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Studying the Electroweak Sector with the ATLAS Detector

Tuesday, 29 May 2018 14:00 (30 minutes)

The large integrated luminosities that are available at the LHC, allow to test the gauge structure of the electroweak sector of the Standard Model to highest precision. In this talk, we review the latest results of the ATLAS collaboration involving di-boson and multiboson final states, the electroweak production of vector bosons as well as their constraints of effective field theory operators.

Another approach to test the consistency of the electroweak sector is via precision measurements. ATLAS has published a first high precision measurement of the W boson mass, a first measurement of the tau-polarization in Z events as well as a three dimensional cross-section measurement of the Drell-Yan process. The latter allows for the extraction of the forward-backward asymmetry that can be interpreted as a measurement of the weak mixing angle. These results will be presented and discussed.

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