

# Recent status of neutrino interaction analysis in the first Physics Run in the NINJA experiment

*Friday, 21 June 2024 17:30 (2 hours)*

In neutrino oscillation experiments, uncertainty in the reaction model between neutrinos and atomic nuclei in the low energy region of Sub-Multi GeV is one of the causes of systematic errors. The NINJA experiment aims to precisely measure the reaction between neutrinos and atomic nuclei in this low energy region.

The NINJA experiment measures neutrino reactions using a nuclear emulsion plate detector called an emulsion cloud chamber (ECC). ECC has submicron position resolution and can detect even low-momentum protons of 200 MeV/c.

The NINJA experiment involved irradiation (physical run) with J-PARC's high-intensity neutrino beam from November to February 2019, and analysis is currently underway.

In this presentation, we will report on the multiplicity of neutrino reactions and the momentum distribution of muons at the current stage.

## Poster prize

Yes

## Given name

Ayaka

## Surname

Kasumi

## First affiliation

Nagoya university

## Second affiliation

## Institutional email

kasumi@flab.phys.nagoya-u.ac.jp

## Gender

Female

## Collaboration (if any)

NINJA

**Primary author:** AYAKA, Kasumi (Nagoya university)

**Presenter:** AYAKA, Kasumi (Nagoya university)

**Session Classification:** Poster session and reception 2

**Track Classification:** Neutrino interactions