



Contribution ID: 40

Type: **not specified**

Flow harmonics of Au-Au collisions at 1.23 AGeV with HADES

Monday, 15 February 2016 17:10 (25 minutes)

HADES provides a large acceptance combined with a high mass-resolution and therefore allows to study di-electron and hadron production in heavy-ion collisions with unprecedented precision. With the high statistics of seven billion Au-Au collisions at 1.23 AGeV recorded in 2012 the investigation of high-order flow harmonics is possible.

Collective flow phenomena are a sensitive probe for the properties of extreme QCD matter. However, their interpretation relies on the understanding of the initial conditions e.g. the eccentricity of the fireball created in the nuclear overlap region. Based on Glauber Monte Carlo calculations the primordial anisotropic configuration of the colliding nuclei were examined w.r.t. the reaction centrality and event-by-event flow observables and fluctuations are deduced and compared to the measured data.

At low energies v_1 and v_2 , related to directed and elliptic flow, are measured for pions, charged kaons, protons, neutrons and fragments at the BEVALAC and SIS18, but so far high-order harmonics have not been studied. Multi-particle azimuthal correlation technique can be utilized to disentangle the contribution from collective and nonflow process involved in the dynamical evolution of heavy-ion reactions.

Supported by BMBF (05P15RFFCA), HGS-HIRe and HIC for FAIR.

Primary author: Mr KARDAN, Behruz (IKF, Goethe-Universität Frankfurt)

Presenter: Mr KARDAN, Behruz (IKF, Goethe-Universität Frankfurt)

Session Classification: Talks