

D⁺ analysis in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV at the LHC with ALICE.

A Large Ion Collider Experiment (ALICE) is one of the four experiments at the Large Hadron Collider (LHC), and the only one mainly dedicated to ultra relativistic heavy ion collisions, in order to investigate the properties of the high-density state of QCD matter produced in such events. The first Pb-Pb collisions at a centre of mass energy of $\sqrt{s} = 2.76$ TeV for nucleon pair were delivered by LHC in November 2010.

In Pb-Pb collisions heavy quarks are regarded as sensitive probes of the interaction dynamics between the parton and the medium produced in such collisions as they are produced on a very short time scale and they follow all the evolution of the medium. At the energies available at LHC charm is produced abundantly and therefore it is possible to study the production of charm with high statistics. In this poster the analysis for $D^+ \rightarrow K^- \pi^+ \pi^+$ reconstruction in Pb-Pb collisions at ALICE will be presented, along with the prospects for D^+ elliptic flow and energy loss measurements.

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