

Perspectives on Higgs Physics at LHC

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The discovery of a new boson with mass around 125 GeV by ATLAS and CMS at the Large Hadron Collider (LHC) opens a new fundamental chapter in high-energy physics. The measurement of the physics properties of this particle are crucial to establish whether this is the elementary scalar, the Higgs boson, predicted by the Standard Model. Deviations from Standard Model expectations would represent the first direct evidence of new physics beyond this theory. The perspectives on the coupling measurements of this new particle with elementary bosons and fermions at the LHC and at the luminosity upgrade of LHC (HL-LHC) are presented and discussed. This talk will include also preliminary simulation results on the HL-LHC physics potential on Higgs selfcoupling and CP studies.

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