

Phenomenology 2025 Symposium



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Opening up New Parameter Space for Sterile Neutrino Dark Matter

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Sterile neutrinos are compelling dark matter candidates, yet the minimal Dodelson-Widrow (DW) production mechanism is excluded by astrophysical observations. We propose a scenario where heavy scalar-mediated non-standard interactions (NSI) between active and sterile neutrinos not only alter the DW mechanism but also generate new production channels, such as $\nu_a \nu_a \rightarrow \nu_s \nu_s$. This framework enables efficient sterile neutrino production at smaller mixing angles and opens new viable regions of parameter space.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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