

Thermal Lepton Oscillations in Leptogenesis

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Oscillation phenomena occur in both active and sterile neutrinos, where the oscillation phases are triggered by vacuum mass difference. Before the electroweak gauge symmetry breaking, leptons are massless, and cannot oscillate in the conventional way. However, they can still oscillate in the background plasma. Using the flavor-covariant nonequilibrium quantum field theory, I will discuss how oscillations appear from thermal leptons at finite temperatures, and present new ideas that may have significant impacts on leptogenesis.

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Session Classification: parallel session B: Flavor/Cosmo