

Title: The Fine Grained Detector for the T2K experiment

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Abstract: The T2K ND280 near detector will characterize the JPARC neutrino beam close to the production site, before any oscillation occurs. The Tracker section of this near detector is optimized for measurements of charged-current neutrino interactions and in conjunction with the surrounding electromagnetic calorimeter can also measure electromagnetic showers from neutral pion or single gamma production. The Fine Grained Detector, or FGD, provides an active target mass for these interactions. The FGD is composed of finely segmented plastic scintillators, which will allow for accurate tracking of short-ranged particles. Readout is accomplished using wavelength-shifting fibres coupled to multi-pixel photon counters and custom-built digitizing ASICs. The FGD also contains a water target, which will allow for the extraction of neutrino cross-sections on oxygen. This poster will focus on the expected capabilities of the FGD, as well as its ongoing construction and testing.