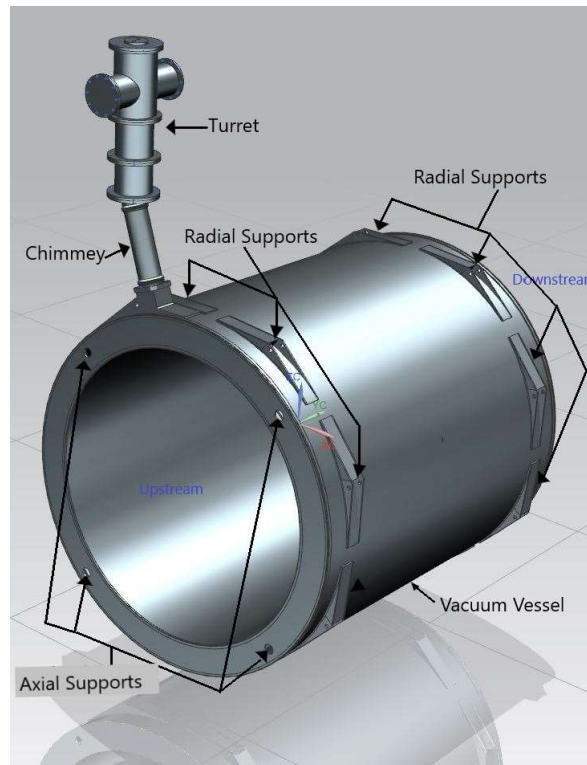


Summary

Hall A – SoLID Magnet Controls

- Completed NX12 isometric view of the Solenoid vacuum vessel to show radial and axial load cell sensors locations
- Assembled, using NX12, main components for SoLID magnet (Radiation Screens, Coil Shell, Vacuum Vessel, Chimney and turret)
 - ★ Assembled 3-D view provides a reference for the location of installed sensors and instrumentation
 - ★ Generated top, bottom, left, right, rear, and front views



NX12 isometric view of the assembled SoLID solenoid

- Completed *Temperature Cable Diagram* (External connections) in AutoCAD
 - ★ Drawings shows details of the cable connection between magnet vacuum feedthrough connectors and control panel terminal strips
 - ★ Found missed feedthroughs connectors and terminal strips labels on I&C spreadsheet
 - ★ Requested clarification to continue drawing development
- Completed routing of CCS pcb with the single 24 V input
 - ★ Made presentation to the group of the updates to the design
- Added a 15 mA input fuse to the design
- Revised Visio drawing of constant current source board channel

Hall A – BigBite Shower Calorimeter

- Terminated four of ten 34-contact coax ribbon cable to twisted-pair ribbon cable

Hall B BoNuS

- Target gas panel was unable to maintain pressure due to a solenoid valve leaking through the stem
 - ★ Solenoid valve replacement solved the maintain pressure issue
- Tested purge functionality of system
 - ★ Works as expected, albeit slower; this is due to the orifice installed

Hall B Gas

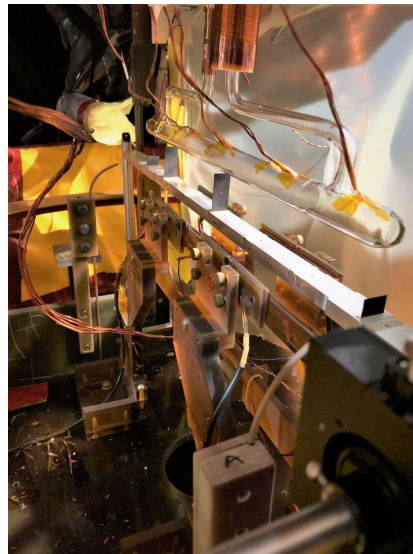
- Installed LabVIEW and related software on *clas12magnetpc* (SFL2N), *btech02* (gas shed) and *btech03* (counting house) computers in order for other users to run software that communicate with cRIOS, e.g. GUIs and MFCs

Hall B RICH

- Wrote proposal talk for reflectivity test station upgrade with fiber optic cable, USB spectrometers, and motorized stages
- In NX12, modeled alignment set up for proposed test station to verify that alignment laser components procured in January 2020 will work in new test station

Hall C – Polarized 3He Target

- Soldered RTDs to four pairs of magnet wire cables.



RTDs installed near beamline in Hall C

Hall C – CAEN HV Hardware Testing

- Noticed values for some of the EPICS PVs do not match the GECO 2020 values on the EPICS test monitoring screens (CSS-BOY screens)
 - ★ Removed all but one module from crate #2 (hvcaentest2) to verify that the problem isn't due to the EPICS test code, but is a result of "buggy" EPICS server from CAEN
 - ★ Tested single module in crate #2 on *dsgtest1* PC, and noticed only 1 PV has different value than GECO (hvcaentest2:00:033:RUup)



Detector Support Group

Weekly Report, 2020-02-12

Hall C – Magnet Screen Conversion

- Created momentary push buttons for *Hall C Q1 PSU Setup* CSS-BOY screen
- For the push buttons to work properly reconfigured LabVIEW EPICS server to reflect that some PLC tags are Boolean data types instead of Double Integers

Hall D – WEDM

- Replaced SOE indicators on Solenoid Interlock with “multi-state” indicators to better replicate CSS screen’s behavior

DSG R&D – MSELV Chassis

- Added outputs to FPGA to control status LEDs on chassis for FPGA and PLC communications
 - ★ Old chassis had a RS-232 communication status LED but since new sbRIO chassis removes need for RS-232 communication, LED was repurposed to indicate PLC communication status
- Began compiling cost list for boards and parts for a new chassis
- Researched component pricing for the MSELV RMC PCB board
 - ★ The cost estimate is less than 200\$ per board

DSG R&D – EPICS Data Logger

- Developed python code to do linear regression of time series data
- Plot shows that despite the MYA data showing a flat line there was a clear downward trend in temperature over the two hour period data was archived.

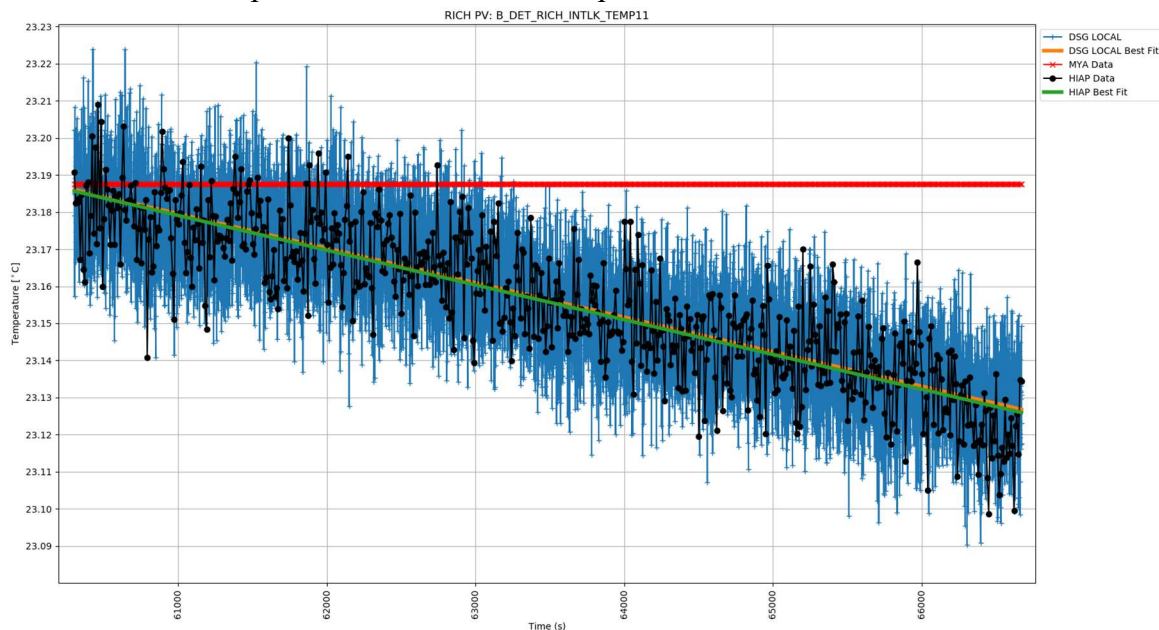


Figure shows the comparison between the three data archiving methods for temperature input data. Additionally, it shows best fit lines for DSG local and HIAP archiving methods