

The Effects of the Little Higgs Model on the Decay Width $Z_1 \rightarrow e^+e^-$

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Abstract content

In the framework of the Little Higgs Model (LHM), we calculate the decay width $\Gamma(Z_1 \rightarrow e^+e^-)$ with corrections of QED and QCD. We analyze this with recent data from LEP and compute the contribution of the model. We find that the deviations of the decay width of reaction $Z_1 \rightarrow e^+e^-$ from its SM value are relatively large in the parameter space preferred by the electroweak precision data. Furthermore, with reasonable free parameter values, the absolute value of the relative correction parameter $\delta\Gamma/\Gamma_{SM}$ can be over 15 %. The experimental measurement values might generate constraints on the free parameters of the LHM.

Summary

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