## Hot Quarks 2014



Contribution ID: 11

Type: Theory

## Beam energy scan using a 3+1D viscous hydro+cascade model

Thursday 25 September 2014 09:05 (20 minutes)

Following the BES program at BNL RHIC, we perform a similar collision energy scan using a 3+1D viscous hydrodynamics coupled to the UrQMD hadron cascade. We study how the collision energy affects the bulk observables: rapidity distributions and  $m_T$ -spectra of identified particles, elliptic, triangular flow and HBT radii, including azimuthally-sensitive HBT. In our calculations we use an equation of state for finite baryon density and averaged or event-by-event initial conditions from UrQMD.

We show how the final observables are sensitive to the initial state fluctuations and its granularity, as well as to the shear viscosity in the hydrodynamic stage. We also discuss the constraints on the model parameters imposed by the experimental data.

Authors: PETERSEN, Hannah; KARPENKO, Iurii (Frankfurt Institute for Advanced Studies)

Co-authors: BLEICHER, Marcus (Uni Frankfurt); HUOVINEN, Pasi (Johann Wolfgang Goethe-Universität)

Presenter: KARPENKO, Iurii (Frankfurt Institute for Advanced Studies)

Session Classification: Session 7

Track Classification: Relativistic hydrodynamic and collective phenomena