

Minutes of USC Instrumentation meeting on 12-03-2010

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

1) DEPFET (30 minutes)

Munich power supply meeting outcome (P. Vázquez):

P.V and J.V went there. Fernando Arteche was as well there, invited by P.V. People from Japan, Cracow, Göttingen and Munich were present.

The Low voltage system can be divided in two parts:

≥ 100 m Amperes current consumption with some local regulation at the dock. This implies some cooling and it has to be built with radiation tolerant components.

≤ 100 m Amperes current consumption. This part of the system can be placed on the top of the racks out of the wall. It does not need to be neither radiation hard or magnetic tolerant. J.V is working on the design of a prototype using commercial parts (FPGAs). Purchase of an evaluation board is on going. We plan to have a prototype by August this year. Grounding studies are needed at some point. Fernando Arteche is not interested in doing them alone.

The Poland group is developing a radiation hard regulator to substitute the LHCb and ATLAS 1.23 Volts regulator. They are not developing anything below 1.23 Volts.

Irradiation status:

Dices with 186 transistors with different lengths, widths, and dopant concentrations arrived at Santiago. Design of PCB for irradiation and testing with the collaboration of Andreas Richard.

1 MRad 3 days of irradiation in our setup. 13.5 K Rad/hour is the limit in Santiago. The plan is to make different steps of irradiation from 1 MRad to 10 MRad.

Test-beam analysis status (C. Iglesias):

We have already installed the RowWiseMedian algorithm. For it, I need to changed some pieces of code and compile again Marlin. Now the software works OK.

The plots that we have obtained with RowWiseMedian are similar to the obtained with the RowWise:

- The number of entries are similar in all the detectors
- The value of the residuals are also similar.

We have sent our results to Christian and he told us that the plots look fine, so the results are good, but we can't see the difference between RowWise and RowWiseMedian probably due to the value that we choose for the parameter MaxClusterperPlane =7 instead of only 1.

By other hand, I asked to Valencia's people (Marcel and Carlos) and also ask to Christian about the time that Marlin take us in running only one partition (4 or 5 hours) and they answered that this time is normal. In fact, Valencia's people are working to install the TB software on their computer farm, where at least all jobs would go in parallel. This would then allow to centralize the steps at least up to the cluster level, or even provide LCIO file that include tracks and clusters. But Marcel thought that It will take some time to become operational.

2) PR01 micro-strip module tests At CERN (Daniel 10 min)

PR01 module installed and running in the VELO assembly lab. Waiting for some software to be produced by Tomasz. We might have some micro-discharges although this will not affect the behavior of the sensor.

3) Tests stands for micro-strip and pixel sensor at Santiago.

TimePix test beam telescope construction (Eliseo Pérez, 10 minutes)

Goniometers and other parts were ordered to improve the test stand with the laser at USC.

Motorized actuators and rotators have been ordered and will be shipped directly to CERN to be integrated in the test beam telescope that will be built before the test beam in May.

4) News from collaboration with CNM on thinning of 2D pixel sensors. (Abraham 5min)

CNM will start cutting the wafers next week. In a couple of weeks they plan to start the bump bonding tests.