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ATLAS Higgs physics prospects at the high luminosity LHC

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Run-I at the LHC has been very successful and included the discovery of a new particle with mass of about 125 GeV compatible within uncertainties with the Higgs boson predicted by Standard Model.

In this talk, the Higgs physics prospects at the high-luminosity LHC are presented, assuming an energy $\sqrt{s} = 14$ TeV and a data sample of 3 ab^{-1} . In particular, the ultimate precision attainable on the couplings measurements of the 125 GeV particle with elementary fermions and bosons is discussed, as well as perspectives on the searches for partners associated to this new object, predicted by several extensions of the standard theory.

Summary

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