Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

System-size and beam energy dependence of the space-time extent of the pion emission source ROBERT PAK, Brookhaven National Laboratory, PHENIX COLLABORATION — Two-pion interferometry measurements are used to extract the Gaussian source radii R_{out}, R_{side} and R_{long}, of the pion emission sources produced in d+Au, Cu+Cu and Au+Au collisions for several beam collision energies at PHENIX experiment. The extracted radii, which are compared to recent STAR and ALICE data, show characteristic scaling patterns as a function of the initial transverse geometric size of the collision system, and the transverse mass of the emitted pion pairs. These scaling patterns indicate a linear dependence of R_{side} on the initial transverse size, as well as a smaller freeze-out size for the d+Au system. Mathematical combinations of the extracted radii generally associated with the emission source duration and expansion rate exhibit non-monotonic behavior, suggesting a change in the expansion dynamics over this beam energy range.

Robert Pak
Brookhaven National Laboratory

Date submitted: 06 May 2014 Electronic form version 1.4