Detector Support Group
## Weekly Report, 2019-05-08

Summary

Hall C EPICS

- Scripts and GUI components developed for group controls (on, off, set value) for HV CSS-BOY screens.
- Development started for improvement of Tcl/Tk-to-CSS-BOY conversion program.
    - Program takes advantage of built-in CSS Java packages to create screens.
    - Generates screen automatically within CSS by parsing a configuration file and placing widgets on a template, making conversion program completely transparent to end user.
- CSS-BOY screens developed to monitor voltage tap on SHMS dipole.
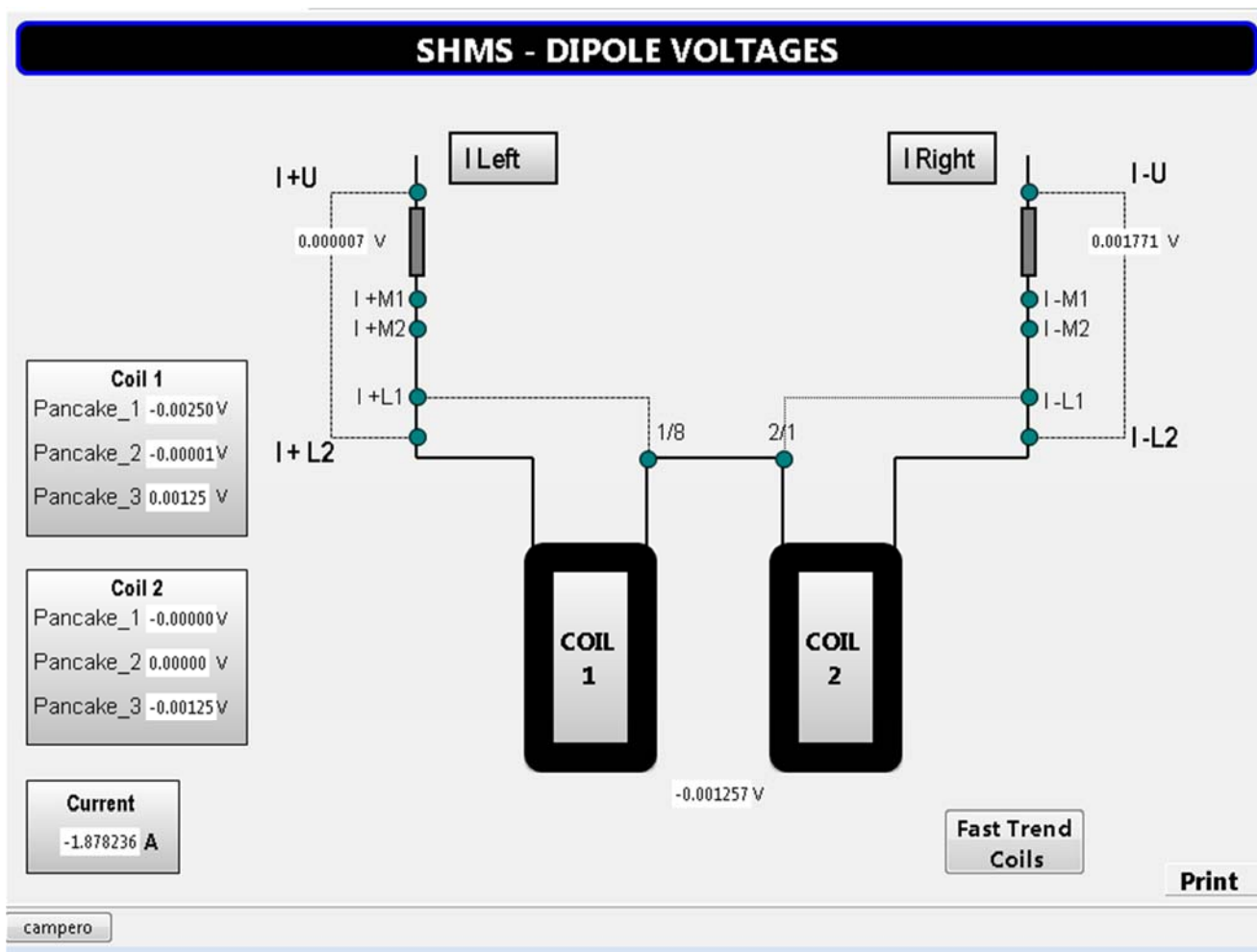
SHMS Dipole Voltage Monitor CSS-BOY screen

Hall C - CAEN Test Station

- Tested 48 channels at full current.

Figure 1. Module 72, channel 12 (~2625 µA to ~3550 µA). The magenta line is the current displayed from the CAEN, the solid orange line is the measured current. The dashed lines indicate the manufacturer's specification boundary.

Hall A – Dipole PLC

- Digital output toggle rate checked.
  - ✱ Existing PLC program has one digital output channel toggling at 10-ms rate, but program and documentation are unclear as to whether channel is actually used.
  - ✱ Found that channel on existing PLC was not connected to anything and is unused.
- CompactLogix PLC for Right HRS configured for network connectivity.
- Firmware on CompactLogix PLC controller for Right HRS updated to version 28.

Hall A - HCAL

- Word template for cable label sheet created.
- HV cables labeled for quadrant 1, columns 1-7.

Hall A - BIGBITE

- Two super modules assembled.
  - ✱ Springs cleaned and cut.
  - ✱ Bolts assembled on bottom chassis plates.

HDice

- Installed 24 V power supply for Intelligent Gas Handling (IGH).
  - ✦ IGH board and fan connected to 24 V power supply.

Hall B Solenoid

- Load cell trends since January 1, 2019 plotted.
  - ✦ Load cells have been stable with biggest variation caused by power status of magnets.
  - ✦ Two load cells (RS86103DS_BR_T and Z86108US_BL_B) have read zero since before January 1, 2019.

Hall B Gas System

- LabVIEW GUI code updated to use bound variables instead of NI Published-Subscribe Protocol (PSP), which greatly simplifies the code.
- Logic for the AC relays reversed in the *Gas Shed* cRIO.
- The *Gas Shed* cRIO crashed multiple times after deploying new code, still working with NI on finding a cause.

Engineering Division

- BPM PCB population continued.
  - ✦ Through-hole components soldered.

DSG R&D

cRIO test stand.

- LabVIEW program for automatic testing of NI 9217 completed.

RICH

- Development started for initialization code to implement the Sensirion SHT85 sensors with NI 9402 cRio LVTTL digital input/output module.