

690835-MUSE-H2020-MSCA-RISE-2015

Minutes of the MUSE Scientific Board (SB), Wednesday, December 21st, 2016 - 3:30 pm (GMT)

Attendees: D. Cauz (Skype, at INFN-TS), S. Donati (chair, at INFN-PI), A. Ferrari (Skype, at HZDR), C. Ferrari (Skype, at Fermilab), S. Giovannella (Skype, at INFN-LNF), M. Lancaster (Skype, at UCL), S. Miscetti (Skype, at INFN-LNF), F. Spinella (Skype, at INFN-PI).

Agenda:

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

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

1. WP1 "g-2 detectors": M. Lancaster (UCL) reported on the activities relative to the g-2 detectors.

(a) **Deliverable 1.4: Tracker DAQ Integration.** The DAQ system for the tracker and the calorimeter have been operational at Fermilab since July. DAQ integration is well in time for the deadline of the Milestone at M17.

(b) **Deliverable 1.3: Installation and commissioning of straw trackers.** The first g-2 straw tracker has been installed in the ring and production of tracks at Liverpool is proceeding to schedule. Commissioning of system with beam is expected in summer 2017, well in time for the deadline of the Deliverable at M24.

2. WP2 "Mu2e detectors":

(a) **Deliverable 2.3: Design of Mu2e HPGe detector.** M. Lancaster (UCL) reported that the HPGe detector design is underway at Liverpool, in collaboration with Fermilab, Boston and Manchester. The final review by the funding agency (STFC) is planned in January 2017.

(b) **Deliverable 2.1: Mu2e Calorimeter Final Technical Design Report** S. Miscetti reported that a first FTDR draft is available. It describes the completion of the technology choice with CsI+SiPM as final option. The expected detector performance and impact on Mu2e physics reach has been estimated

with a detailed detector simulation. The FTDR reports also the advancements on detector engineering. The FTDR will be published as open access DocDB and will be visible from the Muse web site. The plan is to have it reviewed by the Mu2e Publication Board and later submitted to ArXiv and as Fermilab technical document. It is well on time for the deadline of the Deliverable at M12.

3. WP3 "Calibration":

- (a) **Deliverable 3.2: Calibration system for g-2 straw tracker.** M. Lancaster reported on the status of the straw tracker reconstruction code which is being tuned to reproduce experimental measurements related to electronics performance and electron drift times.
- (b) C. Ferrari (INFN) reported on the status of the g-2 laser calibration system. The system installation is on schedule. Most of the secondary distribution boxes have been assembled and are ready to be integrated in the calorimeters. The optical components and lasers have been installed in the laser hut and the optical fibers are ready to be installed in the ring. The monitor systems and their electronics are still being assembled. The plan is to complete the installation between February 2017 and March 2017 and to refine the calibration procedure afterwards.

4. WP4 "Software tools":

- (a) **Deliverable 4.2: Stress test of g-2 analysis framework with 10^{11} simulation muon samples.** M. Lancaster reported on the status of the simulation and reconstruction code release (v7_03), which implements all detectors (trackers, calorimeters, finer harps) and fringe field, quadrupole scraping and kicker field. Detailed spin dynamics has been implemented.

5. WP5 "Dissemination and Outreach":

- (a) **D5.4: Fermilab Summer School.** S. Donati reported on the status of the negotiation with Fermilab Directorate about the number of European Summer Students of the 2017 program. We expect the number to be in line with the previous years. The discussion relative to the trainings for the Summer Students will begin in early 2017.

6. WP6 "Transfer of Knowledge":

(a) No significant news were reported

7. WP7 "Management": S. Giovannella reported on the status of the First Muse Progress Report, which is due at the end of 2016. We have circulated a preliminary version and comments and integration are being received from the collaboration. As a global comment, the Milestones and Deliverables planned for 2016 have been and are begin achieved. Also the Secondments are proceeding smoothly.

The meeting is closed at 5:00 pm