Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Studies of Jet-related Two-Particle Correlations in Small and Peripheral Heavy Ion Systems with PHENIX ABINASH PUN, Ohio Univ, PHENIX COLLABORATION — The study of highpT2-particle correlation observables in small systems like$d + Au$is considered to be useful to isolate cold-nuclear matter effects. Comparison of the correlationsin small systems to that inAu+Aucan help to identify effects from the final-state interactions in the quark gluon plasma, QGP, created in$Au + Au$. The quantity, R_I, the double ratio of near- to away-side per-trigger yields divided by the same in the$p + p$reference, can cancel out the systematics to the level where very small suppressions or enhancements could be observable.Since these types of signals could be qualitatively similar to energy-loss jet modification due to presence of hot QGP seen in$Au + Au$, we investigate possible cold nuclear effects, systematics, and backgrounds for an existing PHENIX preliminary result for RI in the$d + Au$system.Also, we present the status and possibilities of making the RI measurement in other small systems, such as$p+Au$, and $^3He+Au$and also in peripheral$Au + Au$for reference.

Abinash Pun
Ohio Univ

Date submitted: 16 Jan 2018 Electronic form version 1.4