

Longitudinal Double Spin Asymmetry and Cross Section for η production in polarized p+p collisions at PHENIX

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Longitudinal double spin asymmetries, A_{LL} , measured for inclusive hadron production in polarized proton-proton collisions have been shown to be sensitive to the gluon helicity distribution, Δg . A recent measurement of A_{LL} for neutral pion production by the PHENIX experiment at RHIC has already provided a significant constraint on Δg . The Δg extraction from these data depends on the experimental knowledge of the relevant fragmentation functions. Measurements of A_{LL} for different hadrons with different fragmentation functions and independent experimental uncertainties will further constrain the uncertainties present in the Δg extraction. Such a constraint will be provided by a measurement of A_{LL} and the cross section for η production, of which the results obtained by the PHENIX collaboration at RHIC will be presented.