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Measurement of light neutral meson production inside jets in pp collisions at $\sqrt{s} = 13$ TeV with ALICE

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Particle production in ultra-relativistic pp collisions can be factorized into the parton density function (PDF), the partonic cross-section and the fragmentation function (FF). FFs need to be constrained by experimental data for each particle species. Measurements of the momentum fraction z of a particle species contained in a high energetic jet give direct access to the FF of the species.

In this poster, the first measurement of the p_T spectra of π^0 and η mesons inside jets, as well as the measurement of the meson momentum fraction z for different jet momenta up to $p_T = 200$ GeV/ c in pp collisions at $\sqrt{s} = 13$ TeV with ALICE will be presented. The measurement combines results from several partially independent meson reconstruction techniques available in ALICE, including calorimeter based photon detection as well as utilizing photon conversions in the central tracking detectors. The combined meson spectra cover nearly the entire z range for a large span of jet momenta. Particle jets are reconstructed using charged tracks in the central tracking detectors and neutral clusters reconstructed with the electromagnetic calorimeter. The results will be compared to model predictions.

Category

Experiment

Collaboration (if applicable)

ALICE

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