

## Minutes of WP-meeting 215

### Attendance:

DESY: Deb Sankar Bhattacharya, Paul Colas, Fabrice Couderc, Ralf Diener, Madhu Dixit, Keisuke Fujii, Serguei Ganjour, Jochen Kaminski, Paul Malek, Rashid Mehdiyev, Felix Müller  
Fuzebox: Ulf Mjornmark, Ron Settles, Jan Timmermans

### General News:

Jochen was asked by Ties that someone of the collaboration should give a presentation on the TPC during the ILD meeting on April 23<sup>rd</sup>/24<sup>th</sup>. One focus of this presentation should be on the optimization discussion and in particular the benefits of a TPC. New results of simulations and studies of the benefits should be presented. Some examples of the benefits were given, but no volunteers for the presentation found.

The Saclay group has two new members, Fabrice Couderc and Boris Tuchming, who are also participating in the current Micromegas test beam.

Ron informed everyone, that he and Takeshi received a question of Yasuhiro, who is designing the building close to the IP. He currently foresees a 10×10 m<sup>2</sup> lab space for the TPC. Ron thinks that this is enough provided that the TPC will be assembled at the main lab, where more space will be available and will then be shipped to the IP as a whole. If only final tests have to be done at the IP, the space is sufficient.

### PCMAG/LP setup, test beam:

Ralf: PCMAG/TRACI/test beam area:

- TRACI has been placed in T24 and the pipes have been laid. The system is filled and tested. All other systems (field cage, vacuum system etc.) have been tested.

Test beam schedule:

- The call for test beam in July-November is out.

### News from the groups:

Paul arrived on Sunday evening at DESY and has been setting up his modules until Wednesday. Some small problems (LV power supplies have disappeared in the cleanup effort, the HV connection of one module came beyond repair, bubbler is broken). But these could be solved. There is no gas leak and a good gas quality can be reached. The new way of flushing the TPC with 300 l/h was used and it was found very useful. Now the HV cables have to be connected and then the setup is essentially ready for taking data. The cooling pipes have to be connected to the vacuum pump, so that they are cleaned for the liquid CO<sub>2</sub>. The plan is to take cosmic ray data tonight and switch to beam events tomorrow. With this data set a final publication is planned.

Two of the modules are covered with black diamond (from Ochi-san). This is a good candidate to replace the carbon-loaded kapton of DuPont which should not be used outside of the US.

Ulf gave a short update on the status of the S-ALTRO carrier board: The first version had a small design error and short because of bonding issues. The second and third board produced at the same time also show problems, even though the design error was corrected. A fourth board has been ordered and it was requested to have pictures from every production step. The first pictures with wire bonds have arrived now. It looks reasonably good on most places, but it is quite crowded at some. Still the company claims that it will work. The carrier board has to be globbed now and is expected back in 1-2

weeks for electrical tests.

Jochen reported the preparations of the next test beam campaign are ongoing, and it looks promising. All Octoboard hold the HV up to 290 V. The Octoboards with IZM6 chip are better (at least 340 V) while the ones of the IZM5 batch show problems (290-310 V). All other components are being assembled and tested.

Keisuke summarized activities in Japan: Saga is working on a large gating device which can be mounted on a LP module. Bo Li has finished his work on the Chinese Circular Collider and is back to studying the distortions in simulations. The micro discharges in the Japanese GEMs are being studied. In particular the influence of water on the discharges is investigated at the moment.

In Hiroshima a student is working on a laser setup studying the pulse height and spatial resolution.

There are indications, that the process is indeed a  $2\gamma$  process.

AOB:

The next workpackage meeting will take place on March 19<sup>th</sup>.