Contribution ID: **55** Type: **not specified**

Lepton Asymmetries and their Evolution in the E6SSM

Wednesday 8 April 2009 11:45 (15 minutes)

We investigate leptogenesis in the E6 inspired Supersymmetric Standard Model. In this model, the gauge singlet right-handed neutrinos decay into ordinary leptons, exotic leptons and leptoquarks, all of which carry non-zero lepton number. Lepton asymmetries are calculated from loop diagram contributions to the right-handed neutrino decay. We find that lepton asymmetries can be enhanced drastically by extra Yukawa couplings in this model. Boltzmann Equations indicate that a successful leptogenesis can be achieved when the lightest right-handed neutrinos mass is of order 10^6 GeV, as required by the limit on the reheating temperature.

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Session Classification: Parallel Session 3 C - Neutrinos and Double Beta Decay

Track Classification: Neutrinos