

Probing nuclei deformation via flow harmonics and mean p_T fluctuations in heavy-ion collisions from STAR

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1 Collective phenomena in heavy-ion collisions are very sensitive to initial ge-
2 ometry including nuclei deformation effect. Such deformation effect can be
3 studied by comparing Au+Au and U+U collisions. We present measurements
4 on the fluctuations of flow harmonics (v_n), mean transverse momentum ($\langle p_T \rangle$)
5 and their correlations in Au+Au at $\sqrt{s_{NN}} = 200$ GeV and U+U at $\sqrt{s_{NN}} =$
6 193 GeV collisions with the STAR detector at RHIC. The results are compared
7 with recent theoretical model predictions. This comparison is sensitive to the
8 medium properties such as equation of state. The constraints on the difference
9 of nuclei deformation between Au+Au and U+U are discussed.