Poster session 3 – Wednesday 6 July

P3.031 **A search for neutral-current single photons with the ND280 at T2K**

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A search for single photons initiated by neutral-current neutrino interactions with the ND280 detector at the T2K experiment will be presented. This measurement aims to set the first limit on single-photon neutrino production below 1 GeV. Neutrino production of single photons is a subdominant process in neutrino interactions. Because photons and electrons have very similar signatures in neutrino detectors, careful estimations need to be made in order not to bias the electron neutrino appearance oscillation results of accelerator neutrino experiments. The single photons are created by a nuclear resonance (typically $\delta(1232)$) after interaction of the neutrino. The cross section is expected to be of the order of 10^{-42}cm^2. The main background is composed of neutral pions decaying into two photons, where only one photon is detected, and neutral pion events creating photons from outside of the fiducial volume.