

Higgs Boson Self-Coupling vs. CM Energy at the ILC

The Higgs boson self-coupling is accessible in the double Higgstrahlung process $e^+e^- \rightarrow ZHH$ and the double WW fusion process $e^+e^- \rightarrow \nu\bar{\nu}HH$. Present ILC studies typically evaluate sensitivity to this coupling at center-of-mass energies of $\sqrt{s} = 500$ GeV and $\sqrt{s} = 1000$ GeV, two well-established ILC operating points. In this study we investigate the ILC sensitivity to the self-coupling at \sqrt{s} from turnon threshold to above 1000 GeV.

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