

Non-Gaussian fluctuations from v_2 to v_4 in Au+Au and U+U collisions with the STAR detector

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1 Previous measurements of flow harmonics at the LHC exhibited the sign
2 change in ultra-central collisions. This sign change is consistent with the signif-
3 icant non-Gaussian flow and volume fluctuations. To investigate the possible
4 flow fluctuations, in this poster, multiparticle azimuthal cumulants, such as
5 $v_n\{4\}$, $v_n\{6\}$, and symmetric cumulants $sc(2,3)$ and $sc(2,4)$ are measured as
6 a function of centrality and transverse momentum using Au+Au at $\sqrt{s_{NN}} =$
7 200 GeV and U+U at $\sqrt{s_{NN}} = 193$ GeV collisions with the STAR detector at
8 RHIC. We also make a comparison with cumulants with the unfolding proce-
9 dure. These cumulants provide information on the event-by-event fluctuations
10 of harmonic flow coefficients, v_n and correlated fluctuations between two har-
11 monics v_n and v_m . These results provide new information to disentangle flow
12 fluctuations from the initial and final states, as well as new insights on the
13 influence of centrality fluctuations.