

XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



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Measurements of diboson production at ATLAS

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Measurements of electroweak boson pair production at the LHC constitute a stringent test of the electroweak sector and provide a model-independent means to search for new physics at the TeV scale. In this talk, we present recent results from the ATLAS experiment for WW, ZZ and Z γ production in proton-proton collisions at $\sqrt{s}=13$ TeV. The measurements in each channel exploit the leptonic decays of the weak vector bosons. Differential cross sections are measured that probe the topology of each final state. The data are corrected for detector inefficiency and resolution and are compared to theoretical predictions at NLO (and NNLO) in perturbative QCD. The measurements are sensitive to anomalous triple gauge couplings and are reinterpreted in terms of an effective field theory to constrain new physics beyond the Standard Model. In addition, we present a measurement of the Z γ process in which the Z-boson decays to a pair of b-quarks, which probes the reconstruction of hadronically decaying Z-bosons using jet grooming techniques.

Primary authors: JUSTE ROZAS, Aurelio (ICREA and IFAE (ES)); LEWIS, Daniel James

Presenter: LEWIS, Daniel James

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