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Neutral current π^0 analysis in the NOνA experiment HIMANSU SAHOO, Argonne National Laboratory — The NOνA experiment is a long-baseline accelerator based neutrino oscillation experiment using an upgraded NuMI neutrino beam from Fermilab. By studying electron neutrino and antineutrino appearance, the experiment aims to determine the neutrino mass hierarchy and will provide constraints on CP violation. NOνA Detector construction is complete and both detectors have started collecting neutrino data. Interactions in which an energetic π^0 is produced in the final state are one of the dominant sources of backgrounds to the ν_e search, but also provide a rich sample of events to characterize the detector. Reconstruction of photon showers from π^0 decays provide input for calibration over the full energy range of interest for the ν_e appearance analysis. Large uncertainties in model prediction requires a precise measurement of NC π^0 production rates and cross-sections using NOνA data. In this talk, we will present the neutral current π^0 analysis in NOνA and the first results using data from Near Detector.

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