

Takuya Okawa: Probing the Dirac-Majorana nature of neutrinos

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The question of whether neutrinos are Dirac or Majorana remains open. This is mainly because almost all of the accessible neutrinos, such as laboratory neutrinos and neutrinos of astrophysical origin, are ultra-relativistic, erasing signatures that distinguish Dirac from Majorana neutrinos. We thus consider heavy neutrinos and discuss the possibility of distinguishing their Dirac versus Majorana nature. In particular, we allow a heavy neutrino to decay into another neutrino and an intermediate particle, which subsequently decays into the Standard Model particles. Then, we analyze the angular distribution of decay products for both Dirac and Majorana heavy neutrinos.