Contribution ID: **72** Type: **not specified**

Asymgenesis

Thursday 25 September 2025 14:00 (18 minutes)

I present a new framework—Asymgenesis—that connects the baryon asymmetry of the universe to the dark matter density within the standard type-I seesaw model. The mechanism starts from a primordial charge asymmetry, either in the visible or dark sector, and redistributes it via a higher-dimensional portal operator. This process generates both a nonzero $B - L$ asymmetry and an asymmetric dark matter component.

Unlike conventional ADM scenarios, Asymgenesis places minimal demands on the portal interaction: it need not violate $B - L$, and the scales of $B - L$ violation and charge transfer can be separated. This enhances flexibility and broadens the model-building landscape for ADM

Primary authors: MOJAHED, Martin (JGU/ TUM); WEBER, Sascha (JGU Mainz)

Presenter: WEBER, Sascha (JGU Mainz)

Session Classification: Parallel Sessions Thursday Cosmo 1

Track Classification: Cosmology & Astroparticle Physics