

Low-scale resonant leptogenesis at complete leading order

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There has been recent interest in leptogenesis induced by “light” right-handed neutrinos, with masses in the 1 - 100 GeV range. We review the form of rate equations applying to this system, as well as the computation of rate coefficients to leading order in Standard Model couplings. The resulting non-linear system is solved numerically, taking into account that right-handed neutrinos are neither in kinetic, nor in chemical, nor in helicity-flip equilibrium. The possibility of producing the observed baryon asymmetry is confirmed. A remaining challenge is to scan the full parameter space of right-handed neutrino masses and Yukawa couplings, searching for islands that can be confronted with experiment.

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