First results from the PHOBOS Spectrometer at $\sqrt{s_{NN}} = 130$ GeV

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Abstract

The distributions of hadrons in the mid-rapidity region, following a heavy ion collision, are believed to provide a sensitive probe of the collision dynamics. The ratios of hadron distributions can provide information on the thermal and chemical environment during the evolution of the collision.

The ratios of antiparticle to particle production in AuAu collisions at $\sqrt{s_{NN}} =$ 130GeV/c within the rapidity range $0.2 < y < 0.9$ will be presented. The measurement was made using the PHOBOS spectrometer at RHIC with a p_t acceptance over the range $0.1 < p_t < 1.1$ GeV/c. Excellent background rejection was achieved by high resolution tracking within 10 cm of the collision point. Inferences regarding the chemical freeze-out environment and model comparisions will be made.

Capabilities of further analyses using the PHOBOS spectrometer, including HBT, will be presented.

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