

Minutes of WP-meeting 200

Attendance:

DESY: Ralf Diener, Leif Jönsson, Claus Kleinwort, Felix Müller, Astrid Münnich, Oliver Schäfer, Klaus Zenker

Fuzebox: Paul Colas, Keisuke Fujii, Takahiro Fusayasu, Serguei Ganjour, Katsuma Ikemat, Jochen Kaminski, Shin-ichi Kawada, Takeshi Matsuda, Martin Rogowski, Ron Settles, Jan Timmermans

PCMAG/LP setup, test beam:

Ralf: PCMAG/TRACI/test beam area:

- The floor has been done and the objects are put back slowly.

LP:

- The HV plugs for the second lightened endplate are being ordered.

News from the groups:

Leif gave a summary of the status of Lund and the SALTRO-16, which he could not give during the CM. He started with a short overview of the complete system and explained the status and the challenges of the individual components. The carrier boards have been produced and three chips have been mounted. The test chain is complete and one chip with shorted top surface as well as one with a mounted SALTRO-chip have been globbed and sent for application of small tin balls. The board with the shorted top surface will be used to test that sufficient force can be put on the chips so that all sensor pins get contact. The mounted board will be used to test the functionality. It is challenging to find the best globbing procedure to reach a flat top. However the reduced heat conductivity and cooling possibility because of the globbing has not been studied yet. The MCM boards have been designed and are ready to use. However, they are planned to be redesigned in HDI technology. This allows for a much higher density of vias and routing lines. Since the boards are produced layer by layer also components such as resistors or even IC can be buried inside the PCB. Also chips like the SALTRO can be mounted in a stack. In this way the footprint of the system becomes much smaller and small pad sized of a few mm² could be reached even with the SALTRO-16 system. However, this stack layout shall be tested with only a few chips in the AIDA-2 framework, in case it is granted. There are quite a several open questions like for example the heat transfer, which shall be tested with this setup.

The next steps for the SALTRO-16 system are a mechanical mockup to see, if the mounting will be easy and if the mechanical tolerances are sufficient. Finally also the readout software is still missing. First tests at Brussels and Wuhan have established a communication between the CPLD and the SALTRO-16 and SRU. Identical prototype boards have been produced and distributed to Brussels, Wuhan and Lund. With these boards the communication will be further developed. Also, work has started by Oliver to implement the sensors of the readout system in DOOCS for monitoring etc. At the end Leif gave a summary of the lessons learned already of the SALTRO chip and what we have to look out for during the design of the next chip (e.g. too many voltage levels, too high energy consumption, too short sampling length etc). He also commented on the cooling, in particular, that with the HDI technology there will be the option of burring the cooling pipe in the PCB.

Astrid showed a few plots comparing the transverse spatial resolution of different modules. It was decided to show the latest results in the proceedings of the ICHEP, in particular the single module Micromegas data of 2014 analyzed with the common analysis. She also mentioned that she will leave the TPC group mid of September and asks for material for the proceedings before that date.

AOB:

It was decided to start the work of the electronics group after the summer vacation.
The next workpackage meeting will take place on July 31st.