

Probing new physics with DUNE, CEvNS and dark matter direct detection experiments

Intense neutrino beams with keV-GeV energies produce sizeable event rates through the elastic neutrino-electron scattering (EvES) and coherent elastic neutrino-nucleus scattering (CEvNS) channels. In this talk, I will focus on solar as well as accelerator neutrinos from the Spallation Neutron Source at Oak Ridge and the Long Baseline Neutrino Facility (LBNF) at Fermilab. I will present recent constraints on beyond the Standard Model scenarios such as neutrino generalized interactions (NGIs) and new opportunities for the production of a novel final state dark fermion (DF) via neutrino upscattering on electrons and nuclei.

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