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## 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)<sub> $L_{\mu}-L_{\tau}$ </sub> gauge bosons from SN 1987A and future galactic supernovae.

Session Classification: Short talks