The Measurement of Transverse Polarization of Λ Hyperons in Relativistic Heavy Ion Collisions

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Abstract

We investigate the transverse polarization of Λ hyperons produced in 11.6 A GeV/c Au-Au collisions at the AGS. E896 provides polarization measurements in two independent detector systems, a Silicon Drift Detector Array at mid-rapidity and a Distributed Drift Chamber at forward rapidity. The data show a dependence of the polarization as a function of transverse momentum and Feynman energy. The heavy-ion data are in good agreement with previous measurements in proton-proton and proton-nucleus systems. Our measurements constitute the first positive polarization measurement in a heavy-ion system. The results are being discussed in the context of rescattering and QGP models.

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