Abstract Submitted
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Directed flow of identified particles for Au+Au collisions at 200 GeV JIAYUN CHEN, STAR COLLABORATION — Directed flow (v1) describes the dynamics from the pre-equilibrium stage of heavy ion collisions, and it has been suggested as a signal of a first order phase transition [1]. In particular, the v1 slope of protons at mid-rapidity is predicted to be very small due to anti-flow [2], it can even become negative if the anti-flow is strong enough. In the picture of baryon stopping with positive space-momentum correlation [3], the v1 slope of protons at mid-rapidity has the opposite sign of pions. In this talk, we will present STAR's measurements of v1 for pions, kaons (Ks), protons and anti-protons, for Au + Au collisions at 200 GeV. We found that the slope of proton v1(y) at midrapidity is extremely small. We will compare our result to model predictions, and we will examine our finding with the connection to both anti-flow and baryon stopping.

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