

Freezing-in Cannibal Dark Matter

Thursday, 29 May 2025 09:15 (60)

Secluded dark sectors, while offering an appealing framework for dark matter production through internal interactions, lack direct experimental avenues. In this talk, I will introduce the concept of self-interacting dark matter and the self-annihilation mechanism known as cannibal dark matter. I will then connect the dark sector to the Standard Model via a feeble coupling to the Higgs doublet, within a freeze-in production scenario that could also account for the origin of the dark sector itself. The dynamics of these processes require solving the Boltzmann equation, including the evolution of the dark sector temperature, which has important phenomenological implications. Finally, I will discuss how these production mechanisms are affected in non-standard cosmologies, particularly in matter-dominated scenarios with low reheating temperatures.

Presenter(s) : CERVANTES HERNANDEZ, Juan Esau (NCBJ Warsaw)