

## Heavy Flavour production as probe of Gluon Sivers Function

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### Abstract

Heavy flavour production like  $J/\psi$  and D- meson production in scattering of electrons/unpolarized protons off polarized proton target offer promising probes to investigate Gluon Sivers function. In this talk, I will summarize our recent work on Single Spin Asymmetry (SSA) in  $J/\psi$  - production and D - meson production in both  $pp^\uparrow$  scattering and  $ep^\uparrow$  scattering using a generalized parton model approach. We compare predictions obtained using different models of gluon Sivers function within this approach and then, taking into account the transverse momentum dependent (TMD) evolution of the unpolarized parton distribution functions (pdf's) and gluon Sivers function, we study the effect of evolution on asymmetry.