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Recent results on Standard Model with the ATLAS detector

The high energy and diverse running operations at the LHC allow the ATLAS detector to probe the Standard Model in extreme phase spaces and environments. This talk will highlight recent results for the ATLAS experiment. In particular, we will focus on probes of QCD from high energy jet production to measurements of the strong coupling. Additionally, this talk will also highlight recent measurements of multiboson production including a first measurement of simultaneous pair production of longitudinally polarised vector bosons at the LHC. This talk also presents a review of the latest measurements of the Higgs boson properties, including its mass, CP, differential cross-sections, and couplings including self-coupling measurement. Specific results on production mode cross sections, Simplified Template Cross Sections are presented. These precise boson, diboson and Higgs differential cross-section measurements are interpreted in a combined Effective Field Theory analysis, allowing to systematically probe gauge boson self-interactions. Finally, in this talk an overview is given of the top quark physics program of the ATLAS experiment, with emphasis on recent searches and measurements with a pronounced sensitivity to new phenomena. First run 3 results are included, as well as an outlook to the broader run 3 and HL-LHC program.

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