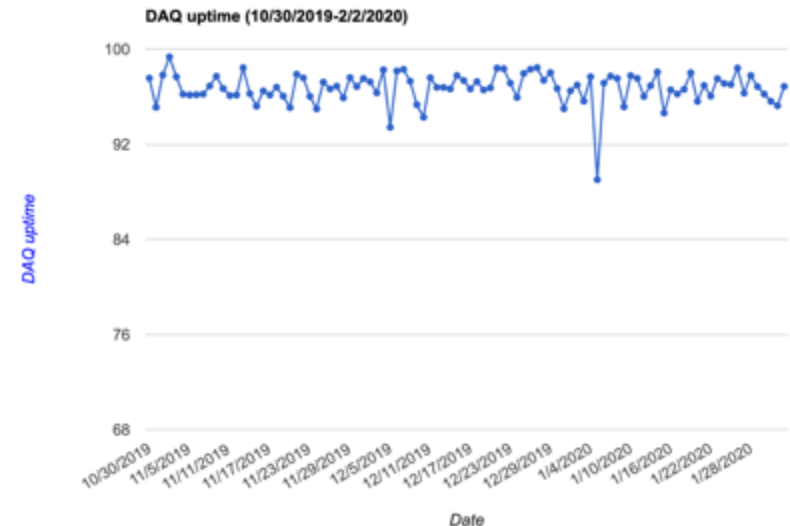
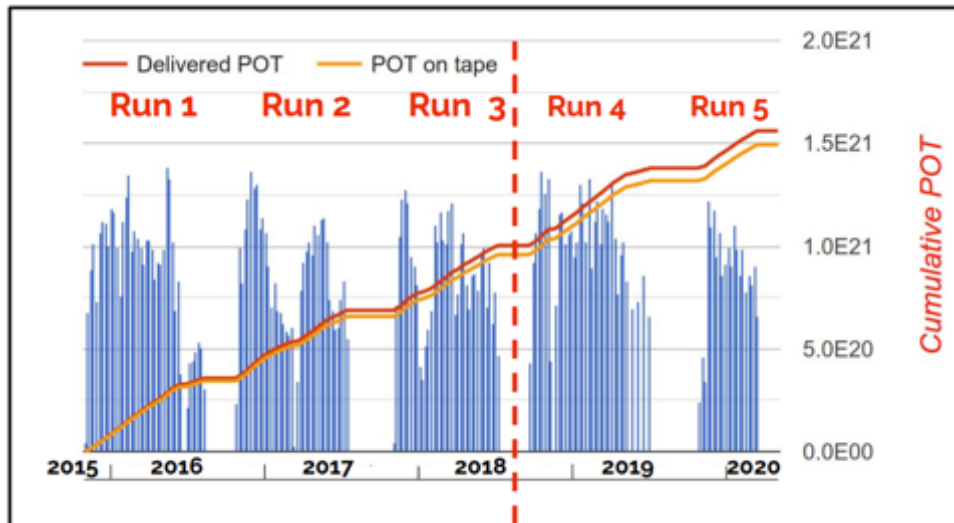


WP1: NEUTRINO DETECTORS

MID-TERM MEETING
JUNE 24, 2022



MicroBooNE operation



- Transitioned to a post-data taking phase with detector studies
 - Well understood detector in “normal” operation mode since 2015
 - Noise and Light studies by varying HV, grounding studies
 - Reverse HV, rise HV → 70 kV (stable) to 128 kV (small instabilities)
 - Purification study to understand impurities
 - Radon doping → interesting results on Rn being filtered
 - Triggering

MicroBooNE published LEE first results:

[Phys. Rev. Lett. 128, 241801 \(2022\)](#)

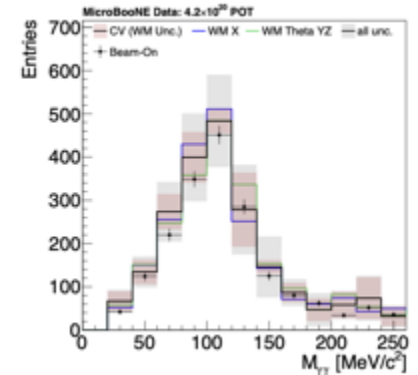
[Phys. Rev. D105, 112003 \(2022\)](#)

[Phys. Rev. D105, 112004 \(2022\)](#)

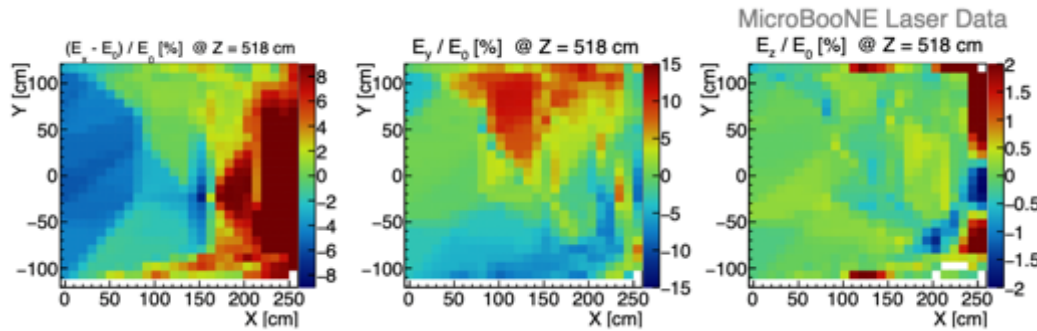
[Phys. Rev. D105, 112005 \(2022\)](#)



“Novel Approach for Evaluating Detector-Related Uncertainties in a LArTPC Using MicroBooNE Data”, [Eur. Phys. Journal C 82, 454 \(2022\)](#)



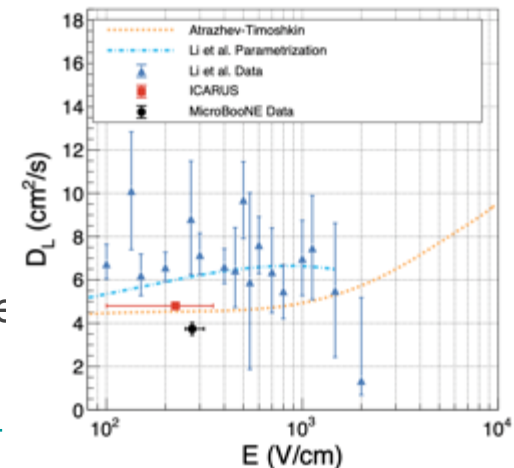
“A Method to Determine the Electric Field of Liquid Argon Time Projection Chambers Using a UV Laser System and its Application in MicroBooNE”: [JINST 15, P07010 \(2020\)](#)



“The Continuous Readout Stream of the MicroBooNE Liquid Argon Time Projection Chamber for Detection of Supernova Burst Neutrinos”, [JINST 16, P02008 \(2021\)](#)

[\(Talk L. Uboldi on ProtoDUNE\)](#)

“Measurement of the Longitudinal Diffusion of Ionization Electrons in the MicroBooNE Detector”, [JINST 16, P09025 \(2021\)](#)



ICARUS construction and commissioning



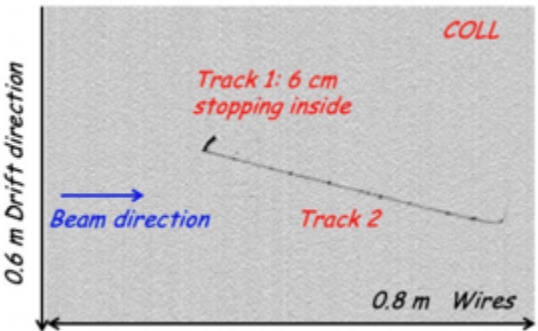
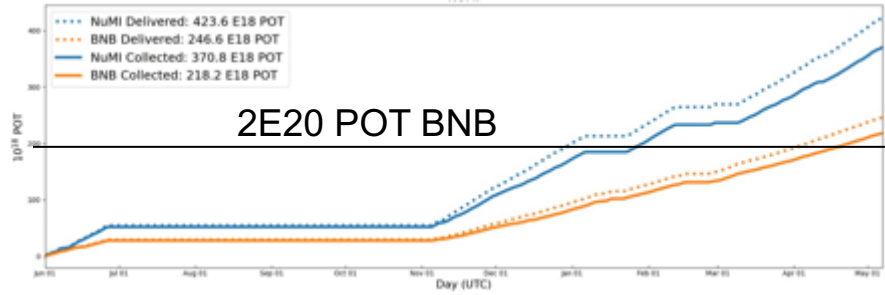
Sept 2020



Dec 2021



May 2022



Talk
M. Artero Pons



SBND construction



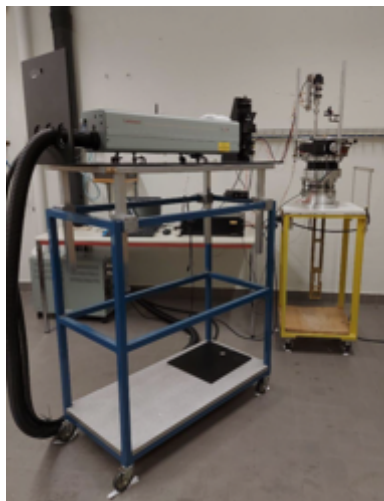
SBND TPC completed 13. June 2022



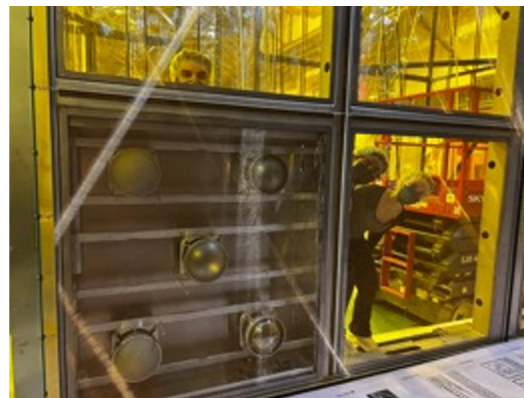
Cold electronics installed (Dec 2021)



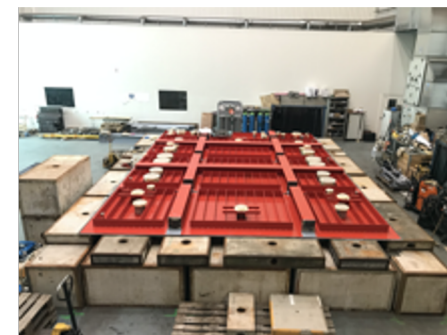
HV feedthrough completed (with spare)



UV-laser calibration built
Talk S. Mulleria Babu



Photon detection system (Nov 2021)



Cryostat top cap

Conclusions

- Excellent progress despite COVID
Particularly difficult for travels and hardware activities
- WP goal of publishing detector papers from MicroBooNE achieved
- WP goal of constructing ICARUS and commissioning achieved, first detector studies and publications underway
- WP goal of constructing SBND made good progress, underway