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Astro-particle physics with the DUNE detector

Sunday, 7 May 2017 11:30 (30 minutes)

The long baseline neutrino community is constructing a 40 kiloton liquid argon imaging detector at the Sanford underground research facility in South Dakota about 1300 km from Fermilab. The primary goal of this project is to study the evolution of the neutrino beam to determine the neutrino mass hierarchy and CP violation in the neutrino sector. Additional goals include studies of proton decay, atmospheric neutrinos, supernova and dark matter.

This talk will focus on how the unique features of this detector can be used to enhance our understanding of supernova mechanisms, dark matter and other open questions in astrophysics.

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