

Abstract Submitted  
for the DNP08 Meeting of  
The American Physical Society

**Measurements of High  $p_T$  Identified Hadron  $v_2$  in Au+Au Collisions at  $\sqrt{S_{NN}} = 200$  GeV by the PHENIX Experiment** SHENGLI HUANG, PHENIX Collaboration — Measurements of the elliptic flow  $v_2$  at RHIC have provided sensitive information about the earliest stages dynamics of heavy ion collisions. The  $v_2$  of identified hadrons has been found empirically to scale with the number of constituent quarks at low  $p_T$ , providing evidence that partonic degrees of freedom determine the early dynamics of the system. The measurement of high  $p_T$  identified hadrons  $v_2$  will allow us to further test this scaling. It will provide the information on the limits of applicability of the hydrodynamic description of the system dynamics. The difference of  $v_2$  between the  $K^+$ ,  $K^-$  and the proton, anti-proton at high  $p_T$  will also provide the information about the particle production and dynamics mechanism. In that the  $K^-$  and anti-proton are mainly from gluon fragmentation, while the  $K^+$  and proton are mainly from light quark fragmentation. In this talk, we will present measurements of pion, kaon and proton  $v_2$  to  $p_T$  of 6GeV/c as a function of centrality in Au + Au collisions at  $\sqrt{S_{NN}} = 200$  GeV. The constituent quark scaling will be tested by these new measurements in the different centrality bins. The  $v_2$  difference between the  $K^+$ ,  $K^-$  and the proton, anti-proton will also be studied as a function of  $p_T$  and centrality.

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Date submitted: 30 Jun 2008

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