

Reconstruction of Ds mesons in the ALICE Experiment at LHC

Open Charm mesons produced in relativistic nuclear reactions are among the most direct probes to investigate the medium produced in these collisions. Ds mesons act as an useful probe to study hadronization mechanism in heavy ion collisions. The study on exclusive reconstruction of the Ds mesons via the decay channel ($D_s \rightarrow KK\pi$) for p+p collisions at 7 TeV is presented. The measurement will allow us to study ratios of charmed-strange mesons to other D mesons and will act as baseline reference for the Ds measurement in heavy-ion collisions.

The ALICE experiment at the LHC is designed to perform such measurements at mid-rapidity by means of its barrel tracking detectors. The barrel tracking detectors provide the momentum information and the particle identification of the charged particles together with an accurate measurement of the primary and secondary vertex positions. The study on selection cuts to optimize the combinatorial background rejection will be described. The Ds signal in the $KK\pi$ invariant mass distribution for various pT bins will be shown.

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Track Classification: Heavy flavor and quarkonia production