

Hydrodynamic Predictions for Mixed Harmonic Correlations in 200 GeV Au+Au Collisions

Wednesday, February 8, 2017 9:30 AM (20 minutes)

Recent measurements at the LHC involve the correlation of different azimuthal flow harmonics v_n . These new observables add constraints to theoretical models and probe aspects of the system that are independent of the traditional single-harmonic measurements such as 2- and multi-particle cumulants $v_n\{m\}$. Many of these new observables have not yet been measured at RHIC, leaving an opportunity to make predictions as a test of models across energies. We make predictions using NeXSPheRIO, a hydrodynamical model which has accurately reproduced a large set of single-harmonic correlations in a large range of transverse momenta and centralities at RHIC. Our predictions thus provide an important baseline for comparison to correlations of flow harmonics, which contain nontrivial information about the initial state as well as QGP transport properties. We also point out significant biases that can appear when using wide centrality bins and non-trivial event weighting, necessitating care in performing experimental analyses and in comparing theoretical calculations to these measurements.

Preferred Track

Correlations and Fluctuations

Collaboration

Not applicable

Primary author: GARDIM, Fernando (Federal University of Alfenas)

Presenter: GARDIM, Fernando (Federal University of Alfenas)

Session Classification: Parallel Session 5.1: Collective Dynamics (I)

Track Classification: Correlations and Fluctuations