Contribution ID: **44** Type: **Oral presentation**

Proton/pion ratios in relative azimuth with respect to a jet in √sNN = 200 GeV Au+Au collisions at STAR

Monday, 28 May 2012 16:50 (20 minutes)

Inclusive Proton/pion ratios show an enhancement at intermediate transverse momentum (PT ~1.5 - 4.0 GeV/c) in central √sNN = 200 GeV Au+Au collisions compared to peripheral Au+Au and p+p collisions. This effect suggests a production mechanism, different from fragmentation, which is consistent with coalescence and recombination models. A high-ET trigger particle selects a surface-biased jet, which is measured to have a similar PT distribution as a p+p jet. This jet is used to enhance the quenching effects of the recoiling, medium traversing one. We reconstruct the trigger jet using the FASTJET algorithm, with a ET (PT) cut of 3.0 GeV(/c) on the towers(tracks) in order to reduce the heavy-ion collision background. The particle identification of tracks with PT up to ~ 2.8 GeV/c is obtained by taking advantage of STAR TOF and TPC detectors with full azimuth coverage. Correlations in $\Delta\phi$ between jets and identified hadrons are presented, and the particle ratios in different regions of azimuth are measured. Particle ratios associated with the trigger jet vs. the recoil jet, and comparisons to inclusive particle ratios can help to distinguish between jet-related (vacuum and medium-modified) and bulk-related contributions to the ratios enhancement.

Primary author: DAVILA, Alan (University of Texas at Austin)

Presenter: DAVILA, Alan (University of Texas at Austin)

Session Classification: Parallel IIB: Jet quenching and energy loss