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Semi-inclusive hadron+jet measurement in Ru+Ru and Zr+Zr collisions at $\sqrt{s_{\mathrm{NN}}}$ =200 GeV with the STAR experiment

Jet quenching arises from jet-medium interactions in the Quark-Gluon Plasma (QGP) created in high-energy collisions of large nuclei, such as Au or Pb nuclei. The study of jet quenching in small systems, e.g. proton-nucleus collisions, has generated great interest in the community due to its relatively smaller initial energy density, temperature, and size of the created medium. Isobar collisions (Ru^{44}_{96}+Ru^{44}_{96} and Zr^{40}_{96}+Zr^{40}_{96}) at RHIC can similarly be used to study jet quenching in systems that are intermediate in size compared to the ones mentioned above. Previously, semi-inclusive distributions of charged-particle jets recoiling from a high transverse-momentum hadron trigger (h+jet) in Au+Au collisions at $\sqrt{s_{\mathrm{NN}}} = 200$ GeV at RHIC have been reported, and show a suppression in central relative to peripheral events. Utilizing the same mixed-event technique to correct for uncorrelated combinatorial background present in heavy-ion collisions, we will present our preliminary measurements of uncorrected semi-inclusive h+jet for different jet radii using anti-k$_T$ jet reconstruction algorithm in these isobar collisions.

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