

# Baryogenesis via leptogenesis in multi-field inflation

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## Abstract content

In multi-field reheating after modular  $j$ -inflation we investigate the conditions under which baryogenesis via non-thermal leptogenesis can be successfully realized. We introduce three heavy right-handed neutrinos to the non-supersymmetric standard model of particle physics, assuming hierarchical neutrino masses. Considering a typical mass for the first right-handed neutrino of the order of  $10^{11}$  GeV, suggested from the seesaw mechanism and also from concrete  $SO(10)$  grand unification models, we obtain the allowed parameter space for viable baryogenesis. An upper bound for the inflaton mass as well as a lower bound for its branching ratio to the pair of lightest right-handed neutrinos are found and reported.

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