

Laura Fields – Colloquium – October 26, 2023
Notre Dame

Title: Recent Results from MINERvA

Abstract:

Over the next decade, experiments such as NOvA, T2K, DUNE, and Hyper-Kamiokande will seek to answer big questions such as what role neutrinos played in the matter/antimatter asymmetry of the universe. This will require precise measurements of neutrino oscillations, which are studied by measuring neutrino interactions in detectors before and after the neutrinos have traveled long distances. Because neutrino interactions generally occur within dense nuclei, they cannot be accurately predicted from first principles, and experimental measurements are required. The MINERvA experiment at Fermilab has collected large datasets dedicated to this purpose. Recent MINERvA results, including simultaneous measurements on multiple different nuclei and a novel measurement of antineutrino scattering on hydrogen, will be discussed, as well as the experiment's future plans.