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Small system scan within a combined color glass condensate and hydrodynamic model

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We present results for azimuthal anisotropies in p+p, p+Au, d+Au, and 3He+Au collisions at 200 GeV center of mass energy, using a hybrid IP-Glasma + MUSIC + UrQMD model, which is fully constrained by experimental data on Au+Au collisions. We compare to experimental data for $v_n(p_T)$, $c_2\{4\}$, and C_{112} from the PHENIX and STAR Collaborations. We discuss the role of initial state momentum anisotropies and the shear stress tensor from the color glass condensate effective theory, which are included in the energy momentum tensor provided by the IP-Glasma model as initial condition for the hydrodynamic simulation. We find that the systematic ordering of the magnitude of elliptic and triangular momentum anisotropies between different small systems requires the presence of final state effects. We further study the time evolution of the momentum ansiotropy and the correlation between the orientation of the spatial geometry and the momentum flow, which reveals qualitative differences between large and small systems. We also present results from the same framework for multi-particle cumulants in Pb+Pb and p+Pb collisions at LHC energies, as well as predictions for O+O collisions at both RHIC and LHC energies.

Primary authors: SCHENKE, Bjoern (Brookhaven National Lab); SHEN, Chun (Wayne State University); TRIBEDY, Prithwish (Brookhaven National Lab)

Presenter: SCHENKE, Bjoern (Brookhaven National Lab)

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