

Jet quenching studies via jet–hadron correlations with ALICE

Thursday, 30 October 2025 16:20 (20 minutes)

In heavy-ion collisions, high- p_T partons traverse the hot and dense QCD medium, losing energy through induced gluon radiation and elastic scattering. This leads to modifications of jet structure compared to jets produced in vacuum. Measurements of the properties of the medium generated in Pb–Pb collisions at the LHC require reference measurements from more elementary pp and p–Pb collisions. The semi-inclusive recoil jet measurement provides precise, data-driven suppression of the large uncorrelated background and uniquely enables the exploration of medium-induced modification of jet production over a wide phase space, including low p_T for large jet resolution parameter R . Such measurement provides a good test for pQCD calculations, and sets as a reference for jet quenching and acoplanarity study in nucleus-nucleus collisions.

In this contribution, we report the semi-inclusive distribution of charged jets recoiling from a high- p_T charged hadron trigger in pp, p–Pb and Pb–Pb collisions with ALICE. The semi-inclusive recoil jet distribution as a function of p_T and $\Delta\varphi$ will be presented, where $\Delta\varphi$ is the relative azimuthal angle between trigger track and recoil jets. The R dependence and comparisons to theoretical models will also be discussed.

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Session Classification: Parallel 3

Track Classification: ALICE