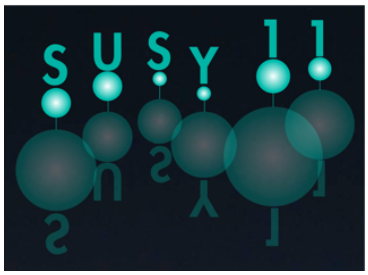

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Lepton Flavour Violation and theta(13) in Minimal Resonant Leptogenesis

Wednesday, August 31, 2011 2:25 PM (25 minutes)

We study the impact of minimal non-supersymmetric models of resonant leptogenesis on charged lepton flavour violation and the neutrino mixing angle theta(13). Possible low-scale flavour realisations of resonant tau-, mu- and e-leptogenesis provide very distinct and predictive frameworks to explain the observed baryon asymmetry in the Universe by sphaleron conversion of an individual tau-, mu- and e-lepton-number asymmetry which gets resonantly enhanced via out-of-equilibrium decays of nearly degenerate heavy Majorana neutrinos. Based on approximate flavour symmetries, we construct viable scenarios of resonant tau-, mu- and e-leptogenesis compatible with universal right-handed neutrino masses at the GUT scale, where the required heavy-neutrino mass splittings are generated radiatively. The heavy Majorana neutrinos in such scenarios can be as light as 100 GeV and their couplings to two of the charged leptons may be large. In particular, we explicitly demonstrate the compelling role that the three heavy Majorana neutrinos play, in order to obtain successful leptogenesis and experimentally testable rates for lepton flavour violating processes, such as mu –> e gamma and mu –> e conversion in nuclei.

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