Comparison of Event Generator Predictions for the Charged Particle Multiplicity of Au+Au at root(s) = 130 A*GeV Measured in the PHENIX Acceptance

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Abstract

PHENIX is the large detector at RHIC designed to search for the signatures of the quark-gluon plasma, a deconfined high-energy density phase of matter. The initial study that one can do is to obtain multiplicity distributions of produced particles and compare those with the predictions of theoratical models. Using the first data acquired by PHENIX in the Summer 2000 run at RHIC, we have determined the charged-particle multiplicity distribution in the PHENIX acceptance using the pad chambers correlated cluster information in zero-magnetic field configuration. These data were obtained in collisions for Au+Au at root(s) = 130 A*GeV. We compare the resultant distribution with the predictions from different particle production models such as HIJING, RQMD, VNI and NEXUS.

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