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Measurements of jet quenching using hadron-jet observables at ALICE

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Measurements of jets recoiling from a trigger hadron are useful probes of jet quenching, where jets are modified in the presence of a QGP. In particular, the spectrum of jets as a function of the separation angle $\Delta\phi$ is a good indicator of jet quenching effects such as azimuthal broadening. In this talk, we present measurements of this hadron-jet observable in high multiplicity (HM) pp collisions at $\sqrt{s} = 13$ TeV, where it is theorised a QGP could form. A novel data-driven subtraction of the combinatorial background is used, extending the low $p_{T,\text{jet}}$ reach of the measurement. We find that although HM pp events do exhibit some azimuthal broadening, this effect is reproduced in simulations that do not model jet-quenching effects. We also present the first preliminary results of a non-multiplicity dependent hadron-jet measurement from Run 3 pp data from ALICE. The higher statistics data enables more precision in investigating other recoil jet properties, such as jet substructure, that test higher-order pQCD effects.

Category

Experiment

Collaboration

ALICE

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