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Measurements of W and Z production at ATLAS

Tuesday, 28 March 2023 14:20 (20 minutes)

Precision measurements of the production cross-sections of W/Z boson at LHC provide important tests of perturbative QCD and information about the parton distribution functions for quarks within the proton. Extremely precise double-differential measurement of Z transverse momentum and rapidity at centre-of-mass energy of 8 TeV will be presented. Also, the transverse momentum of the W and Z boson measured from the hadronic recoil at 5 and 13 TeV will be discussed. We will also present a measurement of Z decays to a pair of leptons and a photon, which is a sensitive test of the kinematics of final-state QED radiation. Finally, if available, the measurement of the W, Z, ttbar cross section and their ratios at the centre-of-mass energy of 13.6 TeV using early Run3 data will be shown. These measurements are corrected for detector inefficiency and resolution and compared with state-of-the-art theoretical calculations.

Submitted on behalf of a Collaboration?

Yes

Participate in poster competition?

No

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