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A highlight of multiboson interactions, their polarization and photon-induced access to tau g-2 at ATLAS

Monday 14 November 2022 15:15 (15 minutes)

Measurements of multiboson production at the LHC are fundamental probes of the electroweak gauge structure of the Standard Model. With the large data samples from the LHC, processes involving quartic gauge boson couplings are now accessible. In this talk we present recent ATLAS results of quartic interactions including measurements with three gauge bosons in the final state. These results are interpreted via an Effective Field Theory analysis of anomalous quartic gauge self-interaction. In addition we will present a first measurement of di-boson polarization at the LHC. Finally, we will show how high statistics measurements of photon-induced tautau production in lead-lead collisions provide a precise and unique opportunity to investigate fundamental parameters like tau lepton's anomalous magnetic dipole moment.

Poster fallback option for rejected abstracts for parallel oral presentations

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