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A Measurement of the ν_μ Charged Current Quasielastic Cross-section on Water with T2K's Near Detector TIANLU YUAN, JEREMY LOPEZ, ALYSIA MARINO, Univ of Colorado - Boulder, T2K COLLABORATION — The T2K experiment has collected an impressive amount of data the past few years useful for both oscillation analyses and precision measurements. Its near-detector, ND280, comprising of several sub-detectors, include water targets that allow for the extraction of a water-based cross-section measurement. We present a selection of ν_μ charged current events occurring within the Pi-Zero Detector (PØD). The charged, outgoing tracks are required to enter and be identified by the Tracker of T2K's near-detector. Our sample corresponds to approximately $6\text{x}10^{20}$ protons on target. The cross section is determined using an iterative Baysian unfolding technique, which includes all systematic uncertainties. By separating the dataset into time periods when the PØD is filled with water and when it is empty, a subtraction method provides a distribution of ν_μ interactions on water only. In this way, we produce a measurement of the ν_μ CCQE cross-section on water.

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