

690835-MUSE-H2020-MSCA-RISE-2015

Minutes of the MUSE Scientific Board (SB), Friday, September 15th, 2017 - 5:00 pm (GMT)

Attendees: S. Donati (chair, at INFN-PI), S. Giovannella (Zoom, at INFN-LNF), C. Ferrari (Zoom, at INFN-PI), M. Lancaster (Zoom, at UCL), S. Miscetti (Zoom, at INFN-LNF), A. Lusiani (Zoom, at INFN-PI), D. Glenzinski (Zoom, at FNAL).

Agenda:

1. Discussion on the advancement status of the 7 Work Packages

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1. WP1 "g-2 detectors": M. Lancaster (UCL) reported on the activities relative to the g-2 detectors.
 - (a) **Milestone 1: Tracker DAQ Integration completed on time within June, 2017.**
 - (b) **Deliverable 1.2: Report on installation and initial commissioning of Muon (g-2) trackers.** Muon (g-2) took data from May-31 to July-7, work is in progress to understand detectors performance.
2. WP2 "Mu2e detectors":
 - (a) M. Lancaster (UCL) reported that the UK funding for the HPGe detectors has arrived and a beamtest of a prototype at Elbe/HZDR with photons and electrons has been performed on August 4-7.
 - (b) S. Miscetti (INFN) reported on the status of the Mu2e electromagnetic calorimeter. The Pre-production of the crystals, SiPM and front-end preamplifiers has been completed. The first waveform digitizer prototype has been received in Pisa and tests are beginning. It is already known that a new family of FPGA (Polarfire) will be used for the next prototype, since this is radiation tolerant up to 600 krad and has a compatible cost. The tenders for crystals and SiPMs have been completed and 2 vendors (Siccas and St. Gobain) for the CsI crystals have been selected and 1 vendor (Hamamatsu) has been selected for SiPMs. Progress

has been made also on the studies relative to SiPM outgassing and thermal behaviour. On the mechanics side, tenders for aluminium disks supports and carbon-fiber rings and plate are being prepared. The plan is to have the tenders for the crates and the peek back-disk and cooling systems in 2018. A new version of the SiPM holder has been prototyped. The plan is to have most of the pieces within the end of 2018, with crystals and SiPM assembly beginning in 2019.

3. WP3 "Calibration":

- (a) **Deliverable 3.2 "Calibration system for the Muon (g-2) straw tracker has been completed in July, 2017).** The calibration system is now being used to characterize the modules of the tracker station.
- (b) C. Ferrari (INFN) reported on the Muon (g-2) calorimeter calibration system. During the Muon (g-2) commissioning run the laser system has run continuously providing calorimeter calibration, time synchronization, and in-fill and out-of-fill calibration. Few interventions were done and few anomalies were observed. Dana analysis is now ongoing. Preliminary results show that the system operated adequately close to the 10^{-4} technical specifications. Temperature dependencies were revealed and few anomalies were observed.

4. WP4 "Software tools":

- (a) **Milestone 7: Mu2e HPGGe reconstruction code (due May 1, 2019** M. Lancaster (UCL) reported they are starting on this with the Elbe data to optimize the MWD algorithms.

5. WP5 "Dissemination and Outreach":

- (a) A. Lusiani reported on the training lectures given in Rome and the hands-on experiences given at the INFN National Laboratory at Frascati on May 15-17, 2017. Training Lectures on Mu2e and guided tours of Fermilab were also organized on August 4, 2017 for the Fermilab Summer Students. Work is now in progress to organize the "3-day High-School teachers training" at the INFN National Laboratory at Frascati on October 4-6, 2017 and at Fermilab for the "50th Fermilab anniversary open day", on September 23, 2017.

6. WP6 "Transfer of Knowledge"

(a) There was no significant update

7. WP7 "Management"

(a) There was no significant update

The meeting is closed at 6:30 pm