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Neutrino thermalization in the early universe: precision calculations

Monday, 22 February 2021 17:30 (20 minutes)

In this talk I will discuss the calculation of neutrino oscillations in the early Universe and of the neutrino thermalization, quantified in particular by the effective number of neutrinos (N_{eff}). Precision calculations of N_{eff} are important in light of the future improvements in the experimental determinations. I will briefly review the state-of-art numerical results and discuss the theoretical expectations for N_{eff} in different scenarios: the standard three-neutrinos case, a case with an additional light sterile neutrino and a non-standard scenario with low-reheating.

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