

Evaluation of the identification efficiency of the ALICE HMPID detector in p-p collisions at $\sqrt{s} = 7$ TeV by means of V^0 decays

The ALICE experiment, dedicated to the study of heavy-ion collisions at LHC energies, features a high-quality particle identification system, based on the the Inner Tracking System (ITS), the Time-Projection-Chamber (TPC), the Time-of-Flight (TOF) and the HMPID. The ALICE-HMPID (High Momentum Particle Identification detector) has been designed to identify charged pions and kaons in the range $1 < p < 3$ GeV/c and protons in the range $2 < p < 5$ GeV/c, in a reduced region of the phase space. It consists of seven identical proximity focusing RICH (Ring Imaging Cherenkov) counters, with a total active area of 11 m², which exploit the technology of large area MWPCs

equipped with Cesium Iodide (CsI) photo-cathodes for imaging the Cherenkov light emitted by a liquid C₆F₁₄ radiator. Since November 2009 ALICE is collecting p-p and Pb-Pb collisions data at LHC. A study of the particle identification efficiency of the HMPID has been carried out with samples of protons and pions coming from reconstructed V^0 ($\Lambda/\text{anti-}\Lambda$, K^0_S) decays in p-p collisions at $\sqrt{s} = 7$ TeV.

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