Contribution ID: **235** Type: **Poster**

Non−Photonic Electron and Charged Hadron Azimuthal Correlation in p+p Collisions at $\sqrt{s}$ = 500 GeV in STAR

RHIC measurement on non-photonic electrons from heavy quark decays shows similar suppression as light hadrons at high p_T in central Au+Au collisions. However, the interpretation is complicated by the combined contributions from charm and bottom decays. Non-photonic electron and charged hadron azimuthal correlation has been used as a powerful tool to disentangle charm and bottom contributions at $\sqrt{s}$ = 200 GeV up to p_T ~ 9 GeV/c. Combining the non-photonic electron R_{AA} and the relative bottom decay contribution in $p + p$ collisions suggests the bottom decay electrons are also suppressed in central Au+Au collisions.

We will report the preliminary results of non-photonic electron and charged hadron azimuthal correlation at midrapidity for 6.5<p_T<12.5 GeV/c in run 2009 p+p collisions at $\sqrt{s}$=500 GeV at RHIC. The correlation distributions are compared with PYTHIA simulations to extract the bottom relative contribution to non-photonic electrons. The comparison between 200 GeV and 500 GeV results will deepen our understanding on the heavy flavor production at RHIC.

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Track Classification: Heavy flavor and quarkonia production