

# The XXIX International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2022)



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## Measurements of the Higgs boson couplings and their interpretations with the ATLAS experiment

*Friday 1 July 2022 16:40 (20 minutes)*

Very detailed measurements of Higgs boson properties and its interactions can be performed with the full Run 2 pp collision dataset collected at 13 TeV, shining light over the electroweak symmetry breaking mechanism. This talk presents the latest measurements of the Higgs boson coupling properties by the ATLAS experiment in various decay bosonic and fermionic channels, as well as their combination. Results on production mode cross sections, Simplified Template Cross Sections, and their interpretations are presented. Specific scenarios of physics beyond the Standard Model are tested, as well as a generic extension in the framework of the Standard Model Effective Field Theory, and in the framework of an Effective Field Theory.

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**Session Classification:** Higgs theory and experiment