

# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



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## Determination of proton parton distribution functions using ATLAS data

*Wednesday, 14 April 2021 13:15 (20 minutes)*

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. We also present the results of PDF fits that use Z+jets measurements from ATLAS in addition to the measurements listed above. An improved determination of the sea-quark densities at high Bjorken,  $x$ , is seen, while confirming a strange-quark density similar in size to the up- and down-sea-quark densities in the range  $x < 0.02$  found by previous ATLAS analyses. If available, PDF fits including inclusive W and Z boson production,  $t\bar{t}$  production, W+jets and Z+jets production, inclusive jet production and direct photon production will also be presented.

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**Session Classification:** Structure function and parton densities

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