

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## Jet quenching and acoplanarity via hadron+jet measurements in pp and Pb-Pb collisions at 5.02 TeV with ALICE

Monday, 1 June 2020 12:55 (20 minutes)

We present the semi-inclusive distribution of charged jets recoiling from a trigger hadron in pp and Pb-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02$  TeV. This technique provides a precise data-driven subtraction of the large uncorrelated background contaminating the measurement. It uniquely enables the exploration of medium-induced modification of jet production and acoplanarity over a wide phase space, including the low jet  $p_T$  region for large jet resolution parameter  $R$ . Medium-induced jet deflection may occur via multiple soft scatterings resulting in a broadening of the overall azimuthal correlation between the trigger hadron and the recoiling jet. In addition, the tail of this azimuthal correlation is sensitive to Molière scatterings off quasi-particles in the medium. A search for these phenomena in Run 1 data using hadron-jet acoplanarity showed no evidence of large-angle jet broadening with respect to the vacuum expectation within experimental uncertainties. However, recent theoretical work has highlighted that low hadron trigger  $p_T$  and low recoiling jet  $p_T$  configurations show more sensitivity to in-medium modifications to the acoplanarity.

This talk will report measurements of medium-induced jet energy redistribution through the comparison of trigger-normalized recoil jet yields in different centrality intervals for Pb-Pb collisions and in minimum-bias pp collisions, and of jets with different  $R$ . We also present a new measurement of hadron-jet acoplanarity in pp and Pb-Pb collisions using high-statistics Run 2 data, with emphasis on the region of low recoil jet  $p_T$ .

### Collaboration (if applicable)

ALICE

### Track

Jets and High Momentum Hadrons

### Contribution type

Contributed Talk

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