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(POS-1) Bound Muon to free Electron decay

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The study of muons is very important as they are at the center of several current discrepancies between the experiments and the theoretical predictions, such as the measurement of anomalous magnetic moment and rare decays of B-meson that involve muons. The best limits set in the charged lepton flavour violation are by the muon sector experiments. This is the time to focus on the experiments that involve muons as they can reveal new secrets. Our work is motivated by two large experiments under preparation, Mu2e and COMET, that will search for the very rare muon-electron conversion near a nucleus N, which is a beyond SM process. I am evaluating the bound muon lifetime for a range of nuclei including aluminum, which will be used as the target material in these experiments. I will also check the existing literature in preparation for the two important experiments.

Keyword-1

Bound Muon

Keyword-2

Decay rate

Keyword-3

Author: MUBASHER, Muhammad (University of Alberta)

Presenter: MUBASHER, Muhammad (University of Alberta)

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