

Minutes of WP-meeting 209

Attendance:

DESY: Ralf Diener

Fuzebox: David Attie, Alain Bellerieve, Paul Colas, Keisuke Fuji, Takahiro Fusayasu, Katsumasa Ikematsu, Leif Jönsson, Jochen Kaminski, Ron Settles, Akira Sugiyama, Jan Timmermans

General News:

Jochen has been asked by Akiya Miyamoto if we want to have a meeting following the ALCW2015. Jochen was advised to check with the CB if we should do a workpackage meeting or a collaboration meeting. Because of the long journey the attendance could be rather low, if we do the CM at KEK.

PCMAG/LP setup, test beam:

Ralf: PCMAG/TRACI/test beam area:

- DESY is preparing the area.

News from the groups:

Katsumasa gave a report on the measurement with the GEMgate. He gave a short introduction on the first ideas and measurements and the field lines-based consideration of the geometry. He then described the two GEM samples they have received from Fujikura. He explained the measurement principle of the electron transmission measurement: By switching of the drift field, the signal size of the triple GEM amplification stage can be measured. Switching on the drift field gives two overlaid spectra, one from the amplification stage as before and one, where the signal went through the GEM gate. The difference of the original spectrum and the second one gives the signal shift due to the GEM gate. This was done for various conditions ($B=0$ and 1 T, different voltage differences applied to the GEM gate and the two different samples). The transmission was calculated and followed the expected behavior, that is for a low voltage difference a maximum of the transmission is observed, which corresponds to the optical transparency. The results were compared to an ANSIS + Garfield++ simulation. The simulation without magnetic field agreed well with measurement, but there was a different behavior for $B=1\text{T}$ and low voltage differences on the GEM gate. These differences have to be studied in more detail and measurements in $B=3.5\text{ T}$ would be nice, but currently no magnet is available. Next steps will be to order a module size GEM and to design a module with a gate.

Alain announced, that there will be an irregular LCTPC optimization meeting tomorrow at 14:00. Here technical details and will be discussed how code should be set up and shared, where Monte Carlo samples will be stored and how we could find more people for doing these studies.

Leif told that the Swedish research council did not approve the support for the ongoing project. The salary of the engineers is the largest part, but there is a chance that they can be paid within the budget of the particle physics division. The hardware funds have to be secured from somewhere else. It will take about one year before the next submission of a project is possible.

The first carrier board for the SALTRO-16 chips was delivered, but one capacitor was wrongly placed and two pairs of bond wires were shorted, so 2 new boards have been ordered and delivered.

Paul checked about the test beam schedule and he will have his test beam from the 2nd to the 16th of

March next year, testing the new type of resistive material called black diamond. The material can be tailored to a precise resistivity and has a better homogeneity. If it was ready he would also be happy to test the new endplate, but there is no need for this.

He also reminded everyone that the final AIDA meeting will take place at CERN from 9th to 12th of December. The gaseous tracking session will be on the 10th and currently 3 presentations planned: Rui De Oliveira on the new workshop, Michael Lupberger on readout systems for Timepix and Timepix3, and Paul on TPC, readout electronics and cooling.

Deb Sankar will return to Saclay on 1st of December and he will work on some simulations regarding the distortions and possibly also on optimization.

On December 1-3 there will be the Linear Collider days of France at Saclay. About 60 people will attend.

AOB:

The next workpackage meeting will take place on December 11th.