



Detector Support Group

Weekly Report – 2015-10-07

Antonioli, Mary Ann

Hall B

DC

- * Reviewing 2004 LabVIEW code for testing CAEN HV cards.
- * Updating voltage range test.
- Documented test data of 46 signal cable bundles.
 - * R2S2SL4, R2S3, and R2S4 completed.
 - * Eleven connectors were replaced in these bundles.

DSG

- Fabricating test station to be built for National Instruments modules.
- Served on the hiring committee for the two technician positions.

Arslan, Sahin

Hall B

DC

- Labeled 35 bundles of signal cables.

HDICE

- Attended bi-weekly meeting.

Bonneau, Peter

Hall B

HDICE

- Instabilities in the support VI's of driver's for Oxford Power Supply was investigated and corrected.
 - * Improper timing caused the instabilities.
- Debugged code for power supply sweep/hold function.
- Updated initialization sequence for power supply power-up to include commands needed for release of clamping.
- Updated program to include detailed error handling and status read-backs.
- Added, for operator, progress indicators to all steps of the rotation-of-polarization program.
- For final testing phase of rotation-of-polarization program, need two power supplies (longitudinal and tranverse axes).
- For the CAENels Current Transducer-Box: Developed data processing sub-Vi's for the binary Current Transducer-Box data.
- Added data file storage capabilities to the "Oscilloscope" mode of the data acquisition program Program.
- Programmed calibration offset mode into the data acquisition program.
- Developed decoder code for current measurement, sequence number, and status output.



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- The new fast-mode data acquisition program controls for the CAENels Current Transducer-Box were reviewed at the bi-weekly meeting.
- Developing test program using the Oxford power supply and the Current Transducer-Box.
 - ★ Program will compare power supply output current vs. current measured by Current Transducer-Box. Subroutines developed for the Rotation of Target Polarization will be incorporated into the test program.

SVT

- Updated system documentation.
- Monitored the system on a daily basis.

DSG

- Served on the hiring committee for the two technician openings in the DSG.
- Installed new test station PC.
- Updated software on DSG computers.
- Started hardware configuration and chassis layout for the NI (cRIO) Test Station.

Hall D

- Reviewed issues with the Master Oscillator of the TDC. The 499 MHz Master Oscillator signal is split up and read out in (4) F1TDCV2 TDC modules. Initially, a firmware update or a defective TDC was suspected to be the source of the problem. However, an intermittent problem with one of the cable assemblies was found. Repairing the cable corrected the problem.
- Examined status of the Hall D slow control systems on a daily basis.

Butler, Dave

Hall B

Gas System

- Attended Hall B slow controls meeting and gave a description of the gas system.
 - ★ The process variables naming convention was discussed.
 - ★ Created a spreadsheet with the current information and forwarded it to Wesley Moore.
 - ★ Generating a list of gas system components that will need to be assigned IP addresses in the hall.
- Provided a rough cost estimate for possible upgrades to the RICH gas system.
- Submitted PR for a cRIO 9035 and various modules that can be used as a spare for the gas system and also for development and temporary Hall B control and monitoring systems.
- Ordered fittings for mass flow controllers for the HTCC temporary gas system in TEDF.
 - ★ Met with McMullen, Sharabian and Markov to discuss specifics of the installation of the gas system.
- Updated diagram for the PID test document to include interface chassis.

Hall D

- Attended the FDC/CDC weekly status meeting. The link to the meeting minutes is <https://halldweb1.jlab.org/wiki/index.php/Minutes-10-1-2015>.
 - ★ CDC update (Mike, Simon)



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- Fits to Garfield calculations for dealing with straw sag.
- Some sag measurements.
- ★ FDC update (Luke, Lubomir)
 - Tagger Tests with Fe source: [2][3][4].
- ★ Electronics (Fernando, Chris, Nick)
- ★ Engineering (Dave)
 - Mass Flow Controllers for the FDC seem unable to maintain pressure when the flow is increased to 200 [sccm] during CO₂ monitoring; so, changed PLC code to increase the FDC blend tank pressure to maintain between 10.8 [psi] and 12 [psi]. Before the pressure was set to 7 [psi] to 12 [psi].

Eng. Brian

Hall B

SVT

- Meeting to go over software progress: bugs fixed in reconstruction where top and bottom layers were treated differently.
- Tried installing Justin's calibration code on svtsystem1, but too many packages missing and paths hardcoded to his home directory, will continue working with him to get it running.
- Updated FNAL CMM database and plots with all available data, was missing modules from the last few shifts: https://userweb.jlab.org/~beng/FNAL_CMM/

HDICE

- Received 21 CDs of various scans from Craig, which were copied to RAID storage. Also got 2 more input files during latest teleconference. He will be sending USB key with ~30 [GB] of files compared to the ~4 [GB] on the last one.
 - ★ Main analysis notebook appears to have all needed input files, but *segfaults* Mathematica when doing the final analysis.

Hall D

Magnet

- Brought PXI chassis to EEL to perform calibration on ADC modules, most of which were due in 2013.
 - ★ Adjusted and verified all modules before reinstalling in Hall

DSG

- Updated Mac computers to OS X 10.11

Jacobs, George

Hall B

Gas System

- Edited spreadsheet M:\DSG\Dave\Hall_B_Gas\Gas_System_Hardware and added components and information.
- Performed pre-job planning for move of DCGAS system components to L3 space frame.
- Updated Gas System Tasks Spreadsheet to reflect status.
- Submitted PR 358677 for continued funding of the Hall B bulk LN₂ contract



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- Provided a consultation to Maurizio Ungaro, and Douglas Higinbotham on using C₄F₁₀ in BigBite, adding that required amount to the LTCC gas order, and recovery of the gas using the Hall B distillation unit.
- Attended the monthly Hall B engineering meeting:
 - * Attendees: Burkert, Miller, Pasyuk, Stepanyan, Carman, Insley, Tilles, and Christo.
 - * Topics discussed: HPS, HyCAL, TORUS work, Cryo work, Subway rack power installation status, DCGAS system components location, space frame L3 work.

Leffel, Mindy

Hall B

DC

- Replaced DC signal cable connectors:
 - * Two connectors had transposed wires.
 - * Twenty connectors had broken connectors.

DSG

- Researched cost of microscope replacement for wire bonder (\$1,200)
- Wired calibration module for PXI system

McMullen, Marc

Hall B

Gas System

- Working on the HTCC gas monitoring program in LabVIEW.
 - * All monitored signals are now coded and displayed.
 - * Signals: pressure from a capacitance manometer, flow from a mass flow controller, and humidity from a hygrometer.
 - * Machining work on the chassis is in progress.
- Submitted a document on the design and manufacture of the DC Gas Controls chassis.
- Tested the LTCC/RICH gas controls chassis for functionality.

Hall D

- Attended FDC/CDC meeting.
 - * Discussion on DSG work on the gas system monitoring.
- Installed the PXI chassis in the hall with Brian.

DSG

- Attended fire safety training.

Sitnikov, Anatoly

Hall B

DC

- Tested 29 cable bundles.
- Cleaned 174 connectors.