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Nucleon transverse momentum-dependent parton distributions: Comparing Clover and Domain wall fermion results at ~ 300 MeV pion mass

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We present a lattice QCD calculation of transverse momentum dependent parton distributions (TMDs) in the proton using staple-shaped gauge links. We calculate both naively time-reversal odd (T-odd) observables, namely, the generalized Sivers and Boer-Mulders transverse momentum shifts in SIDIS and DY processes, as well as T-even observables, namely, the transversity related to the tensor charge and the generalized worm-gear shift. The calculation is done on a $n_f=2+1$ clover ensemble with lattice spacing 0.114 fm and pion mass 317 MeV. The results are compared with a previous calculation on a domain-wall ensemble at 0.084 fm lattice spacing with 297 MeV pion mass.

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