P_t spectra of identified hadrons measured with the PHENIX experiment at RHIC

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Abstract

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In the first run of RHIC at BNL the PHENIX experiment obtained more than five million events from ultra-relativistic Au-Au collisions at $\sqrt{s}$ = 130 GeV/A. The high-resolution momentum measurement from the PHENIX tracking chambers combined with excellent timing resolution in the time-of-flight counters provide spectra of identified hadrons over a momentum range from 200 MeV/c to 2 GeV/c. The transverse momentum distributions for pions, kaons, protons and anti-protons were obtained at mid-rapidity. First results on spectral shapes, inverse slopes and their centrality dependence will be presented. The transverse mass spectra will be analyzed to give insight into the thermal properties of the system as well as the collective radial expansion at freeze-out.

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