

Measurement of multiplicity dependent X_{ic0} via semileptonic decay channel in pp collisions at 13 TeV with ALICE

Tuesday 24 September 2024 18:10 (20 minutes)

Recent measurements of charm baryon-to-meson production-yield ratio at the LHC have shown a substantial enhancement of charm-baryon production in pp collisions as compared to electron-positron and electron-proton collisions. This evidence currently can be interpreted as a modification of the charm hadronization mechanism in hadronic collisions, disproving the assumption of universality of charm fragmentation across different collision systems. By measuring charm-baryon production in pp collisions over a wide range of transverse momenta, rapidities and energies, a detailed characterization of charm hadronization can be obtained. In addition, by performing the measurements as a function of multiplicity of the collision, further information, such as the dependence of the hadronization process on the color-charge density, can be assessed. In this poster, we report the result of the analysis of the X_{ic0} baryon, reconstructed from the semileptonic decay channel in pp collisions by using the LHC Run 2 data collected with the ALICE apparatus. The measurement of the baryon-to-meson ($X_{ic0}/D0$) yield ratio as a function of the event multiplicity in pp collisions at $\sqrt{s} = 13$ TeV will be shown.

Category

Experiment

Collaboration

ALICE

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Session Classification: Poster Session

Track Classification: 3. Heavy quarks and quarkonia