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Prospects for Precision Higgs Physics at Linear Colliders

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A linear e+e- collider provides excellent possibilities for precision measurements of the properties of the Higgs boson. At energies close to the Z-Higgs threshold, the Higgs boson can be studied in recoil against a Z boson, to obtain not only a precision mass measurement but also direct measurements of the branching ratios for all important decay modes, including possible decay to invisible species. At higher energies, the Higgs boson coupling to top quarks and the Higgs boson self-coupling can also be measured. At energies approaching 1 TeV and above, the rising cross section for Higgs production in WW fusion allows the measurement of very small branching ratios, including the branching ratio to muon pairs. These experiments make it possible to determine the complete profile of the Higgs boson in a model-independent way. This contribution will report the prospects for these measurements, based on the results of detailed full simulation studies performed within the frameworks of the CLIC conceptual design report and the ILC technical design report.

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