

## **Efforts towards a measurement of charged current quasi-elastic neutrino interactions in ND280.**

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The peak energy of the very narrow-band neutrino beam that the T2K experiment uses, was selected in such a way that the big majority of neutrino interactions seen in the near detector complex of the T2K experiment, ND280, will be charged-current quasi-elastic (CCQE) interactions. One of the main components of ND280, is the “tracker”: a system of alternating finely segmented scintillator-based tracking detectors (fine-grained detectors, FGDs) and time projection chambers (TPCs). The combination of substantial fiducial mass, track and particle identification (PID) information from the FGDs, with the superior tracking and PID capabilities of the TPCs, present an excellent opportunity for detailed measurement of the CCQE interactions in the ND280 detector. We present a detailed Monte-Carlo study of a possible approach to the measurement of CCQE interactions in the ND280 tracker, using mainly the FGD and TPC systems, study possible backgrounds and discuss possible future extensions of the method, before applying it to the actual ND280 data set.

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