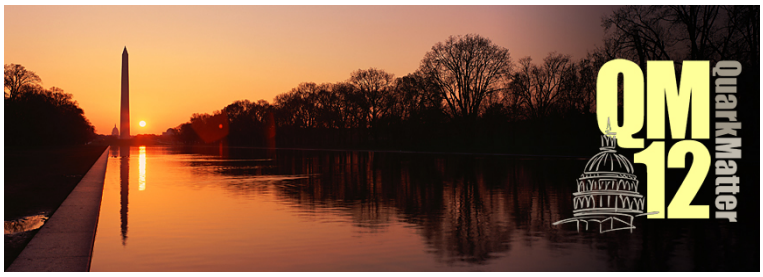

Contribution ID: **379** Type: **Poster**

Lack of modifications in jet-like correlations from d+Au to Au+Au collisions for trigger particle p_T in both jet and hydrodynamic domains measured by STAR

Thursday 16 August 2012 16:00 (2 hours)

Angular correlations with respect to a back-to-back trigger pair of high-p_T hadrons with similar momenta (above 4 GeV/c) have shown no differences between d+Au and Au+Au collisions suggesting tangential emission of selected di-jets. In this talk we increase the p_T threshold of the leading hadron in the pair (8, 10 and 12 GeV/c) to vary the degree of the surface bias. The di-jet energy imbalance is assessed via the difference of total momenta in the same- minus away-side peaks, and the measured imbalance is over-predicted by path-length dependent models, while showing possible evidence of softening of jet fragmentation. We find no qualitative change in the same-side peak of 2+1 correlation.

Removing the back-to-back partner maximizing the asymmetry, the 2+1 reduces to the ordinary dihadron correlation, where significant modification is indeed observed on the away-side but the near-side remains similar between the d+Au and Au+Au events, indicating surface bias. We further lower the trigger p_T to as low as 1.5 GeV/c, where hydrodynamic production of particles are thought to dominate and jet-like correlations are expected to diminish. However, we find the identical near-side correlation between d+Au and Au+Au persists. The data cannot be described by the AMPT and HIJING models, and challenge the particle production paradigm in relativistic heavy-ion collisions.

Author: PEI, Hua (University of Illinois at Chicago)

Co-author: KONZER, Joshua

Presenter: PEI, Hua (University of Illinois at Chicago)

Session Classification: Poster Session Reception

Track Classification: Jets