Rapidity distributions of charged kaons and pions at $\sqrt{s_{NN}} = 200GeV$ Au-Au collisions

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The BRAHMS (Broad RAnge Hadron Magnetic Spetrometers)[1] experiment at the RHIC accelerator at Brookhaven National Laboratory, NY, USA, consists of two movable spectrometer arms, each with a limited acceptance at a given angle. However, integrating over different angular and magnetic field settings its acceptance in y and p_t allows particle identification in the region around mid-rapidity as well as in the forward fragmentation region. BRAHMS can therefore inclusively measure $\pi^{\pm}$, $K^{\pm}$, p and $\bar{p}$ at $0 < |\eta| < 4$ and $0.2GeV/c < p_t < \sim 3GeV/c$.

This talk will focus on rapidity distributions for charged pions and kaons, extracted from data collected in the 2001/2002 run. The spectrometers' acceptances cover ranges in p_t around mean p_t of the different particles. Transverse mass spectra are extracted and extrapolated in m_t, giving rapidity density for the various hadrons. Results are presented for different rapidities between 0 and 3 and compared to model predictions and other experimental data at RHIC and SPS energies. The K/π ratio as function of rapidity, net baryon density and energy will be discussed.

References

[1] http://www4.rcf.bnl.gov/brahms