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Sivers asymmetry in inelastic J/ψ leptoproduction at the EIC

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We study the Sivers azimuthal asymmetry, and the role of the gluon Sivers function (GSF), in inelastic J/ψ leptoproduction, $l p^{\uparrow} \rightarrow l' + J/\psi + X$, at small-to-moderate transverse momentum. To this end, we adopt the color-gauge invariant generalized parton model and the NRQCD framework for quarkonium formation. We compare our estimates for the unpolarized cross-section with available data from ZEUS and H1. We also compare the Sivers asymmetry obtained by maximizing the GSF with the available data point from COMPASS. Finally, we present estimates for the maximized Sivers asymmetry at the EIC energy.

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