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Charm production in pp and p-Pb collisions with ALICE at the LHC

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Charm quarks are effective probes used for the investigation of the Quark-Gluon Plasma (QGP) created in high-energy heavy-ion collisions. They are produced in hard scattering processes on a timescale shorter than the QGP formation time and experience the whole system evolution.

The measurement of charm-baryon production, and in particular the baryon-to-meson ratios, provides unique information on hadronisation mechanisms, constraining the role of coalescence and testing the predicted presence of diquark states in the QGP.

Measurements of charm-baryon production in pp and p-Pb collisions are essential to establish a baseline for Pb-Pb collisions. In addition, the measurements in pp collisions provide critical tests of p QCD calculations and models of charm hadronisation in vacuum, while the measurements in p-Pb collisions are useful to study cold nuclear matter effects and the possible evolution with charged-particle multiplicity of the modification of charm hadronisation.

In this poster, ALICE results of Λ_c^+ measurements in pp and p-Pb collisions will be presented. The comparison with model calculations will be discussed. Furthermore, the latest updates on the measurement of the total charm cross-section in pp and in p-Pb collisions will be discussed.

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