

v_2 of pions, kaons, and protons in $\sqrt{s_{NN}} = 19.6, 14.5,$ and 3 GeV Au+Au collisions from STAR experiment

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The main purpose of the relativistic heavy-ion collisions at RHIC is to create new form of matter QGP in the laboratory and study QCD phase structure. The initial anisotropy in the coordinate space is transferred into the anisotropy in the momentum space. The elliptic flow (v_2) is sensitive to the early dynamic evolution of the system. It can provide the possible signal of QGP and phase transition. In this poster, we will present v_2 of pions, kaons, and protons in $\sqrt{s_{NN}} = 19.6, 14.6,$ and 3 GeV Au+Au collisions from STAR experiment. The v_2 results of pions, kaons, and protons will be compared with those of multi-strange hadrons and ϕ mesons. The number of constituent quark scaling will be tested. We will also compare our results with transport model calculations.