

Parton Distribution Functions from Large Momentum Expansion of Current-Current Correlators

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The universality of the large momentum expansion allows computing parton distribution functions (PDFs) starting from any Euclidean correlator with appropriate large momentum Fourier Components. Here we consider current-current correlators which have been used in short-distance expansion to obtain moments of PDFs. The advantage of such correlators is that they have simple renormalization properties and do not have linear power divergences as in quasi-PDF. However, in lattice calculations, four-point functions are needed. Here we present an expansion formula with current-current correlators up to the next-to-leading order, and preliminary numerical calculations with four-point functions.

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