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## First study of twist-3 PDFs and GPDs for the proton from Lattice QCD

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The non-perturbative part of the cross-section of high-energy processes may be expanded in terms of the process's large energy scale. This gives rise to a tower of distribution functions, labeled by their twist (mass dimension minus spin). The leading twist (twist-2) contributions have been at the center of experimental measurements, theoretical investigations, and lattice QCD calculations. It has been recognized that twist-3 contributions to distribution functions can be sizable and should not be neglected. However, it is challenging to disentangle them experimentally from their leading counterparts, posing limitations on the structure of the proton.

In this talk, we will present selected results on the  $x$ -dependence of the proton twist-3 PDFs  $g_T(x)$  and  $h_L(x)$ . We will also show the first results on the twist-3 helicity GPDs for selected values of the momentum transfer. All calculations have been performed using the quasi-distributions method, and the lattice data are matched to the light-cone distributions using the LaMET framework. We use one ensemble of two degenerate light, a strange and a charm quark ( $N_f=2+1+1$ ) of maximally twisted mass fermions with a clover term, reproducing a pion mass of 260 MeV.

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