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Recent results on measurements of the Higgs boson in ATLAS

Tuesday 20 May 2025 14:30 (15 minutes)

The event rates and kinematics of Higgs boson production and decay processes at the LHC are sensitive probes of possible new phenomena beyond the Standard Model (BSM). This talk presents the most recent results in the measurements of Higgs boson production and decay rates, obtained using the full Run 2 and partial Run 3 pp collision dataset collected by the ATLAS experiment at 13 TeV and 13.6 TeV. These include total and fiducial cross-sections for the main Higgs boson processes as well as branching ratios into final states with bosons and fermions. Additionally, several rare Higgs boson processes predicted in the SM, such as decays to a Z boson and a photon, and decays to a pair of muons will be discussed. The observation of one of these processes could open new windows for the study of Higgs boson couplings, or provide evidence for physics beyond the Standard Model.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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