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NNGPDs

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One of the core challenges for the investigation of hadronic structure through exclusive processes is the inverse problem. Traditionally, the problem is considered to be one of inverting the convolution of the Compton form factors (CFFs) with the Wilson coefficient function in order to extract generalized parton distributions (GPDs). However, the EXCLAIM collaboration has devised a method for extracting GPDs in a neural network-based approach that accounts for the fundamental properties of GPDs, as well as lattice data and CFFs, avoiding the difficulty of de-convolution. We present details of our novel machine learning architecture and preliminary results for GPD forms in this approach.

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