

Triangular flow and nonflow by 2-, 4-, and 6-particle cumulants from STAR

Triangular flow (v_3) can arise from event-by-event fluctuations. Its connection to fluctuations in the initial state collision geometry may reveal hydrodynamic information of the collision system.

Theoretical studies suggest its sensitivity to hydrodynamic evolution may even be stronger than elliptic flow (v_2).

We present v_3 measurement by the 2-, 4-, and 6-particle cumulant method at $\sqrt{s_{NN}} = 200$ GeV in Au+Au collisions by STAR.

We compare our v_3 results to v_2 , also from the multiparticle cumulant method.

The 2-particle cumulant result contains nonflow contribution. We assess the nonflow effect by separating charges as well as applying a pseudo-rapidity gap.

The 4- and 6-particle v_3 results are strongly affected (perhaps dominated) by v_3 fluctuations.

Assuming Gaussian flow fluctuation, we further attempt to distinguish flow, flow fluctuation, and nonflow.

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