

## Pendulum Leptogenesis

*Wednesday 23 May 2018 15:20 (20 minutes)*

We propose a new non-thermal Leptogenesis mechanism that takes place during the reheating epoch, and utilizes the Ratchet mechanism. The interplay between the oscillation of the inflaton during reheating and a scalar lepton leads to a dynamical system that emulates the well-known forced pendulum. This is found to produce driven motion in the phase of the scalar lepton which leads to the generation of a non-zero lepton number density that is later redistributed to baryon number via sphaleron processes. This model successfully reproduces the observed baryon asymmetry, while simultaneously providing an origin for neutrino masses via the seesaw mechanism.

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**Session Classification:** Parallel Session on Neutrinos and Baryogenesis