

WA105 & DUNE

Projects

Status

Latest news from WA105

Since our last meeting on May:

- * 3x1x1 m³ is going well
 - * Tank installation is going well
 - * Still problems with sparks in LEMs
 - * PMTs tested and ready for installation (except we need to mount the support on 2 PMTs)
 - * PMT installation in October 2015
 - * Detector commissioning expected by December 2015
- * Executive Committee:
 - * Lack of manpower for software development
 - * Main hot topics (focus to preparation for WA105 data taking):
 - * Light readout studies in presence of large cosmic rays background
 - * Impact of cosmic rays background
 - * Space charge field distortions and impact on track reconstruction
 - * Tracking performance

Talks in conferences

- * The 4th International Conference on New Frontiers in Physics (ICNFP2015), 23-30 Aug 2015. Kolymbari, Crete, Greece

<http://indico.cern.ch/event/344173/>

TALK

- * Int. Conf. Light Detection In Noble Elements, LIDINE 2015, August 28-30, 2015, Albany, NY, USA

TALK

- * Plenary Session in the RD51 Collaboration Meeting, Trieste October 16-17, 2015 (following the MPGD2015 Conference, see below)

TALK

- * 4th International Conference on Micro Pattern Gaseous Detectors - MPGD2015, 12-15 Oct 2015. Trieste, Italy

POSTER

CIEMAT work for WA105

- * Inés: 1000 CHF paid for TPB on the 3 plates (KEK is supposed to cover the other 1000 CHF).
- * Roberto: 1 8" cryogenic radiopure Hamamatsu PMT received at CIEMAT
- * Antonio + Diana:
 - * Installation of the CIEMAT voltage dividers in 2 PMTs
 - * Tests of 5 PMTs at CERN at room temperature (gain vs HV) and gas Ar (response to 128 nm)
- * Diana: analysis of SPE spectrum for gain determination
- * Enrique + Antonio:
 - * Order of new vacuum vessel (640 mm diameter, 1120 mm height) for 4 PMT tests (12.329,90€)
 - * Preparation of light sources for PMT tests
- * In general, more involvement is needed in:
 - * Technical Board meetings (6x6x6 m3 detector discussions)
 - * Weekly 3x1x1 meetings (3x1x1 m3 detector discussions)
 - * Software meetings
 - * Light simulation for 3x1x1 data analysis and physics performance of 6x6x6 detector

Next WA105 collaboration meeting

- * September 21-22 at CERN
- * Presentations?
 - * Summary of plans for light detection system for 6x6x6 m³
 - * Plans for light readout in the 3x1x1 m³
 - * Status of measurements in the lab?

WA105 work for the next 4 months

- * Electronics for 5 PMT DAQ for 3x1x1 m³ prototype
- * Design validation tests in 1 PMT for optimization of voltage divider and different light conditions at room and cryogenic temperatures (see slides from Antonio at the last Spanish meeting)
- * Explore TPB coating possibilities (tests with a new coated plate by new institution)
- * Prepare setup for 4 PMT tests
- * Contribution to the light simulation in the 3x1x1 m³ prototype??
- * Advertisement for postdoc for AIDA-2020 project

Latest news from DUNE

- * Collaboration Meeting 2-5 September at Fermilab
- * RRB on Sept 3 -> Mario Martínez is supposed to attend this meeting
- * CD-1 Refresh approved
- * See comments from DOE scientific committee review
 - * Light readout comments: *"The reference photon detector design may not have adequate performance for non-beam physics, and its long term performance stability is unknown. Other plausible solutions, under R&D, seem quite likely to perform better. Costs and long term stability are not well understood in some of these alternative cases."*
- * Recommendations:
 - * *"Develop a performant, cost effective photon detection device to replace or confirm the reference design presented at this review. A new reference solution is expected this fall. This program and its follow-on R&D need to ensure that the devices are stable long term, and can be built at a reasonable cost. They will also need thorough testing both in standalone tests and at scale in the large prototypes. This work should be available for CD2."*
- * General schedule:
 - * Dec 2019: Project baseline/Construction approval (CD-2/3c)
 - * 2021: installation of the first 10 kton single-phase LAr detector