Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Measurements of High pT π^0 Azimuthal Anisotropy in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV at PHENIX RUI WEI, Chemistry, Stony Brook University, PHENIX COLLABORATION — The phenomena of jet suppression has been well established via separate measurements of the nuclear modification factor R_{AA}, azimuthal anisotropy and di-hadron correlations. The current challenge is to quantitatively understand the underlying suppression mechanism, as well as to understand the interplay between jet suppression, collective flow and coalescence as function p_T. Meeting this challenge requires new measurements which extend the current experimental p_T reach and combine the constraining power of R_{AA} and anisotropy. In a recent experimental run (Year-2007), the PHENIX experiment collected over 800 μb^{-1} in integrated luminosity of Au+Au collisions. Augmented with newly installed high resolution reaction plane detectors, this wealth of high statistics data allows detailed measurements of R_{AA} relative to the reaction plane. The results using π^0s will be presented and compared with various energy loss model calculations. We will also study the v_2 results in different p_T regions, and compare them using reaction plane determined in various η windows. The former can shed light on the interplay between jet suppression, collective flow and coalesces, the later can help us to quantify the non-flow effects due to jets.

Rui Wei
Chemistry, Stony Brook University

Date submitted: 23 Oct 2009 Electronic form version 1.4