

# Near Detector News

A. Bross

ND general meeting

8/7/19

# LBNC Meeting, July 31- August 2

- The meeting covered all aspects of DUNE, including the overall project status. Mike Kordosky presented an update of the ND and the Executive Summary for the TDR
  - See DUNE-doc-15385-v2
- Again, very positive comments in the close-out

## Near Detector Design: From Near Detector Review Team (Scott Oser, Patrick Huber, Naba Mondal, Beate Heinemann)

- The LBNC strongly endorses the need for a ND containing a movable liquid argon TPC and magnetic spectrometer, and a fixed on-axis beam monitor. These are the minimum elements required for DUNE to achieve its physics goals, and are needed from the start of data-taking.
- A high-pressure gaseous argon TPC with a low-mass magnet is the preferred choice for the movable magnetic spectrometer. It may be possible to optimize its surrounding ECAL to balance cost vs. physics performance.
- The proposed on-axis beam monitor using the KLOE magnet can satisfy DUNE's requirements, although it is possible that a simpler array of rate monitors might suffice.
- The proposed ND concept seems capable of achieving DUNE's goals.
- We are looking forward to a ND CDR by the end of CY2019 supported by optimization studies of options for the on-axis beam monitor, and for the details of the magnetic spectrometer.

## Recommendations

- Develop more complete physics simulation studies for the ND using more realistic event reconstruction, and more fully incorporating ND samples into the physics analysis.

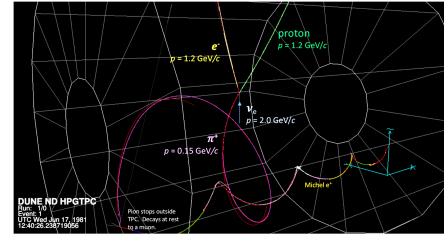
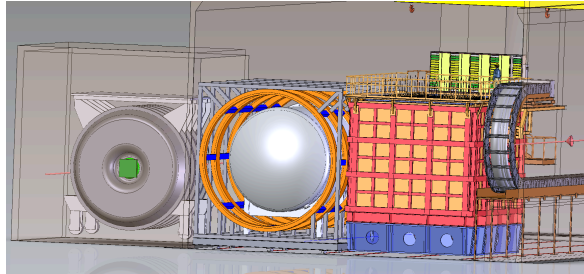
# Upcoming Workshops

- Near Detector Workshop: Magnet Systems
  - September 3-6, Fermilab
  - Focus on MPD magnet and repurposing of the KLOE magnet for the 3DST-S
  - <https://indico.fnal.gov/event/21272/>
  - Registration is now open, so please register particularly if you will attending in person (room size).
- 6<sup>th</sup> DUNE Near Detector Workshop
  - October 21-23, DESY
  - <https://indico.fnal.gov/event/21340/>
  - Registration is now open

# New DocDB instance for latest detector figures

- Hiro has collected input (Many thanks to Bob Flight) and created a DocDB to capture the latest drawings:
  - <https://docscert.dunescience.org/cgi-bin/cert/ShowDocument?docid=15514>
- Please send updates (or links to) to Hiro

# DUNE Near Detector Workshop



October 21<sup>st</sup> to 23<sup>rd</sup>

DESY

<https://indico.fnal.gov/event/21340/>

- Workshop on the contributions to and opportunities with the DUNE near detectors and, in particular, the Multi-Purpose Detector (MPD)
- Topics:
  - high pressure gas TPC
  - the SC magnet system
  - calorimetry
  - integration with the LAr detector.
- **Local Organisers**
  - Eldwan Brienne (DESY)
  - Matthias Kasemann (DESY)
  - Lucia Masetti (Mainz)
  - Krisztian Peters (DESY)
  - Felix Sefkow (DESY)
  - Frank Simon (MPP)
  - Marcel Stanitzki (DESY),  
Chair [marcel.stanitzki@desy.de](mailto:marcel.stanitzki@desy.de) +49 40 8998-4930
  - Anita Teufel (DESY)
- **International Organisers**
  - Alan Bross
  - Hiro Tanaka
  - Alfons Weber
  - Marco Pallavicini
  - Frank Simon
  - Morgan Wascko/Asher Kaboth (tbc)

