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Measurements of longitudinal flow decorrelation in Au+Au Collisions at $\sqrt{s_{NN}}$ = 200 GeV from the STAR Collaboration

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Measurement of the longitudinal decorrelation of the harmonic flow event plane can improve our understanding of the longitudinal fluctuation of the QGP at the initial state, and provide important constraints for (3+1)D hydrodynamical models. Recent calculations indicate a stronger longitudinal decorrelation at RHIC energies than at the LHC. In this presentation, we will report the decorrelation measurements in Au+Au collisions at 200 GeV from STAR collaboration. By using the Forward Meson Spectrometer (FMS, $2.5 < |\eta| < 4.5$) and Time Projection Chamber (TPC, $|\eta| < 1.0$) detectors, the flow decorrelation can be measured in a rapidity gap around 2, and the non-flow effect is significantly suppressed. The results will be presented for different harmonic orders and centralities. The comparison with the measurement from Pb+Pb at 2.76 TeV and calculations from different models will also be discussed.

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