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Status of the Higgs Searches at the LHC: Properties and Beyond the Standard Model Searches

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The discovery of the Higgs boson marks the start of a major program to measure its properties with the highest possible precision in order to validate the standard model. Precision mass measurements are discussed using the ZZ and diphoton channel. Within the context of the standard model, the measurement of the mass determines all properties of the Higgs boson. The measured signal rates in all available final states can be used to extract the information on the strength of the gauge and Yukawa couplings. Studies of angular and mass distributions yield information on spin, parity and more generally the tensor structure of the boson couplings. The studies of the recently observed boson are complemented by direct searches for beyond the standard model Higgs boson signatures.