

Majorana and Pseudo-Dirac Neutrinos at the ILC

Thursday 29 November 2018 16:00 (15 minutes)

One of the open questions in particle physics is to know the nature of neutrinos, that is, to know if they are Dirac or Majorana particles. One of the most accepted models for the generation of neutrino mass is the Seesaw model, if we also consider an approximate lepton number symmetry, these can be tested in colliders. Here we consider an extension of the standard model, where we add two heavy neutrinos. These Majorana fermions will be considered highly degenerate, this is what we will call Pseudo-Dirac neutrinos. We consider the production of heavy neutrinos at the ILC, where its displaced vertex can be a golden signal. We will connect the splitting of the masses of heavy neutrinos with a forward-backward charge asymmetry and we will show that the constraints in these splittings can be lower than the known bounds.

arXiv

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Session Classification: Parallel Talks A

Track Classification: Neutrinos