



Contribution ID: 15

Type: **not specified**

Lepton Number Violation and Neutrino Masses in N_R SMEFT (17'+3')

Friday, October 11, 2024 11:05 AM (20 minutes)

In this talk, we discuss tree-level UV completions for dimension 6 and 7 operators in the Standard Model Effective Field Theory extended with right-handed neutrinos (N_R SMEFT). We reveal that every model generating lepton number violating (LNV) operators with right-handed neutrinos also leads to the formation of active neutrino masses. This intrinsic connection between LNV processes and the existence of Majorana masses for SM neutrinos allows us to derive constraints on dimension 7 operators from the observed neutrino masses. Importantly, we demonstrate that these operators may not always be suppressed, suggesting their potential observability in future experiments.

Author: BELTRÁN, Rebeca (IFIC - University of Valencia and CSIC (Spain))

Presenter: BELTRÁN, Rebeca (IFIC - University of Valencia and CSIC (Spain))

Session Classification: Lepton number violation in low energy processes