

## D-meson production measurements in p–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV with ALICE

Heavy-flavour production in p–Pb collisions is sensitive to Cold Nuclear Matter (CNM) effects such as the modification of the nuclear Parton Distribution Functions (PDFs), initial-stage radiation or energy loss, and multiple scattering of partons in the nucleus. These initial-state effects can induce a significant modification of the heavy-flavour production at low momentum and their measurement is required to understand final-state effects induced by the hot QGP medium in Pb–Pb collisions. In addition to transverse momentum and rapidity differential studies, measurements as a function of multiplicity are sensitive to the dependence of CNM effects on the collision geometry and on the density of final-state particles. The heavy-flavour  $p_{\text{T}}$  distribution can be modified by final-state effects in high-multiplicity p–Pb events induced by the formation of a medium with some degree of collectivity.

D mesons are reconstructed in p–Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02$  TeV with ALICE at mid-rapidity. The measurement of the D-meson production cross section and its nuclear modification factor  $R_{\text{pPb}}$  down to  $p_{\text{T}} = 0$  will be presented. The measurement of the yields of D mesons as a function of charged-particle multiplicity in p–Pb collisions, and the centrality dependence of the nuclear modification factor will be shown as well.

### Preferred Track

Open Heavy Flavors

### Collaboration

ALICE

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