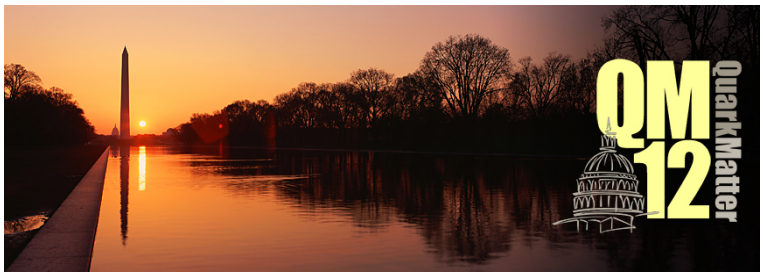

Contribution ID: **345** Type: **Poster**

Decomposition of flow and non flow in di-hardon correlations at RHIC

Thursday, 16 August 2012 16:00 (2 hours)

Angular di-hadron correlation studies in Au+Au collisions at 200 GeV have revealed a nearisde elongated structure in delta eta. This is often referred to as the ridge, and was found to extend to delta eta 9 units at the LHC. Using preliminary STAR data [3], we discuss methods to decompose 2D di-hadron correlations in Au+Au 200 GeV collisions on the nearside. Our analysis is performed as a function of centrality and pT. We propose a model that encompasses azimuthal flow up to 4 orders (v1, v2, v3, and v4). The remainder of the correlation function is modeled via an asymmetric 2d Gaussian, which we refer to as non-flow. We find our model describes the data very well. The extracted flow parameters are compared to model predictions [4,5]. We investigate possible scalings for the Gaussian remainder, and compare it's properties to a similar structure observed in p+p 200 GeV collisions. These findings will help us shed on the production mechanism of the remainder. Finally, we will provide an estimate of the ratio of non-flow to flow as a function of centrality and pT, which will aid a variety of other flow studies at these energies.

[1] B. I. Abelev et al. (STAR Collaboration), Phys. Rev. C 80, 064912 (2009)
[2] M. Daugherity (for the STAR Collaboration), J. Phys. G: Nucl. Part. Phys. 35 104090 (2008)
[3] L. C. De Silva, for the STAR collaboration
[4] B. Alver et al., Phys. Rev. C 81, 054905 (2010)
[5] C. Gombeaud et al., Phys. Rev. C 81, 014901 (2010)

Primary author: DE SILVA, Chanaka (Wayne State University)

Co-authors: TIMMINS, Anthony Robert (University of Houston (US)); BELLWIED, Rene (University of Houston (US))

Presenter: DE SILVA, Chanaka (Wayne State University)

Session Classification: Poster Session Reception

Track Classification: Correlations and fluctuations