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STAR measurements of centrality dependence of elliptic flow for identified hadrons in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV

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Elliptic flow v_2 is one of the key observables to study the bulk properties at freeze-out as well as hadron production mechanisms in the ultra relativistic heavy ion collisions. It has been observed that number of constituent quark (NCQ) scaling of v_2 holds among measured identified hadrons at $\sqrt{s_{NN}} = 62.4$ and 200 GeV in Au + Au collisions at RHIC. The scaling of v_2 strongly indicates that the collectivity develops at the stage where the partonic degrees of freedom are relevant. Studying the NCQ scaling of v_2 as a function of transverse momentum p_T and centrality will shed light on the production mechanisms for hadrons in heavy ion collisions.

We present the results of v_2 as a function of p_T for identified π^\pm , K^\pm , K_S^0 , p , \bar{p} , Λ and $\bar{\Lambda}$ in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV. The NCQ scaling of v_2 in several different centrality classes is discussed.

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