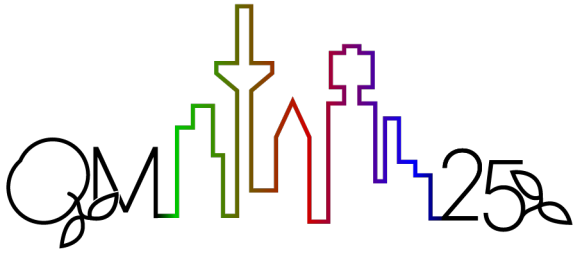

Contribution ID: **137** Type: **Poster**

Production of K^0_S and Λ as a function of charged particle flattenicity in proton-proton collisions with ALICE

The event classifiers based on particle multiplicity or event topologies such as transverse spherocity and underlying events have been extensively used at ALICE to probe the origin of the observed Quark-Gluon Plasma (QGP) like phenomena in high multiplicity proton-proton (pp) collisions. The drawback of using the multiplicity-based classifiers is that selecting high multiplicity events may bias the sample towards hard processes dominated by multi-jet scatterings, making it difficult to pinpoint the origin of observed QGP-like signatures in pp collisions. New ALICE measurements show that, among the available event classifiers, charged particle flattenicity has the largest sensitivity to inherent multi-partonic interactions and less sensitivity to final state hard-scatterings, offering the possibility to select softer events with enhanced radial flow signatures.

In this contribution, we explore the event-shape dependence of strange hadron production as a function of the charged particle flattenicity, defined in ALICE using the charged particle multiplicity in $2.2 < |\eta| < 5.0$ and $-3.4 < |\eta| < -2.3$ intervals. The contribution discusses the production of $\Lambda + \bar{\Lambda}$ and K^0_S in different intervals of charged particle flattenicity in pp collisions at $\sqrt{s} = 13.6$ TeV with ALICE. p_{T}-integrated and p_{T}-differential baryon-to-meson ratio, $(\Lambda+\bar{\Lambda})/2K^0_S$, will also be shown for different intervals of charged particle flattenicity. Comparisons with state-of-the-art Monte Carlo event generators will be shown to interpret the results in light of the multi-partonic interactions.

Category

Experiment

Collaboration (if applicable)

ALICE

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