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Gluon TMD PDF studies at the LHC

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Although significant results were obtained concerning quark transverse-momentum dependent distribution functions (TMD PDFs), the deep knowledge on their formal properties being surrounded by a rich and wealthy phenomenology, the gluon-TMD field represents an almost uncharted territory. After a brief introduction of gluon TMD PDFs and their connection with spin studies, we report progresses done via model-dependent calculations of T-even and T-odd functions at leading twist. We then review the potential of the LHC, including its fixed-target mode, to catch the inner dynamics of gluons inside protons via TMD studies in Higgs and quarkonium production. We also explore the possibility offered by the LHC in the fixed target mode with a polarized target.

Declaration

I certify that I have checked that I am authorised to submit the abstract with the listed co-authors with their current affiliations

Change of Speaker

I understand that change of speaker is allowed provided that no participant gives more than one talk. Otherwise, we will ask the speaker to choose between one or the other abstract to be presented.

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