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Measurement of D^+ -meson production in pp and p-Pb collisions with ALICE at the LHC

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Heavy quarks (charm and beauty) are sensitive probes to study the properties of the Quark-Gluon Plasma (QGP) produced in high-energy heavy-ion collisions. Due to their large masses, charm and beauty quarks are produced in the initial stages of the collisions in hard-scattering processes and they explore the entire evolution of the system

The measurement of charm production in pp collisions is important to test perturbative Quantum Chromodynamics (QCD) calculations and provides an essential baseline for the studies in heavy-ion collisions. Charm production measurements in p-Pb collisions allow us to disentangle the influence on particle production of cold nuclear matter effects from those related to the formation of a QGP in Pb-Pb collisions.

In ALICE, charm production is studied through the reconstruction of D-meson hadronic decays at midrapidity. In this contribution, we will present the measurement of the production cross section of $D^{\{+}}$ -mesons in pp collisions at $\sqrt{s} = 5.02, 7, 8$ and 13 TeV with the ALICE detector. The $D^{\{+}}$ meson nuclear modification factor measured in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will also be presented.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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