

Resummation of threshold logarithms in deeply-virtual Compton scattering

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I derive an all-order resummation formula for the logarithmically enhanced contributions proportional to $\alpha_s^n x^{\pm \frac{1}{2}} \log(\xi \pm x^2 \xi)$ in the quark coefficient function of deeply-virtual-Compton scattering and the pion-photon transition form factor in momentum space. The resummation is performed at the next-to-next-to-leading logarithmic accuracy. The key observation is that the quark coefficient function itself factorizes in the $x \rightarrow \pm \xi$ limit, which allows for a resummation using renormalization group equations. A preliminary numerical analysis suggests that the corrections due to resummation for the quark contribution might be small.

Author: SCHÖNLEBER, Jakob (University of Regensburg)

Presenter: SCHÖNLEBER, Jakob (University of Regensburg)

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