

# 11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 73

Typ: Talk

## Charged-particle jet spectra in event-shape engineered Pb-Pb collisions at 5.02 TeV with ALICE

*Donnerstag, 30. März 2023 10:20 (20 Minuten)*

The path-length dependence of jet quenching can help to constrain different jet quenching mechanisms in heavy-ion collisions. However, measuring an explicit value for this dependence has proven challenging. Traditional approaches, which consider anisotropic jet suppression arising from geometric asymmetries, have successfully measured a non-zero azimuthal dependence of jet modification with respect to the event-plane angle of the collision. While such signals improve our qualitative understanding of this topic, extraction of an explicit dependence from these results is limited by fluctuations in the initial state and jet-medium interactions. A new approach to characterize the geometry of the collision is to use event-shape engineering, a technique that classifies events within a centrality class according to their elliptical anisotropies. By doing so, we gain an improved knowledge of the initial state medium, consequently enabling better constraints on the average path length traversed by the jet. In this talk, new results of jet spectra from event-shape-engineered collisions at ALICE will be presented along with theoretical studies to contextualize the measurement.

### Experiment/Theory

ALICE

### Affiliation

CERN

**Hauptautor:** BEATTIE, Caitlin (Yale University)

**Vortragende(r):** BEATTIE, Caitlin (Yale University)

**Sitzung Einordnung:** Parallel: Jets and their modification in QCD Matter

**Track Klassifizierung:** Jets and their modification in QCD matter