



Contribution ID: 16

Type: **Invited Talk**

Probing jet quenching in OO collisions with ALICE

The ALICE experiment investigates the properties of the quark–gluon plasma (QGP) created in ultrarelativistic heavy-ion collisions. Two of the most prominent signatures of QGP formation are the collective hydrodynamic expansion of the produced medium and the energy loss of high-energy partons traversing the medium, known as jet quenching. Measurements performed in high-multiplicity p–Pb and pp collisions have revealed flow-like signatures but have not provided unambiguous evidence for jet quenching. This raises important questions about the relationship between system size and the onset of QGP effects.

The recent light-ion collision runs at the LHC provide a unique opportunity to bridge the gap between p–Pb and Pb–Pb collisions and to investigate how QGP signatures evolve with system size. This contribution presents the first ALICE measurements of inclusive π^0 production in OO and p–O collisions, as well as inclusive jet production and hadron–jet correlations in OO collisions. The inclusive observables exhibit a suppression consistent with partonic energy loss in the produced medium, while no significant modification is observed in hadron–jet correlations within the current experimental precision. The different sensitivities of these observables will be discussed.

Primary author: KRIZEK, Filip (Nuclear Physics Institute of the Czech Academy of Sciences)

Presenter: KRIZEK, Filip (Nuclear Physics Institute of the Czech Academy of Sciences)

Session Classification: Plenary

Track Classification: Heavy Ions and Nuclear