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Higgs portal long-lived particle searches at the FCC-hh

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The Higgs portal to BSM is very well motivated both theoretically and experimentally. We study long-lived BSM particles in the Higgs portal model, produced either from the decay of a B-meson or the Higgs boson. We discuss the search for these particles at future colliders, like the 100 TeV future collider experiment. Given the need to optimise the designs of dedicated LLP detectors for future colliders, we propose dedicated LLP detector designs for the 100 TeV collider experiment, DELIGHT (Detector for long-lived particles at high energy of 100 TeV) and FOREHUNT (FORward Experiment for HUNDred TeV), and study their sensitivities for LLPs in the Higgs portal.

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Session Classification: Short talks