

Kensuke Akita "Supernova 1987A limits on heavy neutral leptons and $U(1)_{L_\mu-L_\tau}$ gauge bosons from the high-energy tail of neutrino fluxes"

Thursday, 9 November 2023 10:40 (25 minutes)

Light hypothetical particles can be produced in the core of supernovae. Their subsequent decays to neutrinos can produce a flux component with higher energies than the standard flux. We discuss limits on light particles decaying to neutrinos flavor-dependently from supernovae using this flux modification. In particular, we will obtain limits on heavy neutral leptons (HNLs) and $U(1)_{L_\mu-L_\tau}$ gauge bosons from SN 1987A and future galactic supernovae.

Session Classification: Short talks