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Determination of proton parton distribution functions using ATLAS data

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We present fits to determine parton distribution functions (PDFs) using inclusive W/Z-boson and W+jets measurements from the ATLAS experiment at the LHC. The ATLAS measurements are used in combination with deep-inelastic scattering data from HERA. If available, we also present the results of PDF fits that use Z+jets measurements from ATLAS in addition to the measurements listed above. The ATLAS W and Z boson data exhibit sensitivity to the valence quark distributions and the light quark sea composition. The parton distribution functions extracted using W+jets data show an improved determination of the high-x sea-quark densities, while confirming the unsuppressed strange-quark density at lower x<0.02 found by previous ATLAS analyses.

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