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Nucleon structure functions from a lattice Compton amplitude calculation

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The structure of hadrons relevant for deep-inelastic scattering are completely characterised by the Compton amplitude. A direct calculation of the Compton amplitude provides a complementary way to accessing the structure functions on the lattice, circumventing the operator mixing and renormalisation issues of the standard operator product expansion approach.

In this contribution, we focus on our lattice QCD calculation of the forward Compton amplitude and highlight our progress in investigating the nucleon structure functions from first principals.

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