

Combined measurements of Higgs boson coupling and cross section with the ATLAS detector

Tuesday, November 8, 2022 9:40 AM (15 minutes)

With the full Run 2 pp collision dataset collected at 13 TeV, very detailed measurements of Higgs boson coupling and kinematical properties can be performed, exploiting a variety of final states and production modes, probing different regions of the phase space with increasing precision. Coupling, fiducial and differential measurements can then be combined to exploit the specific strength of each channel, thus providing the most stringent global measurement of the Higgs properties. This talk presents the latest combination of Higgs boson coupling measurements by the ATLAS experiment, discussing results in term of production modes, branching fractions and Simplified Template Cross Sections, as well as their interpretations in the framework of kappa modifiers to the strength of the various coupling and decay properties; and the latest combination of the Higgs boson fiducial and differential cross sections in various Higgs boson decays, as well as their combination and interpretations in term of constrain of beyond-the-Standard-Model phenomena.

Type of talk

Experimental measurements

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