

Possible scenarios for baryogenesis in the presence of a lepton number violating operator in the rare meson decays

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We discuss lepton number violating operators motivated by the flavor-changing rare meson decays, $B \rightarrow K \nu \bar{\nu}$ and $K \rightarrow \pi \nu \bar{\nu}$.

They can erase a pre-existing baryon asymmetry via electroweak sphaleron, and we analyze their impacts on baryon number washout in the early Universe,

We also discuss other topics related to the lepton number violation, the Majorana masses of the active neutrinos and the neutrinoless double beta decay, which are induced by such operators.

Combining constraints from those experimental data, we identify regions of parameter space where sizable effects in the rare meson decays are compatible with successful baryogenesis.

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