Diffraction and Low-x 2022



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Accessing GPDs through the exclusive photoproduction of a photon-meson pair with a large invariant mass

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We study the exclusive photoproduction of a photon-meson pair with a large invariant mass, working at leading twist and leading order in the framework of QCD collinear factorisation. Explicitly,

the produced meson is either a rho meson or a charged pion. This process allows us to extract generalised parton distributions. In particular, unlike in deeply-virtual Compton scattering and deeply-virtual meson production, considering a transversely-polarised rho meson in the final state enables us to access chiral-odd GPDs at the leading twist, which are not known experimentally.

We discuss the prospects of measuring this process at various experiments, such as JLab, EIC and LHC (in ultraperipheral collisions).

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