

Conformal invariance of TMD rapidity evolution

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Abstract: The most known scheme to regulate the rapidity/UV divergences of the Transverse Momentum Distribution operators due to the infinite light-like gauge links is the Collis Soper Serman formalism or the Soft Collinear Effective Theory formalism. An alternative choice is provided by the scheme used in the small- x physics. The corresponding evolution equations differ already at leading order. In view of the future Electron-Ion Collider accelerator, which will probe the TMDs at values of the Bjorken x in the region between small- x to $x \sim 1$, the different formalisms need to be reconciled. Conformal invariance may help us find a solution in this direction.

I will discuss the conformal properties of TMD operators and present the result of the conformal rapidity evolution of TMD operators in the Sudakov region.

Primary author: CHIRILLI, Giovanni Antonio (University of Regensburg)

Presenter: CHIRILLI, Giovanni Antonio (University of Regensburg)

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