Quark Matter 2018



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Measurement of D*+-meson production as a function of centrality in p-Pb collisions with ALICE

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Heavy quarks (charm and beauty) are sensitive probes to study the properties of the Quark-Gluon Plasma (QGP), the hot and dense medium formed in high-energy heavy-ion collisions. Due to their large masses, heavy quarks are produced in hard partonic scattering processes in the initial stages of the collision. Their abundance is not expected to be modified through the evolution of the system. Therefore, they experience the whole evolution of the system interacting with the medium constituents.

In p–Pb collisions, the measurements of heavy-flavour production allow us to study cold nuclear matter effects, such as shadowing, $k_{\rm T}$ broadening and initial-state energy loss, as well as possible geometrical and collective effects in high-multiplicity events.

In this poster, the ALICE results on the D^{*+}-meson production measurement in p–Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV will be presented, focusing on the centrality-dependent studies from LHC Run 2 data. The nuclear modification factor of the D^{*+} mesons, measured through the full reconstruction of the hadronic decay in D^{*+} \rightarrow D⁰ $\pi^+ \rightarrow$ K⁻ $\pi^+\pi^+$, will be shown in different centrality classes and compared to charged particles. The central-to-peripheral ratio will also be presented and discussed.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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