Contribution ID: **198** Type: **Poster or pre-recorded talk**

The impact of ATLAS V+jet measurements on PDF fits

Tuesday 13 July 2021 20:24 (2 minutes)

The production of W/Z-bosons in association with jets is an important test of perturbative QCD predictions and also yields information about the parton distribution functions (PDFs) of the proton. The latest results of differential cross-section measurements for Z-boson production in association with jets (including heavy flavour) from the ATLAS experiment at the LHC will be presented. The measurements are corrected for detector inefficiency and resolution and the results are compared to state-of-the-art theory predictions, indicating several interesting discrepancies. We also present fits to determine PDFs using inclusive W/Z-boson and W/Z+jets measurements from ATLAS. The ATLAS measurements are used in combination with deep-inelastic scattering data from HERA. 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.

Preferred track

Jets & QCD at High Scales

Primary author: ATLAS COLLABORATION

Co-author: VARNES, Erich Ward (University of Arizona (US))

Presenters: ATLAS COLLABORATION; CONROY, Eimear Isobel (University of Oxford (GB))

Session Classification: Poster Session