

Contribution ID: 82 Type: Poster

Search for jet quenching effects in high-multiplicity proton-proton collisions at $\sqrt{s}=13~{\rm TeV}$ with ALICE

Wednesday 6 April 2022 18:26 (4 minutes)

The ALICE Collaboration presents results of a search for jet quenching effects in high multiplicity pp collisions at $\sqrt{s}=13~{\rm TeV}$ by measuring the semi-inclusive acoplanarity distribution of charged-particle jets that recoil from a high transverse momentum trigger-track. The search for jet quenching is performed by comparing the acoplanarity distributions measured in high multiplicity and minimum bias events. High multiplicity events are selected by online trigger based on a signal amplitude measured in the forward V0 scintillator detectors. Removal of background jet yield uncorrelated with a trigger-track is performed utilizing a data-driven statistical approach.

In this poster, we will show that the acoplanarity distributions, measured in high multiplicity events, exhibit a marked suppression and broadening when compared to the corresponding distributions obtained from minimum bias events. The distributions are corrected for momentum smearing due to instrumental effects. The observed features are not caused by jet quenching, since they can be reproduced by PYTHIA 8 event generator, which does not account for jet quenching. Analysis of the PYTHIA events reveals that the suppression and broadening of the hadron-jet acoplanarity distributions are the consequence of a bias induced by the ALICE high multiplicity trigger.

Primary author: KOTLIAROV, Artem (Czech Academy of Sciences (CZ))

Presenter: KOTLIAROV, Artem (Czech Academy of Sciences (CZ))

Session Classification: Poster Session 1 T05_1

Track Classification: QGP in small and medium systems