Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

**Two-dimensional charged particle correlations from 62 and 200 GeV Au+Au and Cu+Cu collisions from STAR**[1] LANNY RAY, The University of Texas at Austin, STAR COLLABORATION — 2D angular correlations on relative pseudorapidity $\eta_\Delta = \eta_1 - \eta_2$ and azimuth $\phi_\Delta = \phi_1 - \phi_2$ are presented for charged particles with $p_t \geq 0.15$ GeV/$c$, $|\eta_\Delta| \leq 1$ and $2\pi$ in azimuth. A number of features are evident in the data including a 2D peak for small angle pairs and a ridge along $\eta$ at large azimuth. It is conjectured that both structures result from fragmenting, back-to-back semi-hard scattered partons, which follow binary scaling to mid-central collisions for each set of data. At a specific centrality, which varies with collision energy and ion, a transition to a qualitatively different trend is observed. This trend is characterized by rapidly increasing amplitudes, a much broader width on $\eta_\Delta$, and a reduced azimuth width for the small angle peak. Candidate scaling variables for the transition onset will be presented. These and other correlation data from STAR imply that correlated, low $p_t$ particles from fragmenting semi-hard scattered partons persist at RHIC energies, even in central collisions. The yields, including back-to-back processes, indicate relatively unsuppressed transport throughout the entire collision system, in strong contradiction with the expected attenuation of such processes in an opaque, thermalized medium.

[1]Supported in part by the U. S. Dept. of Energy.

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Date submitted: 01 Jul 2009 Electronic form version 1.4