



Contribution ID: 87

Type: **not specified**

## Testable scenarios for leptogenesis

*Thursday 27 September 2018 16:50 (20 minutes)*

The simplest extension of the SM that can account for neutrino masses consists in the addition of 2 right-handed neutrinos to the SM field content.

In addition to the generation of the light neutrino mass and mixing pattern measured in neutrino oscillations, the low scale realization of the model

provides an explanation for the matter-antimatter asymmetry of the Universe via ARS leptogenesis, with right-handed neutrino masses in the range

[0.1-100] GeV. The heavy states can thus be produced and searched for in neutrinoless double beta decay searches, beam dump experiments, as SHiP or

DUNE, and collider experiments as FCC-ee. I will show that for O(GeV) scale right-handed neutrinos, future experimental data can provide sufficient information

to predict the matter asymmetry of the universe. Furthermore, the flavor structure of the minimal model is extremely constrained and shows a very interesting

correlation with the PMNS CP-phases which opens a new window for leptonic CP violation.

**Primary author:** LOPEZ PAVON, Jacobo (CERN)

**Presenter:** LOPEZ PAVON, Jacobo (CERN)

**Session Classification:** Parallel Session: Cosmo 5

**Track Classification:** Cosmology & Astroparticle Physics