

Muon decay into an electron and a light boson in a muonic atom

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The charged lepton flavor violation (CLFV) is a good probe to search for new physics beyond the standard model. If there is a neutral boson X which is lighter than muon and has CLFV interaction, a muon can decay into an electron and an X , i.e. $\mu \rightarrow e + X$. The search for this process is expected to constraint the property of X . In this talk, we focus on a search for the rare decay of muon in a muonic atom due to some advantages. We show the general quantitative calculation for the electron spectrum of the $\mu \rightarrow e + X$ in a muonic atom.

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