



XXIV QUARK MATTER DARMSTADT 2014

Contribution ID: 349

Type: **Contributed Talk**

Flow in Cu+Au collisions and unique tests of 3D medium evolution

Monday, May 19, 2014 5:10 PM (20 minutes)

Cu+Au collisions at RHIC have provided the first asymmetric heavy-ion collisions at collider energies, where it is generally believed that nuclear matter above the Quark-Gluon Plasma (QGP) transition is created. The Cu+Au system provides a unique arena for QGP production and development with novel features that are inaccessible in symmetric A+A collisions, such as intrinsic transverse triangularity at mid-centralities and a completely occluded, corona-less smaller nucleus in the most central collisions. Further, because the participant nucleon groups from the two nuclei are distinguishably different it may be possible to trace the sources of initial deposition of such conserved quantities as energy and transverse momentum in 3D across the medium. In this talk we present new PHENIX results on flow observables from Cu+Au collisions across both p_T and (pseudo)rapidity, and discuss how they can be used to diagnose the full three-dimensional formation and evolution of the QGP fluid.

On behalf of collaboration:

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Session Classification: Collective dynamics

Track Classification: Collective Dynamics