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Ω_c^0 production in pp collisions at $\sqrt{s} = 13$ TeV with ALICE

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Recent measurements of the production of charm hadrons at midrapidity in pp collisions at $\sqrt{s} = 5.02$ and 13 TeV showed that the baryon-to-meson yield ratios are significantly larger than those measured in e^+e^- collisions for different charm-baryon species. These observations suggest that the charm fragmentation fractions are not universal and that the baryon-to-meson ratios depend on the collision systems.

In this poster, the new measurement of the inclusive p_T -differential cross section of the charm-strange baryon Ω_c^0 multiplied by the branching ratio of the $\Omega_c^0 \rightarrow \bar{\nu}_e \pi^+$ decay channel in pp collisions at $\sqrt{s} = 13$ TeV will be reported, and compared with theoretical calculations.

However, the lack of absolute measurements of the Ω_c^0 branching ratios makes it difficult to draw conclusions about the effective Ω_c^0 enhancement. To address this, a new analysis of the Ω_c^0 reconstructed from the $e^+ \bar{\nu}_e$ decay channel is being performed, and its status and developments will be also discussed.

Category

Experiment

Collaboration (if applicable)

ALICE Collaboration

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