Light-Cone 2024: Hadron Physics in the EIC era



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Kinematic power corrections to DVCS to twist-six accuracy

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In this talk, I will present our calculation of kinematic power corrections t/Q^2 and m^2/Q^2 to the amplitude of deeply-virtual Compton scattering to the twist-six accuracy on a nucleon target.

Phenomenologically, this result reduces an important source of uncertainties in the QCD predictions for intermediate momentum transfers $Q^2 \sim 1 - 10 \text{ GeV}^2$, accessible in the existing and planned EIC experiments. In particular, we find the higher kinematic power–corrections are significant and must be considered in the data analysis.

Our calculation is carried out using techniques from conformal theory and the corresponding results are applicable to other exclusive processes involving light-ray operators.

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