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The MINERvA Neutrino Scattering Experiment¹ TRUNG LE, Rutgers University, MINERVA COLLABORATION — MINERvA is a neutrino scattering experiment at the NuMI beamline of FNAL which began data taking in fall 2009. MINERvA is a high resolution, fully active detector designed to study the interaction of neutrinos with nuclei. The active volume of the detector consists of 3 tons of plastic scintillator. In addition, targets of 4He, C, H2O, Fe, and Pb will allow detailed studies of the A dependence of neutrino cross sections. Some of the objectives of MINERvA are to measure the axial form factor of the neutron with unprecedented precision, measure nuclear shadowing of F2 and compare with muon scattering, study quark-hadron duality with neutrino scattering in comparison with electron scattering, and measure coherent pion production. We present an overview of the physics objectives, estimated uncertainties of the measurements, along with a description of the detector and a sample of the first measurements.

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