

Phenomenology 2025 Symposium



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Photon Proliferation Effect from N-body ultralight DM annihilation

Tuesday 20 May 2025 16:30 (15 minutes)

I will demonstrate a general photon proliferation effect from N-body ultralight dark matter (DM) annihilation in the early Universe, which can induce a drastic photon-temperature shift after neutrino decoupling. For pseudoscalar DM mass below the eV scale, I will show that the photon proliferation effect becomes significant as the mass approaches the ultralight end, presenting the leading constraints on the DM-photon coupling, DM self-interaction, and DM-electron coupling.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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Session Classification: Dark Matter

Track Classification: Dark Matter Theory and Detection