Observation of dijet-like azimuthal correlations between charged pions of high-transverse momentum produced in 158 GeV/c Pb-Au collisions

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Abstract

Azimuthal correlations of high-pt charged pions produced in Pb-Au 160 A GeV/c collisions have been studied by the CERES experiment. Anisotropies of a second harmonic of about 10% have been observed for pt $>$ 1.2 GeV/c. They are significantly larger than the elliptic flow observed at lower transverse momenta. Also the width of the correlation, unlike the flow signal, decreases with the pt threshold. This indicates that they can be attributed not to collective elliptic flow but rather to back-to-back semi-hard parton scattering. A possible interpretation of the observed pion-pairs yield in terms of partonic energy loss and pt-broadening will be discussed.

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