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Renormalons and power corrections in pseudo- and quasi-GPDs

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High-order behavior of the perturbative expansion for short-distance observables in QCD is intimately related to the contributions of small momenta in the corresponding Feynman diagrams and this correspondence provides one with a useful tool to investigate power-suppressed nonperturbative corrections. We use this technique to study the structure of power corrections to parton quasi- and pseudo-GPDs which are used in lattice calculations of generalized parton distributions. As the main result, we predict the functional dependence of the leading power corrections to quasi(pseudo)-GPDs on x variable for nonzero skewedness parameter ξ. The kinematic point $x = \pm\xi$ turns out to be special. We find that the nonperturbative corrections to quasi-GPDs at this point
are suppressed by the first power of the hard scale only. These contributions come from soft momenta and have nothing to do with the known UV renormalon in the Wilson line. We also show that power corrections can be strongly suppressed by the normalization procedure.

Primary authors: BRAUN, Vladimir (University of Regensburg); KOLLER, Maria (Universitaet Regensburg); Dr SCHOENLEBER, Jakob (BNL)

Presenter: BRAUN, Vladimir (University of Regensburg)

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