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## Compton Scattering on ${}^4\text{He}$ : Kinematical Features

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In the literature concerning the Generalized Parton (GPDs) distributions of  ${}^4\text{He}$ , the common opinion is that a single GPD is dominant at high values of the virtuality  $Q$ . Because the Compton form factors (CFFs) are related to the GPDs by sum rules, this implies that a single CFF must be dominant at high  $Q$  and that the data can be safely analyzed in terms of this CFF. In the present study, the phenomenology of deeply virtual Compton scattering (DVCS) is considered. It is a well-known fact that a charged spin zero hadron has five CFFs, all of which contribute to the DVCS amplitude if the absorbed and emitted photons are virtual. This number is reduced to three if the emitted photon is real. [1] The work presented here analyses the behaviour of the CFFs for large  $Q$ . The contributions to the DVCS amplitude of the CFFs that are suppressed by powers of  $Q$  appear to be kinematically enhanced. Moreover, for medium values of  $Q$ , less than the mass of the  ${}^4\text{He}$  nucleus, for instance attainable at CEBAF, target mass effects are also important.

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