Directed, elliptic, radial and longitudinal flow in 2-8 AGeV Au+Au collisions

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Abstract

The principal types of collective motion of the hot dense nuclear matter produced in heavy ion collisions have been extensively studied using protons and pions from 2-8 AGeV Au+Au collisions at the AGS by the E895 Collaboration. The almost 4π coverage provided by the EOS TPC allows a near complete characterization of the final state charged particle momentum spectra. From these spectra, excitation functions of four flow signals: directed, elliptic, radial and longitudinal, have been extracted. Discussion of the techniques applied to extract these signals and comparisons to various model predictions will be presented. These results will provide a broader perspective on the new RHIC data by anchoring our understanding of the collective dynamics from low energy relativistic heavy ion collisions.

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