

# Phenomenology 2025 Symposium



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## Stasis from a single Annihilating particle species

*Tuesday 20 May 2025 14:00 (15 minutes)*

Stasis is a cosmological phenomena in which the abundances of the different energy components in the universe (such as matter, radiation, etc.) remain fixed for an extended period even though they are affected differently by expansion. Many of the mechanisms that lead to stasis revolve around a tower of states, which emerge in many BSM theories. In this talk, I will describe a realization of stasis that does not involve a tower. Instead of a tower of decaying states, this realization has a single species of particle undergoing annihilation. These particles form a thermal population and the temperature influences the cross section of annihilation. If this cross section depends on the temperature in a certain way than this process can lead to stasis.

### Mini Symposia (Invited Talks Only)

## Plenary (Invited talks only)

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