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Measurement of the Double Longitudinal Spin Asymmetry for Hadron Production in 200 GeV Polarized p+p Collisions at RHIC BERND SURROW, MIT, STAR COLLABORATION — A primary goal of the STAR spin physics program at RHIC is the measurement of the gluon polarization, Δg, 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 such as inclusive jet production, charged and neutral pion production. These asymmetries will provide important contributions to a global analysis of Δg. We present here the most recent measurements of the double longitudinal spin asymmetry (A_{LL}) for the production of charged and neutral pions at mid-rapidity. These asymmetries are compared to NLO pQCD calculations for different gluon polarization scenarios and are used to provide constraints on Δg. Charged pions are of particular interest as they are sensitive to the sign of Δg. Results and continuing analyses are presented from RHIC runs 5 and 6.

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