Rapidity Divergences and Deep Inelastic Scattering in the Endpoint Region OU ZHANG, SEAN FLEMING, University of Arizona — The deep inelastic scattering cross section in the endpoint region, $x \sim 1$, has been subjected to extensive analysis. We revisit this process, and show that in the endpoint individual factors in the factorized hadronic tensor have rapidity divergences. We regulate these divergences using a recently introduced rapidity regulator. Interestingly, we find that there is no need for a resummation of rapidity logarithms. In addition, we give an operator definition of the parton distribution function in the endpoint region, and remark on the issues that should be considered in constructing this function.

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