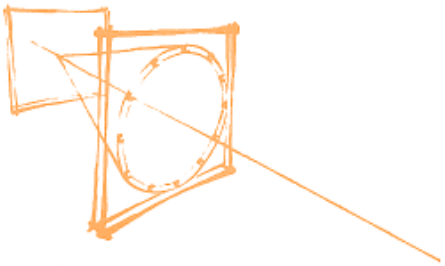

ID de Contribution: **50** Type: **Oral presentation**

Alignment and monitoring of the LHCb RICH detectors with data

jeudi 6 mai 2010 10:50 (30 minutes)

Hadron identification in the LHCb experiment is performed by Ring Imaging Cherenkov (RICH) detectors. The system is composed by two RICH detectors, three radiators, imaging optics and 484 Hybrid Photon Detectors (HPDs). The refractive index of the radiators (16 aerogel tiles, C4F10 and CF4) is calibrated using saturated (beta=1) tracks and expected changes due to atmospheric pressure variations are monitored with data and sensors. The 116 mirrors in the imaging system require alignment to an accuracy of 0.1 mrad and the position of the photon detectors needs to be accurate to 0.5 mm. Tools integrated in the system allowing to achieve this goal will be described. Once successfully commissioned the RICH detectors, they can be calibrated using the first collision data from the LHC. Their performance in particle identification will depend crucially on the accuracy with which the components will be aligned and the different corrections applied.

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

plenary

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Classification de Session: Technological aspects of Cherenkov detectors

Classification de thématique: Technological aspects of Cherenkov detectors