

Abstract Submitted
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Study of the Number of Quark Scaling of v_2 at High Transverse Momentum NA LI, Brookhaven National Laboratory, STAR COLLABORATION — The number of quark (NCQ) scaling in the anisotropy parameter v_2 , for almost all measured hadrons at transverse momentum region up to p_T about 5GeV/c, has been observed in high-energy nuclear collisions at RHIC. The scaling results imply the formation of the de-confined matter with partonic collectivity in the collisions. In this talk, we report systematic studies of v_2 at midrapidity for π , p, K_s^0 and Λ in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV using the STAR detector. The FTPC detectors, which sit at large rapidity, were used for the determination of the event plane. Comparing to previous results, a high statistics data set is used in the analysis. We find that in the high transverse momentum region, $p_T \geq 6\text{GeV}/c$ ($(m_T - m)/n_q > 1.5$ GeV/c), the NCQ in v_2 is breaking down. A comparison to models suggests this is mainly caused by an increase in particles coming from hard process at high p_T .

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