

Abstract Submitted
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Measurements of A_{LL} in Inclusive Charged Pion Production at the STAR Experiment. ADAM KOCOLOSKI, MIT, STAR COLLABORATION
— The STAR Spin program at RHIC contributes to world knowledge of the polarized gluon distribution function ΔG through measurements of double spin asymmetries A_{LL} in various final state channels of longitudinally polarized p+p collisions. The channels $p+p \rightarrow \pi^{+/-} + X$ have large production cross-sections and the difference of the two asymmetries is particularly sensitive to models with different signs of ΔG . Moreover, STAR has already developed techniques to identify charged pions and calculate their production cross-sections over a broad kinematic range, making these inclusive final states excellent candidates for analysis given the integrated luminosities that have been recorded to date. This contribution will present measurements of A_{LL} for inclusive charged pion production extracted from 2 pb^{-1} of data taken at $\sqrt{s}=200 \text{ GeV}$ and $\sim 50\%$ beam polarizations during the 2005 RHIC run. The asymmetries are calculated over the transverse momentum region $2 < p_T < 10 \text{ GeV}/c$ and compared with theoretical predictions incorporating several gluon polarization scenarios. The 2006 RHIC data allows for more precise and refined measurements. Analysis progress will be discussed, followed by an outlook for the future.

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