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A model calculation of unpolarized and polarized transverse-momentum-dependent distribution functions

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While significant steps toward the formal definition of quark TMDs and their extraction from experimental data through global fits has been made in the last years, the gluon-TMD field represents a largely unexplored territory. Pursuing the goal of extending our knowledge of this sector, we present analytic expressions for all T-even gluon TMDs at twist-2, calculated in a spectator model for the parent nucleon. At variance with respect to previous works, our approach encodes a flexible parametrization for the spectator-mass spectral density, allowing us to improve the description in the small-x region.
We build a common framework where valence, sea quark and gluon densities are concurrently generated. Our results can be used to predict the behavior of observables sensitive to TMD dynamics.

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