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Strong thermal leptogenesis and the N_2-dominated scenario

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I will briefly review the main aims and concepts of leptogenesis, analysing different possible realisations. Particular attention will be devoted to the so-called N_2-dominated scenario, both in its unflavoured and flavoured versions. Its main features will be pointed out, as well as the impact of possible relevant corrections. I will then consider the conditions required by strong thermal leptogenesis, where the final asymmetry is fully independent of the initial conditions. Barring strong cancellations in the seesaw formula and in the flavoured decay parameters, I will show that strong thermal leptogenesis favours a lightest neutrino mass m_1 $gtrsim$10~meV for normal ordering and m_1 $gtrsim$3~meV for inverted ordering. Finally, I will comment on the power of absolute neutrino mass scale experiments to either support or severely corner strong thermal leptogenesis.

This work is mainly based on JCAP 1403 (2014) 050

Summary

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