

# Abstract

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 ( $\pi^\pm, K^\pm, p, \bar{p}$ ) 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.