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The DUNE Experiment and its Physics Reach

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The Deep Underground Neutrino Experiment (DUNE) represents a bold step forward with a new detector technology and the ability to measure neutrinos using a broad-band neutrino beam. DUNE will consist of two massive detectors: one located at Fermilab in Illinois, and one located 1300 km away in South Dakota. DUNE offers a unique opportunity to measure the nature of the neutrino masses, quantify the matter-antimatter symmetry violation, and to potentially discover additional neutrinos. This talk gives an overview of the LBNF-DUNE facility with an emphasis on sensitivity to exotic signatures such as sterile neutrinos and non-standard interactions. The talk also gives an overview of planned Canadian contributions including the data acquisition system, the calibration system and beam line monitor.

Presenter: ILIC, Nikolina (Nikhef National institute for subatomic physics (NL))

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