both RICHes.
Parameterizations for RICH-1 and RICH-2 are then computed and corrections applied to the LHC collision data. Cherenkov angular resolutions before and after magnetic corrections will be presented.

Please indicate ”poster” or ”plenary” session. Final decision will be made by session coordinators.

plenary

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