Proton and Anti-proton Yields at Mid-rapidity in Central Au+Au Collisions at $\sqrt{s_{NN}} = 130$ GeV

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Abstract

Net-baryon (baryon − anti-baryon) density at the mid-rapidity ($y = 0$) is a measure of transparency/stopping of heavy-ions at relativisic collisions. The BRAHMS Experiment at RHIC measures identified charged particle momentum spectra at $y = 0$ with two TPC's for tracking and a Time of Flight Hodoscope for particle identification in the Mid-Rapidity Spectrometer. We present proton and anti-proton yields as a function of transverse momentum in central Au+Au collisions at $\sqrt{s_{NN}} = 130$ GeV and discuss the deduced net-proton (proton − anti-proton) distributions at $y = 0$.

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