

# Threshold Resummation and Determinations of Parton Distribution Functions

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The precise knowledge of parton distribution functions (PDFs) is indispensable to the accurate calculation of hadron-initiated QCD hard scattering observables. Much of our information on PDFs is extracted by comparing deep inelastic scattering (DIS) and lepton pair production (LPP) data to convolutions of the PDFs with the partonic cross sections of these processes. It is known that partonic cross sections receive large corrections in regions of phase space near partonic thresholds that can be resummed using threshold resummation techniques. The effect of threshold resummation on DIS and LPP differs because partonic thresholds for the two processes occur in different kinematic regions. Recent global fits for PDFs have included DIS data from the large Bjorken  $x$  and moderate  $Q^2$  region where threshold effects have been shown to be large. The present project explores the effects of simultaneously incorporating threshold resummation in both DIS and LPP and to evaluate the effects of such additions on global fits. The status of the progress to date will be reviewed.

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