

# Cosmic Matter-Antimatter Separation and Sterile Neutrino Dark Matter

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The lattice studies provided evidence of a smooth crossover between the hadronic and quark-gluon phases at high temperatures and zero chemical potential for baryonic number. We argue that these simulations might not rule out relatively weakly first-order phase transition. This first-order QCD phase transition may lead to cosmic separation of phases, creating temporarily macroscopic domains occupied by matter and antimatter. We demonstrate that this possibility enhances the keV scale sterile neutrino production and may lead to its abundance consistent with the observable energy density of dark matter.

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