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## Multi-ring charged current $\nu 1\pi^+$ samples at T2K far detector

T2K experiment measures the neutrino oscillation parameters by observing  $\nu_\mu$  ( $\bar{\nu}_\mu$ ) disappearance and  $\nu_e$  ( $\bar{\nu}_e$ ) appearance from a  $\nu_\mu$  ( $\bar{\nu}_\mu$ ) beam. The events are observed in the near detector ND280 and the far detector Super-Kamiokande (SK) situated at 280 m and 295 km respectively from the beam production target. In SK, the products of  $\nu$  and  $\bar{\nu}$  interactions produce Cherenkov rings. Since charged current quasi-elastic (CCQE) interactions are the most dominant in the T2K energy region, single ring CC events are used for analyses. Resonant  $1\pi$  production which is the second dominant CC interaction in this energy region can be included to increase statistics. The addition of CC  $\nu_\mu 1\pi^+$  samples are expected to improve the precision on  $\sin^2 \theta_{23}$  and  $|\Delta m^2_{32}|$ . Similarly CC  $\nu_e 1\pi^+$  events will improve the sensitivity to the leptonic CP phase  $\delta_{CP}$ . These new samples will have multi-ring topology. Studies on the selection of CC  $1\pi$  like events accumulated from forward horn current (FHC) operation are performed for  $\nu_\mu$  and  $\nu_e$  samples.

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