



Contribution ID: 604

Type: Poster

Multiplicity dependence of inclusive charged-particle jet spectrum in pp collisions in Run 3 at $\sqrt{s}=13.6$ TeV with ALICE

The ALICE Collaboration commenced Run 3 with upgrades to the Inner Tracking System (ITS2) and the Time Projection Chamber (TPC), both pivotal for probing rare phenomena with unprecedented precision. The upgraded ITS2 enables higher tracking resolution, while the improvements to the TPC allow for continuous readout, significantly boosting resolution and data acquisition. Using these improvements, we present the first measurement in ALICE of the charged-particle jet cross section in pp collisions at $\sqrt{s} = 13.6$ TeV, using the anti- k_T algorithm with different resolution parameters at midrapidity. The analysis includes a detailed study of the event multiplicity dependence, as well as the underlying event to ensure accurate jet reconstruction. These results showcase the new jet finding capabilities of the ALICE detector, providing novel insights into jet production and fragmentation in high-energy pp collisions.

Category

Experiment

Collaboration (if applicable)

ALICE

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Session Classification: Poster session 1

Track Classification: Jets