

Abstract Submitted  
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**Transverse double-spin asymmetries for electroweak gauge-boson production in high-energy polarized  $\vec{p} + \vec{p}$  collisions** BERND SURROW, JACQUES SOFFER, Temple University, CLAUDE BOURRELY, Aix Marseille University — The collision of high-energy polarized proton beams at the Relativistic Heavy-Ion Collider at Brookhaven National Laboratory provides a powerful way to gain a deeper insight into the spin structure and dynamics of the proton such as the study of the helicity distributions of gluons and quarks / antiquarks based on well established high-energy QCD and  $W$  boson processes, respectively. Several studies have been suggested in the past to gain a better understanding of the transversity distribution, in particular the measurement of the transverse double-spin asymmetries ( $A_{TT}$ ) for Drell-Yan production. Prior NLO calculations for Drell-Yan  $\gamma/Z$  exchange have been used to evaluate  $A_{TT}$  for  $Z$  production using maximal bounds for the transversity distribution. The transverse double-spin asymmetry for  $W$  production is expected to be zero. The status of  $A_{TT}$  NLO calculations specifically for  $\gamma/Z$  exchange will be discussed using maximal bounds of transversity distributions within the framework by Bourrely and Soffer.

Bernd Surrow  
Temple University

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