NNN25

International Workshop on Next Generation
Nucleon Decay and Neutrino Detectors

October 1-3, 2025

SNOLAB · sudbury

Contribution ID: **20**

Type: **Poster**

Tau Neutrino Detection In The DUNE Far Detector With NuGraph

Wednesday, October 1, 2025 5:59 PM (1 minute)

The DUNE experiment is a future long baseline experiment planned with a 1300km baseline and a flux spectrum peaked at approximately 3.5GeV. This means the DUNE experiment has a unique opportunity to detect tau neutrino charged current interactions. Our goal is to identify the tau neutrino charged current events in DUNE's liquid argon time projection chamber (LArTPC) far detectors. To identify these events, we have employed the NuGraph graph neural network, utilizing only the spatial coordinates of the hits and the charge recorded at each hit. This allows the model to be as modular and general as possible and gives a solid reference for benchmarking against many possible methods of improvement.

Submitter Email

william.dallaway@mail.utoronto.ca

Submitter Name

William Dallaway

Submitter Institution

University of Toronto

Primary author: DALLAWAY, William (University of Toronto)

Presenter: DALLAWAY, William (University of Toronto)

Session Classification: Poster Presentations

Track Classification: Posters: Poster Presentation