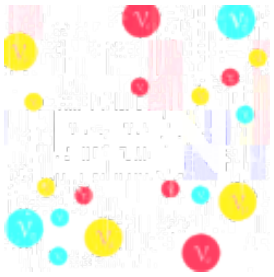

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Analysis of neutrino decay in the DUNE experiment

The discovery of three-flavor neutrino oscillations revealed that these particles have mass. As a consequence, neutrinos may possess finite lifetimes, allowing the investigation of neutrino decay. In this context, the Deep Underground Neutrino Experiment (DUNE), developed by Fermilab (Fermi National Accelerator Laboratory), will employ a neutrino beam directed to a near detector at the laboratory and then to a far detector in South Dakota. The far detector, composed of liquid argon, is capable of detecting neutrinos from the accelerator beam, cosmic rays, and Supernova. Using GLoBES (General Long Baseline Experiment Simulator), we investigate the sensitivity of neutrino oscillations with decay within the DUNE experiment, contributing to the exploration of physics beyond the Standard Model.

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