

THE CERN LARGE HADRON COLLIDER: ACCELERATOR AND EXPERIMENTS

The LHCb Detector at the LHC

The LHCb Collaboration

ABSTRACT: The LHCb experiment is dedicated to precision measurements of CP violation and rare decays of B hadrons at the Large Hadron Collider (LHC) at CERN (Geneva). The initial configuration and expected performance of the detector and associated systems, as established by test beam measurements and simulation studies, is described.

KEYWORDS: Large detector systems for particle and astroparticle physics; Particle tracking detectors; Gaseous detectors; Calorimeters; Cherenkov detectors; Particle identification methods; Photon detectors for UV, visible and IR photons; Detector alignment and calibration methods; Detector cooling and thermo-stabilization; Detector design and construction technologies and materials.

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