



# Status of ProtoDUNE-SP Paper

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Collaboration Monthly Call

12/13/2019

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



## 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

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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!