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Constraining the Geometry to Study Jet Energy Loss with "2+1" correlations in PHENIX HUA PEI, Iowa State University, PHENIX COLLABORATION — The RHIC at BNL collides heavy nuclei to create a medium at unprecedented density and temperature, commonly known as Quark Gluon Plasma (QGP). Jets of hadrons from quarks and gluons experiencing initial state hard scattering interact strongly with medium and provide a probe of transmission through the QGP that exists early in the collision. In back-to-back jets events, both partons survive to produce high-pt hadrons, and the distribution of hard-scattering locations is likely different than the surface-bias that affects single-particle studies, hence provide a better understanding of energy loss, and constrain the plasmas properties. Achieving these goals requires that we control the path-length traveled by the partons as much as possible and observables that are sensitive to the amount of energy loss of partons. We require a high-pt hadron in the back-hemisphere to the trigger particle, i.e., 2+1 particle correlations. We will present how correlations change as a function of these selection variables, and compare the Au+Au and Cu+Cu results with the baseline p+p results.

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