

# 12th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## Radius dependent jet quenching measurements from ATLAS

*Monday 23 September 2024 14:00 (20 minutes)*

Measurements of jets that traverse a quark gluon plasma can provide insights into the jet energy loss in heavy ion collisions. Furthermore, considering jets of various radii can help elucidate how the parton energy is transferred to the medium as well as the corresponding medium response. This talk presents measurements of the nuclear modification factor and dijet momentum balance for anti-kt jets reconstructed with radius  $R = 0.2, 0.3, 0.5, 0.4,$  and  $0.6$ , obtained with the ATLAS detector at the LHC. These measurements used  $1.72 \text{ nb}^{-1}$  of Pb+Pb data collected in 2018, and  $260 \text{ pb}^{-1}$  of pp data collected in 2017, both at a per-nucleon center of mass energy  $\sqrt{s_{NN}} = 5.02 \text{ TeV}$ . The measurements were unfolded in jet transverse momentum to correct for the jet energy resolution. The measurements show a jet radius dependence of jet quenching and suppression. These measurements will improve the understanding of the jet energy loss process.

### Category

Experiment

### Collaboration

ATLAS

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