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Probing the transverse single spin asymmetry in the inelastic J/Ψ photoproduction at hadronic colliders

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In this contribution we investigate the transverse single spin asymmetry in the inelastic J/Ψ photoproduction in $p^\uparrow p$ and $p^\uparrow A$ collisions at RHIC energies. At leading order this process probes the gluon Sivers function. We predict large values for the cross sections, which indicates that its experimental analysis is, in principle, feasible. The rapidity dependence of the single spin asymmetry is presented. We obtain that the asymmetry is strongly dependent on the model used for the gluon Sivers function and that it can be probed by the analysis of the J/Ψ production at forward rapidities. Our results indicate that a future experimental analysis of this process can be useful to constrain the gluon Sivers function.

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