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## Measurements of inclusive neutral diboson production with ATLAS

*Saturday, 13 July 2019 09:45 (15 minutes)*

In this talk, we present a number of recent measurements of inclusive  $ZZ$  and  $Z\gamma$  production in proton-proton collisions at  $\sqrt{s}=13$  TeV at ATLAS. The unfolded differential cross section for  $ZZ \rightarrow 4l$  as a function of the four-lepton invariant mass is presented and compared to state-of-the-art Standard Model calculations. If available, an additional measurement of  $ZZ$  production will be presented for events in which the  $ZZ$  system decays to two charged leptons and two neutrinos. We also report measurements of  $Z$ -boson production in association with a high-energy photon, using the  $Z$ -boson decay to neutrinos and (if available) the  $Z$  boson decay to  $b$ -quarks and respectively to charged leptons. The data in all these measurements can be used to search for triple- and quartic- neutral gauge boson interactions, which are forbidden at tree-level in the Standard Model. No excess is observed relative to the Standard Model expectation, and upper limits are set on the strength of  $ZZ\gamma$  and  $Z\gamma\gamma$  couplings.

**Primary author:** ATLAS COLLABORATION**Presenter:** RICHTER, Stefan (DESY)**Session Classification:** Top and Electroweak Physics**Track Classification:** Top and Electroweak Physics