



Contribution ID : 22

Type : **Poster**

Top Flavor Changing Neutral Currents decay $t \rightarrow c l^{(+)}l^{(-)}$ in Generic Z' and Left-Right symmetric models

Abstract content

We study the rare top decay $t \rightarrow c l^{(+)}l^{(-)}$, which involves flavor violation, as a possible probe of new physics. This decay is analyzed with the simplest Standard Model (SM) extensions with additional gauge symmetry and the effective lagrangian formalism. The considered extensions are generic Z' model and left-right model, which include a new neutral gauge boson that allows to obtain the decay at tree level. We find that $BR(t \rightarrow c l^{(+)}l^{(-)})$ for $300 \text{ GeV} < M_{Z'} < 1 \text{ TeV}$ can be of order from 10^{-10} to 10^{-12} or from 10^{-11} to 10^{-13} in generic Z' model or in left-right model, respectively.

Summary

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Session Classification : Astroparticles, Cosmology, Strings and Beyond the Standard Model

Track Classification : Astroparticles, Cosmology, Strings and Beyond the Standard Model