

Littlest Higgs Model and Higgs Boson Associated Production with Top Quark Pair at High Energy Linear e^+e^- Collider

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Abstract: In the parameter space allowed by the electroweak precision measurement data, we consider the contributions of the new particles predicted by the littlest Higgs model to the Higgs boson associated production with top quark pair in the future high energy linear e^+e^- collider (ILC). We find that the contributions mainly come from the new gauge bosons Z_H and B_H . For reasonable values of the free parameters, the absolute value of the relative correction parameter $\delta\sigma/\sigma^{\text{SM}}$ can be significantly large, which might be observed in the future ILC experiment with $\sqrt{s}=800$ GeV.

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Key words: littlest Higgs model, Higgs boson, new gauge bosons

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