

Measurements of vector-boson scattering with the ATLAS experiment

Saturday 20 July 2024 11:00 (15 minutes)

Measurements of diboson production in association with two additional jets at the LHC probe interactions between electroweak vector bosons predicted by the Standard Model and test contributions from anomalous quartic gauge couplings. The ATLAS experiment has recently performed such measurements in a variety of final states, amongst them the scattering into a massive electroweak gauge boson and a photon. The scattering of massive electroweak gauge bosons is studied in leptonic final states of W boson pairs, Z boson pairs, as well as WZ pairs decays. All measurements include a comprehensive set of differential kinematic distributions. Also presented are measurements using semi-leptonic decays of the gauge boson pair, and Z-boson decays into neutrinos. The measured kinematic distributions are interpreted in an Effective Field Theory approach and used to constrain dimension-8 operators.

Alternate track

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