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QCD corrections to Leptogenesis

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Thermal Leptogenesis gives a simple and elegant solution to the baryon asymmetry in the universe problem. In this scenario the CP-violating thermal decay of a very massive Majorana neutrino accounts for this asymmetry. This mechanism requires high temperature and a strongly coupled electro-weak primordial bath. We will show a novel way to treat corrections that arises when the strong interactions of the bath are taken into account by using the collinear-thermal-loop resummation developed in QCD. We will also compare our results obtained in the Kadanoff-Baym formalism with the semi-classical Boltzmann approach.

Presenter: MENDIZABAL, Sebastian (Universidad Tecnica Federico Santa Maria, Chile) **Session Classification:** Inflation and phase transitions