

# Long-lived particles from exotic Higgs decays at the FCC-ee

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The European Strategy for Particle Physics identifies an  $e^+e^-$  Higgs factory as its top priority and the first step towards an ultra-high energy future hadron collider. The Future Circular Collider (FCC) is being proposed at CERN to address these goals. The FCC includes an electron-positron collider (FCC-ee), which will be followed by an energy-frontier hadron collider (FCC-hh).

New long lived particles (LLPs) are connected to many new physics models and could be the key to new physics discoveries at FCC-ee.

This contribution presents an ongoing sensitivity analysis for exotic Higgs boson decays to LLPs at FCC-ee within the FCCAnalyses framework.

The study targets the production of a Higgs boson in association with a Z boson in  $e^+e^-$  collisions at 240 GeV, with the Higgs boson decaying into two long-lived scalars. This builds upon previous work with improved statistics and a refined analysis strategy.

## Primary track

Higgs physics at future colliders

## Is the speaker a PhD student or post-doc?

Yes - I need some financial support (fee reduction) to attend Higgs 2024

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