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Prospects for exotic light scalar measurements at the e+e- Higgs factory

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The physics program of the Higgs factory will focus on measurements of the 125 GeV Higgs boson, with the Higgs-strahlung process being the dominant production channel at 250 GeV. However, production of extra light scalars is still not excluded by the existing experimental data, provided their coupling to the gauge bosons is sufficiently suppressed. Fermion couplings of such a scalar could also be very different from the SM predictions leading to non-standard decay paterns.
Considered in the presented study is the sensitivity of future Higgs factory experiments to direct observation of the new light scalar production for the scalar mass range from 50 GeV to 120 GeV.

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