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Precision investigations of Higgs couplings and applications for collider phenomenology

After the discovery at the CERN Large Hadron Collider of a Higgs boson with a mass of about 125 GeV, the structure of the Higgs sector and the actual form of the Higgs potential still remain to a large extent uncharted. In this project, we will explore extended Higgs sectors, which could for instance be suitable for providing a possible candidate for dark matter and for explaining the matter-antimatter asymmetry of the Universe. Predictions for relevant couplings of the Higgs boson and their phenomenological applications, in particular in the context of processes at current and future colliders, will be investigated.

Group

T

Project Category

B4. Theory of elementary particles

Special Qualifications

DESY Site

Hamburg

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