
Contribution ID: **235** Type: **Oral Presentation**

# Jet substructure in p+p and p+Au collisions at $\sqrt{s_{\mathrm{NN}}}$ = 200 GeV at STAR

*Wednesday, June 3, 2020 11:50 AM (20 minutes)*

In order to attribute the partonic energy loss within jets (jet quenching) observed in A+A collisions to the traversal of partons through the hot QCD medium, it is necessary to examine cold nuclear matter (CNM) effects on the corresponding jets. Such examination has historically been done using p+A collisions. In this talk, we present fully corrected measurements of jet substructure - with a focus on jet mass - in p+A collisions at STAR at $\sqrt{s_{\mathrm{NN}}} = 200$ GeV as a function of the event activity (EA) to increase or decrease the magnitude of CNM effects. EA is determined in backward (Au-going) rapidity ($3.3 < |\eta| < 5.0$) by the STAR Beam-Beam Counter detector to minimize auto-correlation effects of jet measurements at mid-rapidity. By differentiating the measured jets by rapidity, we explore potential Bjorken-$x$ dependence in jets exiting the gold nucleus or proton. Finally, we compare the results in p+A collisions to fully corrected corresponding measurements in p+p collisions and current vacuum and heavy-ion Monte Carlo models to isolate these CNM effects in anticipation of an upcoming jet mass measurement in A+A collisions.

## Collaboration (if applicable)

STAR

## Track

Jets and High Momentum Hadrons

## Contribution type

Contributed Talk

**Primary author:** STAR COLLABORATION

**Presenter:** MOONEY, Isaac

**Session Classification:** Parallel

**Track Classification:** Jets and High Momentum Hadrons