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Studying gluon TMDs with J/ψ pair production at the LHC

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We report on our recent study on the extraction of the gluon Transverse Momentum Dependent distributions (TMDs) inside unpolarised protons, using vector quarkonium pair production at the LHC. In this work, we show how J/ψ pair production is an ideal process to pin down the gluon TMDs and generate large azimuthal asymmetries ; we also present a first fit of the average k_T parameter for a Gaussian model of the TMD f_{1g} using LHCb data. We add new results including the effect of the evolution of the gluon TMDs, for the kinematics relevant for the LHCb, CMS and ATLAS data.

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