Minutes of Meeting 12-02-2010

Present: J. Caride, C. Iglesias, A. Gallas, A. Pazos, P. Rodríguez, E. Pérez, P. Vázquez, J. Visniakov, B. Adeva.

1) DEPFET data analysis status & results (Jevgenij, Pablo Vázquez, Carmen, Javier Caride) (30 minutes)

Javier explained the main steps of the analysis chain for the TB data.
He showed different residual values using different algorithms and size clusters (3x3 and 5x5). Also he talked about a peak noise bellow 500 ADU in the Seed Cluster histogram that will be needed to remove. In the same way, he also explained that we take a central region of interest in the hit map to reduce the large number of hits in the two first detectors. The best results come from 3x3 cluster and are similar to the Christian ones despite of we are not using the same common mode algorithm and also only one partition instead of 13.

Pablo explained the next steps:
- Our first next step will be, as Praga people advised us in the last TB EVO Meeting, try to repeat the analysis using as Common Mode Algorithm the RowWiseMediam. In order to do it, we must change some pieces of the code and compile again.
- Other step will be calculate the gain modulation by pixel. As the TB data are insufficient (too scarce) some row data have been generation by Munich people.

Pablo also explained that there was an EVO TB meeting this week and there will be a Meeting at Goettingen in March or April: two days dedicated of solving problems related with TestBeam. The idea is to send Javier and Carmen there.

Abraham asked about the intrinsic resolution per detection plane, Pablo said that it is not calculated but it may be around 1.1-1.5 microns.
Abraham also asked about why we only use one partition, Carmen answered that is due to the need of more disk space and also a time running problem. Anyway, the code can be change to run with all partitions and obtain different output file instead of only one too large, but for now we prefer to understand what we do, understand the cuts, the value of the parameters, the algorithm applied…

2) TimePix: Thinning @ CNN status (Abraham) (10 minutes)

Abraham explained the status of the project that is being carried out with the CNN on the thinning of silicon pixel sensors. The CNM collaborators have produced dummy sensors with thickness of 200, 150, 100 μm. These are p on n sensors. They will be used to perform bump bonding tests. The idea is to check the mechanical issues involved in the bump bonding of thinned sensors. They produced as well a real sensor of 150 μm. As soon as the bonding procedure is tested, they will launch the production of the sensors in the other two thicknesses.
We need to send to CNM readout chips to:

a) Test the bonding procedure with the dummy sensors.
b) Once the bonding procedure is well tested and under control, to produce detectors (sensor + readout chip) in the three thicknesses.

For the first item we will send them 6 readout chips. In principle broken ones are good enough. For the second item we need to send them working asics. In principle, TimePix

collaboration has agreed on giving us 6 class B TimePix. These are chips with a maximum of 1 row not working.
After the construction of these sensors, the next step will be the fabrication of n on p sensors. They are more radiation hard than p on n devices. At this point is not clear whether we want to use p-spray or p-stop technologies in the process. In the later we need to buy/produce special masks. This subject is under study.
In summary the project at CNN progresses well, we will have the detectors in two months.

3)TimePix: Tests @ USC (Eliseo) (10 minutes)

Eliseo has been doing tests with a TimePix assembly in Santiago. The detector works. He can take data with a radioactive source in the different modes of operations. He is lacking a better analysis program/framework. He will investigate this in his stay at CERN in a couple of weeks from now.

4) PR01 microstrip module tests @ CERN. (Daniel) (10 minutes)

Abraham explained that Daniel and him are working on that. The idea is that Eliseo will go to CERN in a couple of weeks to help out with the testing of the PR01 microstrip module. As well, he will see the test stands for pixel and microstrip sensors built at CERN and he will learn about the different tests procedures. The idea is to reproduce the test stands in Santiago´s lab, in preparation for the test and characterization campaign of sensors we will perform in Santiago.

5) ST PVSS developments & status towards the next running. Pablo Rodriguez (5min)

Pablo showed some transparencies explained the PVSS Status of the Silicon Tracker of LHCb:

- Current status and next running
  - IT and TT are both updated to the last version
- Last improvements
- What can be improved/fixed
- What can not be improved
  - IT and TT are currently into global running so we can't take the control anytime we want

Next meeting in 15 days with a presentation of Jevgenij´s results. From now on, the meeting will be every other week, instead of weekly.