

# MINER Reactor Neutrino Experiment for CENNS and ALP Searches

*Wednesday, June 12, 2024 12:50 PM (20 minutes)*

The Mitchell Institute Neutrino Experiment at Reactor (MINER) experiment at the Nuclear Science Center at Texas A&M University is searching for coherent elastic neutrino-nucleus scattering within close proximity (2-5 meters) of a 1 MW TRIGA nuclear reactor core using phonon mediated low threshold solid state detectors. Given the Standard Model cross section of the scattering process and the proposed experimental proximity to the reactor, as many as 5 to 20 events/kg/day are expected. In this talk we will present an overview of the experiment, the science projections, along with a variety of very low-threshold, low-background detector technologies that are currently deployed in the MINER setup. The MINER experiment also has a new experimental direction for ALP probes via their production by the intense gamma ray flux available from the reactor through Primakoff-like or Compton-like channels. The existing low-threshold detectors in close proximity to the core will have visibility to ALP decays and inverse Primakoff and Compton scattering, providing world-leading sensitivity to the ALP-photon and ALP-electron couplings.

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