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Polarized gluon TMDs at small x

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Flavor, spin and partonic transverse momenta are important characteristics for parton distribution functions (PDFs), allowing a proliferation of possibilities. This proliferation can provide novel information into the non-perturbative structure of nucleons as well as new probes for high energy processes. Wilson lines are an important ingredient in the operator definitions of transverse momentum dependent PDFs (TMDs). We focus on the small x behavior of unpolarized and linearly polarized gluon TMDs with different gauge link structures for unpolarized and transversely polarized nucleons. For this we employ generalized TMD correlators (GTMDs) involving non-forward matrix elements of Wilson loops. As an example of the richness of GTMDs, we note that the C-odd parts can generate odd harmonics in the two-particle azimuthal correlations in peripheral proton-nucleus collisions.

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