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## Leading twist TMDs in a light-front quark-diquark model for proton

Transverse momentum dependent parton distributions (TMDs) encode three dimensional structure as well as angular momentum information of a hadron and hence have attracted a lot of attention in recent time. We present all the twist-2 TMDs for proton in a light-front quark-diquark model (LFQDM) where the light front wave functions are modeled from AdS/QCD prediction. The relations among the TMDs are also studied. The  $x-p_\perp^2$  factorization used in phenomenological extraction for TMDs is observed to hold in this model. We present the results for the quark densities and the transverse shape of the proton. The shape of the transversely polarized proton is shown to be non-spherical for nonzero transverse momentum. The scale evolution of both integrated and unintegrated TMDs are also presented. We also calculate the T-odd TMDs incorporating the final state interaction(FSI) into the wave functions. The contribution of FSI comes as a complex phase in the wave functions and produce non-vanishing T-odd TMDs. We present our model result for Sivers functions and Boer-Mulders functions.

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