

Linking early universe transient CP violation and the electron Electric Dipole Moment

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Low scale leptogenesis scenarios are difficult to verify due to our inability to relate the parameters involved in the early universe processes with the low energy or collider observables. Here we show that one can in principle relate the parameters giving rise to the transient CP violating phase involved in leptogenesis with those that can be deduced from the observation of electric dipole moment (EDM) of the electron. In the context of the left right symmetric supersymmetric model (LRSUSY) which provides a strong connection between such parameters. In particular, we show that combining EDM bound with baryon asymmetry requirements implies the scale M_{B-L} of the gauged B-L symmetry breaking to be larger than $10^{4.5}$ GeV.

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