

Perturbative renormalization in parton distribution functions, using improved actions

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Abstract: We calculate the 1-loop renormalization of a set of extended fermionic bilinears which form a basis corresponding to moments of the parton distribution functions. We use the overlap action for fermions, and the Lüscher-Weisz (LW) action for gluons.

Our results are presented as a function of the overlap parameter ρ and the parameters entering the LW action.