

Charged and neutral Higgs boson decays and $\tan(\beta)$ measurement at CLIC

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The Minimal Supersymmetric Extension of the Standard Model (MSSM) predicts the existence of new charged and neutral Higgs bosons. The pair creation of these new particles at the multi-TeV e^+e^- Compact Linear Collider (CLIC), followed by decay cascades into Standard Model particles, were simulated along with the corresponding background. Beam-beam effects such as ISR, beamstrahlung and hadronic background were included. We have investigated the possibility of using the ratio between the number of events found in various decay channels to determine the MSSM parameter $\tan(\beta)$ and we have derived the corresponding statistical error from the uncertainties on the measured cross-sections and Higgs boson masses.

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