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Improved dispersion relation and extraction of the D-term

Quantum Chromodynamics (QCD) is the theoretical framework to study hadrons by means of their fundamental degrees of freedom, i.e. quarks and gluons, collectively referred to as partons. QCD defines many types of distributions describing a given hadron in terms of partons. For the purposes of this talk, we are interested in the so-called generalized parton distributions (GPDs) which are off-forward matrix elements of quark and gluon operators. These ones are typically accessed in exclusive Compton scattering and parameterized by 2 functions named *double distributions*: $F(\beta, \alpha, t)$ and $D(\alpha, t)$ (the D-term). The latter is of special interest in hadron physics as it is connected to the internal distribution of pressure in the hadron through its connection to the gravitational form factor (GFF) C.

Convolutions of GPDs with coefficient functions describing the interaction of photons with the partons in the hadron are named Compton form factors (CFFs). Real and imaginary parts of CFFs are related by ''subtracted" dispersion relations, i.e. the difference between the real and imaginary parts is given by a constant. At leading twist ($|t|/Q^2 \to 0$), this subtraction constant is solely given by the D-term. In this talk, we will show how the inclusion of kinematic twist corrections makes the subtraction constant to be dependent on the other double distribution, $F(\beta, \alpha, t)$, affecting the determination of the D-term from data on CFFs. We will present an extraction of the D-term at different accuracies describing the impact of different types of corrections.

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