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Prospects for light exotic 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 patterns. Considered in the presented study is the feasibility of direct light scalar observation at future Higgs factory experiments assuming different decay channels.

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