Measurement of the Double Longitudinal Spin Asymmetry for Inclusive Hadron Production in 200 GeV Polarized p+p Collisions at RHIC

BERND SURROW, MIT, STAR COLLABORATION — A primary goal of the STAR-spin program is the measurement of the gluon polarization, delta g, in the proton. The STAR detector, with its large-acceptance tracking and calorimetry, provides a uniquely suited environment for asymmetry measurements in a number of different final-state channels in polarized p+p collisions. These asymmetries will provide significant contributions to a global analysis of delta g. We present here the most recent measurements of the double longitudinal spin asymmetries ($A_{LL}$) for the inclusive production of both neutral and charged pions at mid-rapidity. These asymmetries are compared to NLO pQCD calculations for different polarization scenarios and are used to provide constraints on delta g. Charged pions are of particular interest as they are sensitive to the sign of delta g. Results and continuing analyses are presented from RHIC runs 5 and 6.

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