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Measurements of D^0 meson production in pp collisions with ALICE at the LHC

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Heavy quarks (charm and beauty) are powerful probes to investigate the properties of the Quark-Gluon Plasma (QGP), the hot and dense medium produced in ultra-relativistic heavy-ion collisions. Heavy quarks are produced in hard-scattering processes on a time scale shorter than the QGP formation time; therefore, they experience the whole evolution of the produced system of strongly-interacting matter.

The study of the production of hadrons containing heavy quarks in proton-proton (pp) collisions at LHC energies represents a very important test of perturbative Quantum Chromodynamics (pQCD). Furthermore, measurements in pp collisions provide also the essential baseline for heavy-ion analyses.

In this contribution, we present the production cross section of prompt charmed D^0 mesons, measured with the ALICE detector at the LHC in pp collisions at $\sqrt{s}$ = 8 and 13 TeV. The D^0 mesons are reconstructed at mid-rapidity via their hadronic decay channel $D^0 \rightarrow K^-\pi^+$.
Moreover, the p_T-differential cross sections will be compared with the results at $\sqrt{s}$ = 7 TeV and with pQCD calculations.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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