Hydrodynamic description of anisotropic flow at RHIC

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Abstract

The recent data from the STAR and PHOBOS Collaborations on the multiplicity density and elliptic flow from Au+Au collisions at RHIC are compared with hydrodynamic calculations. Good agreement between data and theory for impact parameters below 7 fm suggests very rapid thermalization at RHIC energies. At large impact parameters the data show up to 30This will be used to estimate the thermalization time scale. We also point out that our conclusions rest on certain assumptions about the initial conditions established during the collision which can be tested experimentally. To this end, we present quantitative predictions based on the choice of model parameters obtained from the comparison with presently available data.

Preprint submitted to Elsevier Preprint *20 December 2000*