

The 59th Winter Nuclear & Particle Physics Conference (WNPPC2022)



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Exploring Novel Dark Matter-Neutrino Connections

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The recent discoveries of the Higgs boson and gravitational waves marked the triumph of two cornerstones of modern physics, the standard model of elementary particles and Einstein's theory of gravity. However, overwhelming evidence from cosmology suggests that the standard model is inadequate for understanding our universe. There is stuff gravitating that we cannot see with light. In particular, the identity of dark matter which comprises eighty-percent of the matter in the universe, remains unknown. In this talk, I will discuss potential intimate connections between dark matter and neutrinos from early universe to the present. I will tell a new story of an old dark matter candidate, the sterile neutrino, and highlight how theories for neutrino self-interaction are driving us to novel frontiers of dark matter searches.

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Please select: Experiment or Theory

Theory

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