Contribution ID: **197** Type: **Poster**

Model study of jet fragmentation transverse momentum distributions in pp collisions using D0-meson tagged jets.

Tuesday 25 April 2023 17:00 (20 minutes)

The fragmentation of partons is studied using the jet fragmentation transverse momentum, j_{T}. The j_{T} is defined as the perpendicular component of the momentum of the constituent particle with respect to reconstructed jet momentum, \vec{p}*{jet}. The jT provides a measurement of the transverse momentum spread of the jet fragments. Recently, the direct dead-cone effect was measured by ALICE in terms of the splitting angle of jet fragments by comparing the D0 meson-tagged jets and inclusive jets. The effect arises due to the conservation of angular momentum during the gluon emission and is significant for low-energy heavy-flavour quarks. In this model study, we explore the dead cone effect in a frame of j*{T} as j_{T} is a good tool to measure the spread of jet fragments for D0 meson tagged jets with respect to inclusive jets in momentum space.

Theory / experiment

Experiment

Group or collaboration name

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Session Classification: Poster Session

Track Classification: Jets and medium response