

Rapidity dependent particle production in Au+Au collisions at $\sqrt{s_{NN}} = 62.4\text{GeV}$

Ionut-Cristian Arsene for BRAHMS Collaboration

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The BRAHMS experiment at RHIC has taken data from Au+Au collisions at $\sqrt{s_{NN}} = 62.4\text{ GeV}$, a beam energy between the SPS and the RHIC top energy regimes.

The large rapidity range ($y \approx 0 - 4$) over which BRAHMS can measure identified hadrons offers a unique possibility to study the longitudinal dynamics of the fireball and in particular the nuclear stopping via the net baryon yield. In the present case ($\sqrt{s_{NN}} = 62.4\text{ GeV}$), $y_{beam} = 4.2$, hence the fragmentation region falls within the BRAHMS acceptance allowing a precise determination of the rapidity loss.

In addition to these results, the evolution of strangeness production and hadron chemistry can be studied vs. rapidity. At forward rapidities, the \bar{p}/p ratio from 62.4 AGeV collisions decreases to a level which is approximately equal to the one seen at mid-rapidity at SPS energies. That means the rapidity dependence of the K^\pm/pi^\pm ratios is of particular interest.