

# Cogenesis of visible and dark sector asymmetry in a minimal seesaw framework

*Monday, 12 June 2023 18:10 (20 minutes)*

We present a unified framework accommodating the matter-anti-matter asymmetry of the Universe as well as asymmetric dark matter. The out-of-equilibrium decay of the heavier right-handed neutrinos are shown to generate both, the matter anti-matter asymmetry of the visible sector through leptogenesis, as well as dark matter bearing a concomitant stamp of asymmetry. The asymmetry in the dark sector is manifested in the predominance of one parity of the heavy neutrinos in the comoving frame, determined by the choice of a sign in the lagrangian. The model allows for a wide range of dark matter masses, from MeV to TeV scale, and is also able to provide for the active neutrino masses through Type-I seesaw mechanism. Thus, the model explains the lepton asymmetry, dark matter abundance, and neutrino masses all in a next-to-minimal framework.

## Secondary category for the parallel session (optional)

Dark Matter Physics

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**Session Classification:** Parallel: Astroparticle 1

**Track Classification:** Parallel Sessions: Astroparticle physics