Matching the quasi parton distribution in a momentum subtraction scheme

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The quasi parton distribution (quasi-PDF) is an equal-time correlation of quarks along the direction the nucleon is moving at. At large but finite nucleon momentum, the quasi parton distribution can be perturbatively matched to the PDF through a factorization formula in large momentum effective theory. Following a nonperturbative renormalization of the quasi parton distribution in a regularization independent momentum subtraction scheme, we establish its matching to the MSbar PDF and calculate the non-singlet matching coefficient at next-to-leading order in perturbation theory.

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