Contribution ID: **45** Type: **Talk**

Status of Neutrino-Water interaction measurements in the NINJA experiment

Wednesday, October 26, 2022 5:10 PM (20 minutes)

NINJA experiment aims to study Sub-Multi GeV neutrino-nucleus interactions and the exploration of a sterile neutrino using an Emulsion Cloud Chamber (ECC) as the main detector at J-PARC neutrino beamline.
Thanks to sub-micron spatial resolution and high granularity of ECC, charged particles such as slow protons with a momentum of 200 MeV/c can be measured with high detection efficiency.
Currently, we are analyzing neutrino-water interactions taken in our first physics run (J-PARC E71a) which was implemented in 2019-2020 with 250 kg ECC including a 75 kg water target to measure the multi-nucleon reaction in neutrino interaction and reduce the systematic uncertainties for current and future long-baseline neutrino oscillation experiments with a large water Cherenkov detector.
In this talk, we will show the current status of neutrino-water interaction analysis and preliminary results of muon and hadron kinematics measurements.

Primary author: FUKUDA, Tsutomu (Nagoya Univ.)

Co-author: THE NINJA, Collaboration

Presenter: FUKUDA, Tsutomu (Nagoya Univ.)

Session Classification: Low Energy Scattering