ProtoDUNE-SP Run 5772 Event 15132 @2018-11-03 10:09:15 UTC

# Status of ProtoDUNE-SP Paper

Tingjun Yang (FNAL)

Collaboration Monthly Call

12/13/2019

From the presentation Flavio gave at the May 2019 collaboration meeting:

**protoDUNE-SP PUBLICATION PLAN**

Two separate "companion papers" (i.e. two consecutive articles on the same journal Issue):

- 1st Article on Detector Design, Construction and basic Performance from Commissioning and Operation *(ie the protoDUNE-SP "Technical Paper")*

- 2nd Article on more advanced Performance from off-line data reconstruction and analysis of LArTPC on the test beam *(ie the first "Performance of protoDUNE-SP detector…" paper)*

- The goal for the publication of the "companion papers" is by the end of the Cosmic Run (i.e. Fall 2019) - when all data will be collected, and all tests performed and repeated if necessary.

https://indico.fnal.gov/event/18681/session/1/contribution/25/material/slides/0.pdf

# Status of Performance paper

- Editors of this paper: **Flavio Cavanna, Tom Junk and myself**.

- After several months of hard work from many people in the ProtoDUNE-DRA group, the first draft of performance paper is complete and ready to be reviewed.

- This paper summarizes the beam line information and the detector performance results for both the TPC and photon detectors. CRT information is used in several analyses.

  - Excellent signal-to-noise ratios

  - Highly efficient detector response

  - Excellent energy resolutions

  - Current version consists of 75 pages and 61 figures

  - Main results presented in previous talks:
    https://indico.fnal.gov/event/21445/session/19/contribution/92/material/slides/0.pdf
    https://indico.fnal.gov/event/22247/contribution/3/material/slides/0.pdf

**First results on ProtoDUNE-SP LArTPC performance from a test beam run at the CERN Neutrino Platform**

## Contents

75 pages
61 figures

# Approval procedure

- Following procedure outlined in DUNE-doc-1115-v6.

- We will start the DRA group review of this paper today.

  - An email will be sent to the DRA mailing list with link to a docdb entry.

  - Josh Klein and Bob Wilson have kindly agreed to be the internal reviewers of this paper.

  - Everyone in the DRA group is welcome to comment on the paper.

  - The deadline to send comments on the first draft is January 10, 2020

- After the group review is finished, we will proceed with APB review and collaboration review

  - Mark Messier has been notified about this plan

# Status of Technical Paper

- Primary editor: Gina Rameika

- Will start from ProtoDUNE-SP TDR (arXiv:1706.07081)

- Rapid progress is being made.

- Technical team formed:

  - Stefania Bordoni

  - Bryan Ranson

  - Francesca Stocker

  - Serhan Tufanli

Stay tuned!