

# Phenomenology 2021 Symposium



Contribution ID: 1191

Type: **Neutrinos**

## Heavy Dirac/Majorana Fermion Decays

*Tuesday 25 May 2021 17:00 (15 minutes)*

If a heavy neutrino is discovered, determining its nature, i.e., whether it is a Dirac or a Majorana fermion, will be at the top of the list of the next questions to ask. A natural way to determine this is to analyze the particle's decays and to observe whether they violate lepton number. However, if the final state includes any light neutrinos, this is impossible. In that event, we may still be able to determine the nature by measuring the distribution of decay events. I will show how this procedure may be performed in the context of three-body decays of heavy neutrinos into a light neutrino and a pair of charged leptons.

### Summary

**Primary author:** KELLY, Kevin (Fermilab)

**Presenter:** KELLY, Kevin (Fermilab)

**Session Classification:** Neutrino I