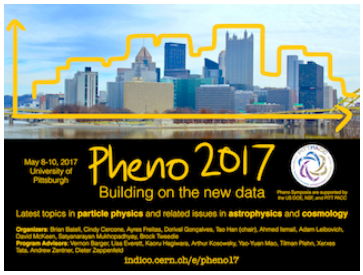

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Recent Tests of the Standard Model with Multi boson final states at the ATLAS Detector

Tuesday, 9 May 2017 15:00 (15 minutes)

Measurements of the cross sections of the production of two and three electroweak gauge bosons at the LHC constitute stringent tests of the electroweak sector of the Standard Model and provide a model-independent means to search for new physics at the TeV scale.
The ATLAS collaboration has performed new measurements of integrated and differential cross sections of the production of heavy di-boson pairs in fully-leptonic and semi-leptonic final states at centre-of-mass energies of 8 and 13 TeV. We present in particular new measurements of WW, WZ and Z+photon cross sections in semi-leptonic or hadronic decays using standard or boosted technologies and new measurements of the inclusive and differential ZZ cross section at 13 TeV in various decay modes.
In addition, the ATLAS collaboration has recently searched for the production of three W bosons or of a W boson and a photon together with a Z or W boson at a center of mass energy of 8 TeV. Moreover, the electroweak production in vector boson fusion of single W and Z bosons with two jets at high invariant mass at centre-of-mass energies of 7, 8 and 13 TeV are studied in different phase space regions. All results are compared to state-of-the art theory predictions and have been used to constrain anomalous quartic gauge couplings.

Summary

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