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## The transverse momentum dependent distribution functions of partons. Status and prospects

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In the last few years we have had a major advance on our understanding of the motion of partons inside nuclei. This has been achieved recognizing the role of rapidity divergences in the factorization theorems for transverse momentum dependent cross sections (for Drell-Yan, Semi-inclusive DIS,  $ee \rightarrow 2$  hadrons), using effective field theories, performing higher order calculations in perturbative QCD. This progress can provide us with a universal picture of QCD effects and a higher precision in current and future experiments. In this talk I try to resume the status of all this and discuss prospects.

### Summary

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