

PARTICLE PHYSICS SEMINAR SERIES

Recent Results from MINERvA

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Over the next decade, experiments such as NOvA, T2K, and DUNE will seek to answer big questions such as what role neutrinos played in the matter/antimatter asymmetry of the universe and whether there are undiscovered additional neutrinos. This will require extremely 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 and are governed by QCD, they cannot be predicted from first principles. Precise measurements of neutrino scattering cross sections will be necessary to extract the next generation of neutrino oscillation measurements. The MINERvA experiment at Fermilab has collected large datasets dedicated to this purpose. Recent MINERvA results, including quasi-elastic scattering and neutrino flux determination, will be discussed, as well as prospects for future measurements and application of these data to neutrino oscillation measurements.



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