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\documentclass{article}
\usepackage{graphicx} % Required for inserting images

\title{Observation of medium-induced acoplanarity using  $\gamma$ and $
\pi^{0}$-triggered semi-inclusive recoil jet distributions in central Au+Au and
$p+p$ collisions at $\sqrt{s_{\rm NN}}=200$ GeV by STAR}

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\begin{document}

\maketitle
We present measurements of azimuthal acoplanarity based on direct photon ($
\gamma$) and $\pi^{0}$-triggered semi-inclusive recoil jet distributions in
central Au+Au and $p+p$ collisions at $\sqrt{s_{\rm NN}}=200$ GeV, using
datasets with integrated luminosity of 3.9 nb$^{-1}$ and 23 pb$^{-1}$,
respectively. This observable may probe jet wake effects and Moliere scattering
off of quasi-particles in the QGP. Jets are reconstructed from charged particles
using anti-k$_{T}$ with R=0.2 and 0.5, with uncorrelated background corrected
using event mixing. The $\gamma$ and $\pi^{0}$ triggers have transverse
energy in the interval [11,15] GeV, and recoil jets are reported in the $p_T$
interval [10,20] GeV/c. Marked medium-induced acoplanarity is observed with
both triggers for recoil jets with R=0.5 but not R=0.2, similar to a recent
measurement at the LHC. We discuss the insight that these observations
provide into the nature of the jet-medium interaction and the response of the
QGP to excitation. The measurements will also be compared to theoretical
calculations.

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