

Double Higgs boson production at FCC-he and prospects for measurements of the Higgs boson self-coupling

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The measurement of the triple Higgs boson coupling is one of the most important goals of Higgs physics in the present and future collider experiments, which provide the first direct information on the Higgs potential that is responsible for EWSB.

In this talk we present double-higgs production scenario at the LHeC/FCC-he through e^-p collision which will provide information about trilinear coupling (λ_{HHH}) and possibility of new physics. The LHeC will provide e- to collide head on with protons at the LHC. The LHC will be replaced with the FCC (future circular collider) with proton beams of up to 50 TeV and e- energy will be varied from 60-250 GeV. Due to more involved experimental and theoretical constraints it is difficult to measure (λ_{HHH}) precisely at the LHC. The relevant dimension six operators are studied involved in this process.

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