

**System, centrality, and rapidity dependence of identified charged  
hadrons at  $\sqrt{s_{NN}} = 200$  GeV**

Eun-Joo Kim  
for the **BRAHMS** collaboration.

The shapes of the identified hadron  $p_t$  spectra from relativistic heavy-ion collisions are expected to preserve some information on the phase of the primordial system[1]. We have measured spectra of identified charged hadrons for pp, d-Au, and Au-Au collisions at  $\sqrt{s_{NN}} = 200$  GeV using the BRAHMS facility. The BRAHMS spectrometers achieve wide rapidity and  $p_t$  coverage with excellent particle identification[2]. We report on  $\pi^{+/-}$ ,  $K^{+/-}$ , p and  $\bar{p}$  spectra obtained at  $y=0$  and  $y=1$  as a function of centrality. Central Au-Au collisions have been shown to lead to a characteristically different medium than either peripheral Au-Au or d-Au collisions[3]. We will present a systematic study of blast-wave fit parameters [4] for the measured spectra as a function of multiplicity, this latter parameter being related to both the centrality of the collision and the associated entropy production. Current model calculations will be compared to the experimental results.

[1] Léon Van Hove, in *Proc. of the Topical Conference on High Energy Collisions of Hadrons, CERN, January, 1968* (1968).

[2] BRAHMS Collaboration, M. Adamczyk *et al.*, Nucl. Instrum. Meth., **A499** (2003) 437.

[3] PHOBOS Collaboration, B.B. Back *et al.*, PRL, **91** (2003) 072302; PHENIX Collaboration, S.S. Adler *et al.*, PRL, **91** (2003) 072303; STAR Collaboration, J. Adams *et al.*, PRL, **91** (2003) 072304; BRAHMS Collaboration, I. Arsene *et al.*, PRL, **91** (2003) 072305.

[4] E. Schndermann *et al.*, Phys. Rev. **C48** (1993) 2462.