Λ polarization in the NA48 experiment at CERN

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Abstract

A study of the polarisation of Λ hyperons produced in inelastic pN reactions by the 450 GeV proton beam from the CERN SPS has been performed with the NA48 detector. The Λ hyperons were detected at a fixed angle of 4.2 mrad in the momentum range from 50 GeV to 200 GeV. The polarisation increases from -0.053±0.034 to -0.298±0.074 for a transverse momentum range of the Λ between 0.28 GeV and 0.86 GeV. The $\overline{\Lambda}$ polarisation is consistent with zero.