

$D^+ \rightarrow K^- \pi^+ \pi^+$ Production in pp collisions at LHC with the ALICE detector

ALICE is the dedicated heavy-ion experiment at the LHC. Its main physics goal is to study the properties of the strongly-interacting matter in the conditions of high energy density ($>10 \text{ GeV}/\text{fm}^3$) and high temperature ($> 0.3 \text{ GeV}$) expected to be reached in central Pb-Pb collisions. Charm and beauty quarks are a powerful tool to investigate this high density and strongly interacting state of matter as they are produced in initial hard scatterings, and due to their long life time, they probe all the stages of the system evolution. The measurement of charm production cross section in pp collisions provides interesting insight into QCD processes and is important as a reference for heavy ion studies. Here, we will present the strategy adopted to measure the cross section of one of the hadronic decay channel, $D^+ \rightarrow K^- \pi^+ \pi^+$, in pp collisions at LHC energies. The first preliminary cross section results obtained for the same channel will also be shown.

Primary author: Dr RENU, Bala (INFN,Turin)

Presenter: Dr RENU, Bala (INFN,Turin)

Track Classification: Heavy flavor and quarkonia production