

690835-MUSE-H2020-MSCA-RISE-2015

Minutes of the MUSE Scientific Board (SB), Tuesday, April, 26th, 2016 - 3:00 pm (GMT)

Attendees: D. Cauz (Skype, at INFN-TS), R. Chislett (Skype), S. Donati (chair, at INFN-PI), A. Ferrari (Skype, at HZDR), S. Giovannella (Skype, at INFN-LNF), Barry King (Skype, in Liverpool), M. Lancaster (Skype, at UCL), S. Miscetti (Skype, at INFN-LNF), G. Tassielli (Skype, at INFN-LE).

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) summarized the development of the DAQ for the g-2 straw tracker detector. MicroTCA (mTCA) crates for the g-2 calorimeter, tracker and clock distribution have been established at Fermilab. Tests of transmitting data emulated in firmware through to offline from the calorimeter to the tracker systems have been performed. The plan is to have the g-2 daq system completed at the end of the year 2016. M. Lancaster also gave an update on the construction of the g-2 straw tracker detectors at Liverpool. Manifold production has begun at Liverpool, leak-testing quality assurance is now being established and high-voltage modules from Fermilab are being tested with the detector prototype. The first module with fully tested electronics is expected to be completed in May 2016 at Liverpool and shipped to Fermilab in June 2016. The first straw-tracker station, made of 8 modules, is expected to be installed at Fermilab in November 2016, the installation of the second tracker station is planned in February 2017.
2. WP2 "Mu2e detectors": S. Miscetti (INFN) summarised the status of the Mu2e electromagnetic calorimeter project. The design has been frozen in February 2016, following the technology choice between Cesium Iodide and Barium Fluoride crystals, in favour of Cesium Iodide, made in December 2015. In April 2016 the Director Review has been passed at Fermilab and the project is ready for the "CD3" at Fermilab in June 2016 to proceed with detector construction. The detector now

consists of two disks each made of 674 CsI square crystals, readout by 2 large area, UV-extended custom SiPM arrays. The plan is to build a Module-0 calorimeter, with a 7x7 crystals matrix for early 2017, to test detector performance in vacuum, with the full daq electronics, and to test radiation-hardness of the entire detector. The project is going to have a construction readiness review in spring/summer 2017. The Technical Design Report is going to be available in December 2016.

3. WP3 "Calibration": C. Ferrari (INFN) and D. Cauz (INFN) gave an update on the g-2 calorimeter calibration system. The system has been tested at the Beam Test Facility at the INFN Frascati National Laboratory, with 450 MeV electrons. All the components have been tested by running the entire system for one week with no flaws. The only missing component has been the final electronics. A new test beam is planned at SLAC in June 2016, in this case the entire final system, calorimeter and electronics, is going to be available.
4. WP4 "Software tools": R. Chislett (UCL) described the ongoing g-2 simulation effort. 15 million events have been generated for the Mock Data Challenge 0, used to verify detector geometry and gas guns. A preliminary stage of track reconstruction has been included in the simulation. The g-2 Collaboration is currently developing 3 alternative tracking algorithms and the Mock Data Challenge 0 is going to be extremely useful to test the possible options. Improvements deriving from the analysis of the Mock Data Challenge 0 will be used for the preparation Mock Data Challenge 1, with 1 billion events, and for Mock Data Challenge 2.
5. WP5 "Dissemination and Outreach": D. Glenzinski (FNAL) distributed a list of possible speaking opportunities at International Conferences:
 - New Perspectives, June 13-14 2014, at Fermilab;
 - Fermilab User's Meeting, June 15-16, at Fermilab;
 - Charged Lepton Flavour Violation Conference, June 20-22, in Virginia;
 - STEM Career Expo, April 2016, at Fermilab.

and also a list of possible Training Opportunities, including the Mu2e Collaboration Meeting, July 26-29, 2016 at Fermilab.

6. WP6 "Transfer of Knowledge": Anna Ferrari (HZDR) reported on a phone meeting with Advansid representatives dedicated to the organization of the HZDR Secondments at the Company.

7. WP7 "Management": S. Giovannella (chair of the MB) reported on the organisation of the General Meeting in September 2016. The plan is 3 days in the last week of September 2016. The Scientific Board has been appointed as "Scientific Program Committee" of the General Meeting. The plan is to organise the event at the INFN Department in Pisa in collaboration with the University of Pisa. We will have an

- One open session for all the Muse participants;
- Management Board meeting;
- Scientific Board meeting;
- A half-day training session for the Muse participants;
- A one-day workshop with seminars on the Muse activities and possibly a visit to the local INFN laboratories for the University of Pisa students in Physics, Engineering, Computing Science and Materials Science.

The meeting is closed at 4:30 pm