



## Detector Support Group

### Weekly Report, 2015-11-25

#### Antonioli, Mary Ann

##### Hall B

###### DC

- Coordinated fabrication of LV cables.
  - \* Cutting of cables for Region 1 completed by Sahin and Anatoly.
  - \* Cables for R1S1, 2, and 3 terminated by Mindy.
  - \* Cables for R1S1 and 2 tested by Anatoly.
- Wrote procedure for testing CAEN crates and cards.
- Testing HV CAEN crates and cards.
  - \* Tested one of four crates.
  - \* Had problem with cable being used for testing.
    - Cable for testing channel 11 was cut off.
    - Cable will be fixed by Sahin.
  - \* Channel 16 on one card tested does not work (no current).

##### Hall D

- Reviewed Hall D slow controls and elog.
  - \* Four FCAL bases do not work with old or new firmware. They were removed and sent back to IU.
- Completed documentation of FDC work done by Mindy and Sahin.
- Began researching and training on cRIO systems.

#### Arslan, Sahin

##### Hall B

###### DC

- Cut LV cables for R1S4,S5,S6(total 42 cables).
  - \* Cutting of LV cables for R1 completed and given to Mindy

##### Hall D

- Assisted D. Butler with troubleshooting magnet Coil 2 of the solenoid for missing Carbon Resistor Thermometer and Strain Gauge readings.
  - \* Discovered that cables were not plugged into the correct connectors after repair of Coil 2 helium tubing (chimney).

#### Bonneau, Peter

##### Hall B

###### HDICE

###### Rotation of Target Polarization Program

- Updated user interface screens to make the actions on the control screen more understandable to the program operator.
  - \* Reviewed the results of the automatic mode interlock testing.



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#### NMR Program

- Developing test program using Oxford power supply and CT-Box.
  - ★ Program will compare power supply output current vs. CT-Box measured current.

#### SVT

- Reviewed and updated Hardware Interlock System cRIO CPU and watchdog monitoring parameters that are remotely available via the network connection.
- Monitored SVT Hardware Monitoring System Interlocks on a daily basis.

#### **Hall D**

- Examined status of slow control systems on a daily basis.
  - ★ Noticed BCAL module #38 humidity reading was unbelievably low, 2.8%.
    - This humidity made the calculated dew point -23°C.
- Attended DSG daily status and instructional meeting on Hall D systems.

#### **DSG**

- Trained A. Hoeble and T. Lemon on LabVIEW.
  - ★ Showed how to do initial setup of a National Instruments cRIO chassis.
- Updated to LabVIEW 2015 on the DSG test computer (on the computer center subnet).
- Updated documentation software, Adobe CS6, on DSG computers.
- Updated “M” drive group permissions to include new DSG employees.

#### **Butler, David**

#### **Hall B**

#### HTCC

- Updated with Marc the HTCC temporary gas system.
  - ★ Added a second flow meter to the output to measure the delta of input flow (~8 [SLM]) minus output flow (TBD), to detect amount of leakage.

#### Gas System

- Working on EPICS variable spreadsheet to include alarms and nominal values using information George provided.

#### **Hall D**

#### **Magnet**

- Troubleshoot Coil 2 of the solenoid for missing Carbon Resistor Thermometer and Strain Gauge readings.
  - ★ Discovered that cables were not plugged in the correct connectors after repair of Coil 2 helium tubing.
  - ★ Sahin helped with some troubleshooting and Mindy made a cable for troubleshooting the PLC interface to the magnet.

#### **FDC/CDC**

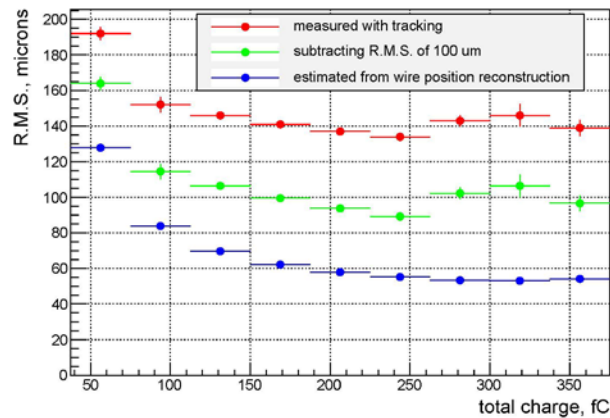
- Attended the FDC/CDC weekly status meeting and discussed following information:
  - ★ Nick found the broken CDC wire and separated it from the HV board. He fixed one more channel by replacing the HV board card.



## Detector Support Group

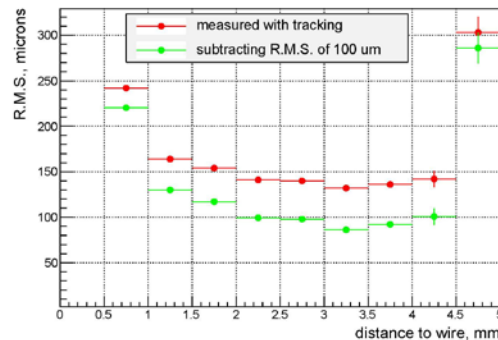
### Weekly Report, 2015-11-25

- ★ Mike Staab is analyzing CDC beam data.
  - Will apply same corrections as with cosmics to correct for tube sagging.
- ★ Lubomir showed latest FDC results on the resolution studies. Resolutions improved gradually due to some residual corrections, better alignment, tracking, when fitting strip clusters.



Cathode resolution

- ★ Cathode resolution: Red – resolution along y from tracking; green – after subtracting tracking contribution (assumed to be about 100 [ $\mu\text{m}$ ]); blue – resolution estimated from reconstructing wire position. Need about 80 microns contribution to explain the difference (quadratically) between green and blue - may come from the extension of the avalanche along the wire.



Wire resolution

- ★ Wire resolution: Red – reconstructed from tracking; green – after subtracting the tracking contribution of 100 [ $\mu\text{m}$ ].
- ★ In summary: cathode resolution (along wires)  $\sim 120$  [ $\mu\text{m}$ ]; wire resolution  $\sim 110$  microns (between 1 [mm] and 4.5 [mm] from the wire).
- ★ Started preparing a document describing the FDC tests with the spare package.
- ★ Lubomir and Luke finished the response function measurements for both FDC and CDC preamps. See

<https://halldweb.jlab.org/wiki/index.php/Minutes-11-19-2015>



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### Weekly Report, 2015-11-25

#### **Eng. Brian**

##### **Hall B**

###### **SVT**

- Updated dead band plots for HV currents.
  - ★ Sent MYA admin new values for dead band for PVs that either had too little or too much data after the previous changes (108/132 changed).
- Reconfigured parallel gain scan code such that it time stamps the directory where it saves the scan files and changed the file naming so that it includes the crate/controller name.
- Restarted EDM on ACC computer again, also restarted CODA after updating RHEL7 software on svtsystem1.

###### **HTCC**

- Worked with Marc troubleshooting LabVIEW code, data-logging functionality.
  - ★ Confirmed it worked on same model cRIO-9035 as is being used in the TEDF.

###### **Software**

- Attended CLAS12 Software meeting.
  - ★ GEMC 2.3 due to be released shortly.

##### **Hall D**

- Added uptime (number of seconds since last reboot) EPICS PV to PXI per Hovanes request.
  - ★ Still need to deploy to PXI chassis and validate functionality, but voltage tap wiring verification is still in progress.

#### **Hoebel, Amanda**

##### **Hall B**

###### **Software**

- Attended CLAS12 Software meeting.

###### **SVT**

- Attended SVT meeting.
  - ★ MC based tracking efficiency is being calculated.
- Created SQLite database of Hamamatsu sensor data.
  - ★ Databased serial numbers and currents measured by Hamamatsu.

##### **Hall D**

- Toured hall.

##### **DSG**

- Trained with Peter on cRIO.
- Researched information on the Darklight experiment.

#### **Jacobs, George**

(Vacation)



## Detector Support Group

### Weekly Report, 2015-11-25

#### Leffel, Mindy

##### Hall B

###### DC

- Terminated and labeled 42 LV cables.

#### Lemon, Tyler

##### Hall B

###### Software

- Attended CLAS12 Software meeting.

###### SVT

- Attended SVT meeting.
  - \* Discussion on Monte Carlo based tracking
- Created SQLite database of Hamamatsu sensor data.
  - \* Databased serial numbers and currents measured by Hamamatsu.

##### Hall D

- Toured hall.

##### DSG

- Trained on cRIO and LabVIEW with Peter.
- Researched the Darklight experiment .

#### McMullen, Marc

##### Hall B

###### Gas System

- Machining third gas controls chassis to be installed in the gas shed.
  - \* Chassis will provide power to the flow controllers of DC mix tanks, returns, and LTCC.

###### HTCC

- Installed second mass flow controller and updated monitoring system with Butler.
  - \* The new monitoring system includes a temperature reading from an HTSB.



Monitoring program front panel

##### DSG

###### Safety

- Discussed with Manzlak about the need for an OSP for the new machining equipment in the Hall A lab.



## Detector Support Group

Weekly Report, 2015-11-25

**Sitnikov, Anatoly**

**Hall B**

**DC**

Measured and cut 42 LV cables.

Tested 42 LV cables.