

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



Contribution ID: 49

Type: Poster

Exploring jet quenching through the measurement of dijet momentum balance with ATLAS

Tuesday, June 2, 2020 7:30 AM (1h 20m)

High energy partons are known to lose energy when passing through the hot and dense medium produced in heavy-ion collisions. This results in a modification to the transverse momentum distributions of jets. It has been previously shown in Pb+Pb collisions at $\sqrt{s_{NN}} = 2.76$ -TeV that parton energy loss within the Quark Gluon Plasma results in significant modifications to the transverse momentum balance of dijet pairs. However, additional differential measurements are needed to better understand the path-length dependence as well as the role of medium fluctuations to the energy loss. This poster presents the latest measurements of fully unfolded dijet momentum balance in Pb+Pb and pp collisions at $\sqrt{s_{NN}} = 5.02$ -TeV. Additionally, the dijet momentum balance in Pb+Pb collisions is measured with respect to the second order azimuthal event plane angle, providing further insight on the path-length dependence to energy loss.

Collaboration (if applicable)

ATLAS

Track

Jets and High Momentum Hadrons

Contribution type

Poster

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Session Classification: Poster session

Track Classification: Jets and High Momentum Hadrons