

Minutes and Actions of Site Qualification Task Force

Phone Conference – 5th of November 2004

Present: (J.-C. Clemens), G. Darbo, M. Garcia-Sciveres, P. Gerlach, D. Giugni, F. Huegging, (V. Kostioukhine), L. Rossi, E. Vigeolas.

CPPM.

Jean-Claude briefly updated on the electrical problems found on the 3 modules of stave S4031 (510750-M6A, 510575-M5A, 510829-M3A) after thermal cycles. The modules respond to source scan even with higher noise on many pixels. Source scan plot with 300k events for one of this modules is shown in:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-05_aux/source_Marseille.gif

That can be compared with a standard 100k events plot:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-05_aux/source_Genova.gif.

The behavior of the digital scan seen in:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-05_aux/dig_100eventi.gif

is not understood. A complete swapping of DAQ hardware did not help in getting any better.

Patrick Breugnon will come to Genova to test the stave next Monday.

CPPM loaded a complete stave with 13 dummy sensors to check again the precision on module positioning. The survey of this stave, loaded with dummy sensors, shows a precision of location in X in the tolerances (see:

http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-05_aux/CPMM_DummyX.gif). The

loading has been done with the procedure changes discussed in the last SQTF phone conference. A quotation for a new linear stage have been asked, to replace the Z movement of the CPPM robot. It is not decided yet if a replacement of the long Z stage will be done, because it may require 2÷3 month to have the robot operational. CPPM considers continuing the loading of a new stave soon: *new production modules are necessary*.

The FE-I2 stave (S4000), that had a not working MCC in one module, was sent to Bonn and the MCC has been replaced. Now the module is working again. The stave is now in Wuppertal for bi-stave system test.

LBL

LBL completed the loading of sector S9008. On this sector a wrong module was picked up and loaded. Sector assembly was then stopped to characterize completely such module before going ahead..

The heat exchanger of the cooling system for sector test has been replaced after discovering of fluid leakage and contamination. The new heat exchanger uses now higher quality components (see: http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-

[05_aux/heat-exchanger.pdf](#)). The thermal management fluid that will be used in the secondary circuit will be C₆F₁₄.

A new source box that permits the testing of a full sector is operational. LBL will restart sector production by the end of next week.

Genova

The survey of the second FE-I3 stave has been partially done. Only X, Z coordinates of module pads and sensor fiducials have been measured. Data are under processing by Vadim. Giovanni presented a preliminary qualitative analysis of the Z position of the modules. The data show a clear similarity with the ones of the previous FE-I3 stave loaded last summer. A comparison plot of the two staves is in: http://www.ge.infn.it/ATLAS/SQTF/Minutes/Minutes_04-11-05_aux/S4028.xls. It seems that the Z robot linear stage has high repeatability, but not high linearity. Probably a correction in the loading table of the robot, taking into account the differences from nominal position, will bring the position of the modules in the $\pm 50 \mu\text{m}$ required tolerances. But will this behavior stable in time? Some other solution will be also considered.

The chiller used to cool the stave is still under repair. Because of that, no thermal cycles to the required -30°C is possible for the time being.

Wuppertal.

Some robot upgrades have been made in Wuppertal. The robot head has been modified to make visible the sensor fiducial with the microscope during the loading operation. Also the microscope and survey system (on the robot) have been upgraded to improve the precision by adding optical position encoders. In particular the Y (vertical) coordinate is now measurable with 5 μm precision.

The Marseille repaired stave (S4000) is now in Wuppertal for cabling and bi-stave test. It will stay there until the power supply PRR (beginning of December). The 4-module stave (S4020) is now at CERN and will be taken to Marseilles next days. Eric plans to survey of it the mid of next week. If results are in the specs, there are no showstoppers to start pre-production in Wuppertal. *The module task force must select the 13 modules for such stave.*

Cooling pipe fitting.

A critical issue is the fitting for connecting the stave cooling pipe to the cooling circuit. It is high the risk to delaminate the omega carbon fiber from the TMT, or, even worse, to break the stave. To reduce such risks, a flexible fitting for strain relief it is recommended for all the time the stave stays in a laboratory for testing. Connection to the cooling circuit must be made through this kind of fitting. Eric will circulate design and will provide samples for the 3 sites.

No phone conference next Thursday because of French/German holiday

Next phone conference: Thursday 18th of November 2004 at 17:30.