Detector Support Group

We choose to do these things "not because they are easy, but because they are hard".

Weekly Report, 2020-12-02

Summary

Hall A – SoLID Magnet Controls

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, Marc McMullen

- Generated *"Vacuum, Pressure, Mass Flow Wire Diagram"* in AutoCAD

Hall A – GEM Detector Gas Distribution System

Peter Bonneau, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen

- Added pressure sensor readout code to the gas flow readout program
- Tested single board computer, Raspberry Pi, installed with the gas flow readout program, EPICS IOC, and CSS display
- Updated fabrication drawings for exhaust gas multiplexer box

Hall B – SVT

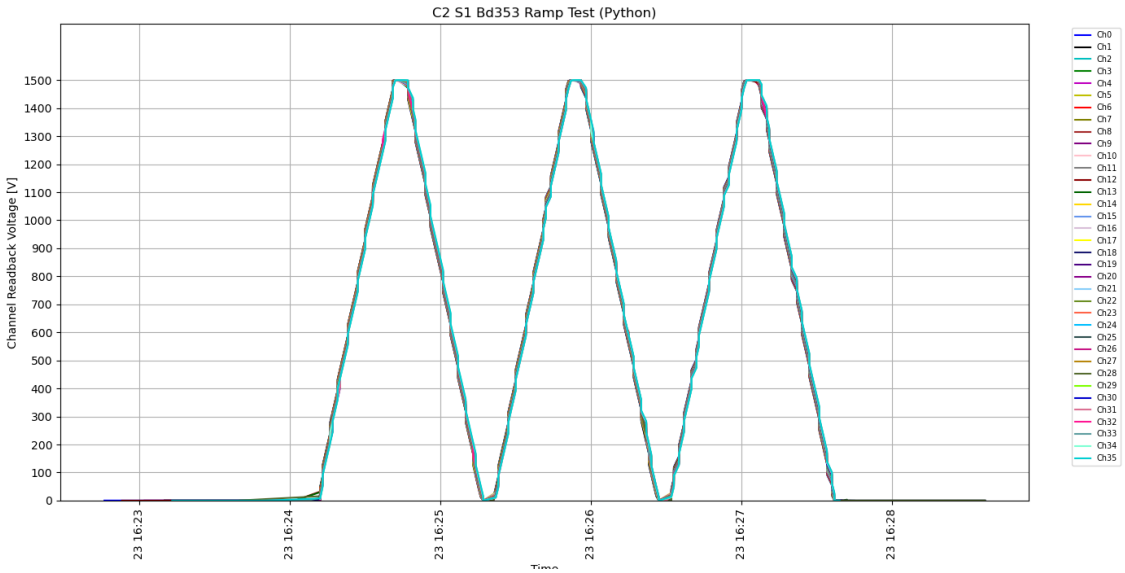
Peter Bonneau, Mindy Leffel

- Terminated disconnects on all 10 temperature/humidity sensor cables for the hardware interlock chassis
- Tested all connections in the hardware interlock chassis for continuity

Hall C – NPS

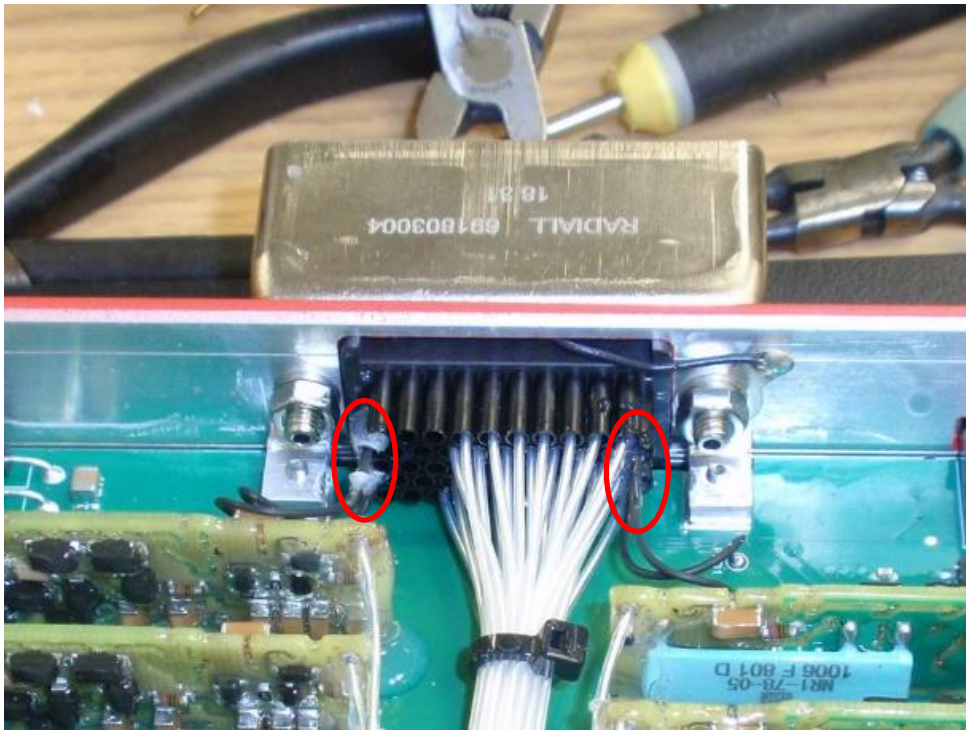
Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, George Jacobs, Mindy Leffel, Tyler Lemon

- Completed ramp testing on all CAEN HV modules; one module is non-functional
- Developed Python program to plot ramp test data
  - ✶ Program plots all 36 channels for each module in one graph



Plot of all 36 channels of module #353 tested in crate #2 (*hvcaentest2)*

- ✶ Ramp test data analysis completed for all modules and posted on the DSG website
- Repaired interlock pins on CAEN HV module #339



Interior of CAEN HV module #339. Module appears to have been repaired previously (note the hot glue on all 4 of the non HV pins circled in red).

- Analyzing CAEN HV module trip test data (current and voltage)
  - ✶ Twenty-three of 34 modules' data analyzed
- Determined for the NPS Hardware Interlock System the four main cable connect/disconnect locations: cRIO crate, NPS frame, patch panel, and temperature scanner and chiller
- Four hundred and eighty-nine of 1080 PMT Settings screens developed
- One thousand and twenty of 1100 HV divider cables fabricated