



Contribution ID: 628

Type: **Poster**

The effects of initial state fluctuations and of shear and bulk viscosities on two-particle correlations in pA and AA collisions

Tuesday, 29 September 2015 16:30 (2 hours)

Recent developments in the field give evidence of the QGP formation in central proton-nucleus collisions. This gives grounds to studying both proton-nucleus and nucleus-nucleus systems within hydrodynamical framework. We extend our 3+1D hydro model to include effects of bulk viscosity and provide comparative analysis of the obtained results to an extensive set of comprehensive experimental measurements. In particular, we confirm our finding of the weak dependence on viscosity of the double-differential two particle momentum correlations $[r_n(p_T^a, p_T^b)$ and $r_n(\eta^a, \eta^b)]$ and its strong sensitivity to the parameters of the initial conditions. This allows us to consider latest experimental observations of the rapidity profile of two particle correlations as a source for studying initial conditions fluctuations in longitudinal direction.

On behalf of collaboration:

NONE

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Session Classification: Poster Session

Track Classification: Correlations and Fluctuations