

HAW05-2005-000668

Abstract for an Invited Paper  
for the HAW05 Meeting of  
the American Physical Society

### **Quark Recombination at RHIC**

CHIHONG NONAKA, Duke University

Recently the recombination of thermalized valence quarks has been proposed as the dominant mechanism for the production of hadrons at intermediate transverse momentum (2-4 GeV/c) in relativistic heavy ion collisions. A lot of evidence that suggests the quark recombination has been found in the RHIC data, such as hadron spectra, ratios of hadron yield, nuclear modification factors and elliptic flow as a function of transverse momentum. Especially the quark number scaling in elliptic flow strongly shows the validity of dominance of the recombination mechanism in hadronization. Furthermore the more detailed argument about physical observables at RHIC (correlated emission of hadrons, event-by-event fluctuations, hadronization time, entropy problem) has been done from the point of view of the quark recombination. I will discuss the recent progress of the quark recombination at RHIC.