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## Leading-twist T-even TMDs of the proton: A light-front quantization approach

We calculate the proton's T-even transverse momentum dependent distributions (TMDs) at the leading-twist within the Basis Light-front Quantization (BLFQ) framework. We employ the light-front wave functions of the proton obtained from a light-front quantized Hamiltonian with Quantum Chromodynamics input determined for its valence Fock sector ( $|qqq\rangle$ ) and an additional Fock sector ( $|qqqg\rangle$ ) encompassing three quarks and a dynamical gluon, with a three-dimensional confinement. We obtain both the quark and gluon TMDs. After obtaining the numerical results, we investigate the properties of gluon TMDs by checking whether they satisfy the Mulders-Rodriguez inequalities and investigate the correlations between transverse and longitudinal degrees of freedom. With their connection to unintegrated gluon distributions in mind, we further investigate the limiting behaviours of the TMDs in the small- $x$  and large- $x$  regions.

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