

## Minutes of WP-meeting 168

### Attendance:

DESY: David Attie, Purba Bhattacharya, Paul Colas, Ralf Diener, Madhu Dixit, Isa Heinze, Leif Jönsson, Nayana Majumdar, Supratik Mukhopadhyay, Felix Müller, Astrid Münnich, Volker Prahl, Nicholi Shiell, Wenxin Wang

Fuzebox: Keisuke Fujii, Jochen Kaminski, Dan Peterson, Ron Settles

### General News:

Jochen announced, that the next Collaboration Meeting will take place on the 31.5. and 1.6. at DESY.

### PCMAG/LP setup, test beam:

Ralf: PCMAG/test beam area/LP:

- There were no problems during Paul's test beam. The 7 modules will be removed this afternoon. Tomorrow morning, the LP will be removed from the test beam area, because the ATLAS group needs the space inside PCMAG. The fieldcage will be brought into the FLC-lab, where the gas inlet will be exchanged, the 3 DESY-GEM modules mounted and the complete detector tested before returning it to T24/1 at the end of February.

Test beam schedule:

- The official schedule for the first half of the year has been released. There are only 2 weeks left for test beam campaigns. The test beam will be extended until September, but during the last four months of 2013 there will be a maintenance shutdown. The test beam will be available again in 2014.

### News from the groups:

Ralf reported, that the DESY group has finished and completely tested 2 modules, a third module is undergoing HV tests and a fourth module is being assembled as a back up.

Paul summarized the latest test beam as a great success. The data taking went very smoothly. Only the connectivity of several connectors was lost and no signals could be recorded from these pads. The first results were shown during the analysis meeting #7 on last Tuesday.

In the close future the MM-group will concentrate on analyzing the new data. In the longer run, a few upgrades are planned. Most important an improvement in the connectors contacts. Then, 2PCO2-cooling shall be implemented. The cooling plant will soon be sent from KEK to NIKHEF, where it will be tested and then sent to DESY. Also, different ceramics, like a Ruthenium oxide will be investigated if a more robust resistive anode can be made from them. Also different production methods (like electroformation) of the mesh will be looked at. Once a readout electronics with higher density is available, also a pad layout with smaller pad pitch is planned.

In a short discussion the date of a test beam campaign with a single Micromegas modules and ALTRO-electronics was fixed to the calendar week 23 (3<sup>rd</sup> - 7<sup>th</sup> of June). This is right after the ECFA-LC2013 and the LCTPC collaboration meeting. In the week before, there is no beam because of maintenance and everything can be set up and tested before. The main goal of the test beam will be the study with MM, resistive anode and various short shaping times of the electronics. For this Jochen will design an

adapter for the connectors.

Keisuke mentioned, that the Japanese groups will have an analysis meeting on the 11<sup>th</sup> and 12<sup>th</sup> of February, where the test beam results will be discussed. Bo Li, who has been staying at KEK for one month now, has implemented a Kalman filter, which can handle an arbitrary field map and thus a non-uniform magnetic field. He made up a field map for an ILD detector with inhomogeneities of up to 30% to test the new code. The lever arm of the LP, however, is not long enough to see large deviations. Ron observed, that we will expect field inhomogeneities of such an order at ILD because the stray field of the anti-DID will not be corrected.

Jochen reported on the status of the Bonn modules for the test beam campaign with pixelized readout. Most of the parts of the triple-GEM and Timepix module have been produced and only two more pieces are missing. 4 chips have been mounted on a test board and have been fully tested. More chips will be mounted on the test board and in parallel the mounting of the final board will start. For the InGrid module most parts are still missing, but the production of the backframe and other parts are promised to be done by the end of February. The mounting of the InGrids on the PCB will start after the GEM-module has been finished.

AOB:

Everyone who is interested in sending an abstract to the MPGD2013 conference in abstract should send it first to the speakers bureau, which will ensure, that there will be no duplication.

The next workpackage meeting will take place on February 21<sup>st</sup>.