Contribution ID: **152** Type: **Oral**

NLO prediction for μ ⟶ evνγ and μ ⟶ eeevν decays in the SM

Wednesday 19 October 2016 12:40 (20 minutes)

We present the differential decay rates and the branching ratios of the μ ⟶ evνγ and μ ⟶ eeevν decays in the SM at next-to-leading order. These two rare decay modes of the muon are among the source of background in the experiments searching for charge lepton flavour violating (CLFV) decays μ ⟶ eγ and μ ⟶ eee. Indeed, the SM decays are indistinguishable from the CLFV ones except for the energy carried away by neutrinos. I will discuss the importance of radiative corrections for CLFV searches.

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Session Classification: We - 2