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## A Measurement of the $\nu_\mu$ Charged-Current Cross Section on Water with Zero Pions in the Final State at T2K

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The Tokai to Kamioka (T2K) experiment is a 295-km long-baseline neutrino experiment aimed towards the measurement of neutrino oscillation parameters  $\theta_{13}$  and  $\theta_{23}$ . Precise measurement of these parameters requires accurate knowledge of neutrino cross sections. We present a flux-averaged double differential measurement of the charged-current cross section on water with zero pions in the final state using the T2K off-axis near detector, ND280. A selection of  $\nu_\mu$  charged-current events occurring in the Pi-Zero subdetector (P0D) of ND280 is performed with  $5.8 \times 10^{20}$  protons on target. The charged, outgoing tracks are required to enter and be identified by the ND280 Tracker. The cross section is determined using an iterative Bayesian unfolding technique. By separating the dataset into time periods when the P0D water layers are filled with water and when they are empty, a subtraction method provides a distribution of  $\nu_\mu$  interactions on water only. Systematic uncertainties on the neutrino flux, interaction model, and detector simulation are propagated numerically within the unfolding framework.

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