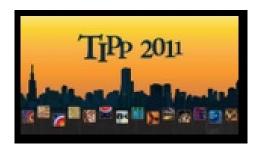
TIPP 2011 - 2nd International Conference on Technology and Instrumentation in Particle Physics



Contribution ID: 102 Type: Oral Presentation

The Ring Imaging CHerenkov detectors of the LHCb experiment

Thursday 9 June 2011 16:20 (20 minutes)

Particle identification is the

fundamental requirement of the LHCb experiment to fulfill its physics programme. Positive hadron identification

is performed by two Ring Imaging CHerenkov (RICH) detectors. This system covers the full angular acceptance of the experiment and is equipped with three Cherenkov radiators to identify particles in the wide momentum range from 1 GeV/c up to 100 GeV/c. The Hybrid Photon Detectors (HPDs) located outside the detector acceptance provide the photon detection with 500,000 channels. Specific readout electronics have been developed to readout and processing data from the HPDs including data transmission and power distribution. A dedicated very high voltage control system has been implemented to operate and monitor the photon detectors. The operation and performance of the RICH system are ensured by the constant control and monitoring of low voltage and high voltage systems, of the gas quality and environmental parameters, of the mirror alignment, and finally detector safety. The description of the LHCb RICH will be given. The experience to operate the detector at the Large Hadron Collider will be presented and discussed.

Author: PEREGO, Davide (Univ. Milano-Bicocca+ INFN)

Presenter: PEREGO, Davide (Univ. Milano-Bicocca+ INFN)

Session Classification: Particle ID Detectors

Track Classification: Particle Identification