

Physics potential for the measurement of Higgs to ZZ at FCC

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Future electron-positron colliders can determine the absolute couplings of the Higgs boson to Standard Model particles in a model-independent manner and obtain a precise measurement of the Higgs boson's decay width. Two key ingredients are the determination of the absolute Higgs to Z boson coupling, g_{HZZ} , using the recoil method in the Higgsstrahlung Higgs production channel and the measurement of the Higgs decay to the pair of Z bosons in the same Higgs production mode.

The first results of the measurement of the Higgs to ZZ in Higgsstrahlung at the Future Circular Collider (FCC) are presented. We assume the nominal centre of mass energy, 240 GeV, unpolarized beams and integrated luminosity of 10.8 ab⁻¹.

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