

Study of elliptic and triangular flow of identified particles in Au+Au collisions $\sqrt{s_{NN}} = 11.5 - 62.4$ GeV in the STAR experiment

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A main purpose of the STAR experiment at RHIC is to study the properties of matter formed in heavy ion collisions. Azimuthal anisotropy of produced particles is one of the important observables sensitive to the transport properties of the strongly-interacting matter. In this work, we report results for elliptic (v_2) and triangular (v_3) flow of identified particles (π^\pm , K^\pm , p , \bar{p}) in Au+Au collisions at $\sqrt{s_{NN}} = 11.5, 14.5, 19.6, 27, 39$ and 62.4 GeV. Measurements of the anisotropic flow coefficients v_2 and v_3 are presented as a function of particle transverse momenta (p_T). The elliptic and triangular flow show mass ordering at $p_T < 2$ GeV/c and meson/baryon splitting at $2 < p_T < 3$ GeV/c. New measurements of v_3 serve important model constraints, and provide new information about transport properties of QGP.

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