

Contribution ID: 237

Type: Parallel

Absolute Higgs boson cross section, mass, and width at FCC-ee

The FCC-ee programme is uniquely positioned to provide unprecedented precision on the fundamental properties of the Higgs boson. At the center-of-mass energies 240 and 365 GeV, the FCC-ee will produce millions of Higgs bosons via Higgs-strahlung and vector boson fusion. The clean experimental environment allows a model-independent measurement of the absolute ZH cross-section to better than per-mil accuracy, directly determining the Higgs coupling to Z bosons. Utilizing the recoil-mass technique in leptonic and hadronic Z decays, the Higgs boson mass will be measured with a precision of a few MeV. Combining these measurements with precise determinations of exclusive branching ratios will yield the total Higgs width at percent-level precision. These measurements will significantly advance our understanding of the Standard Model and guide the search for new physics.

Secondary track

Author: KLUTE, Markus (KIT) Session Classification: T08

Track Classification: T08 - Higgs Physics