Detector Support Group

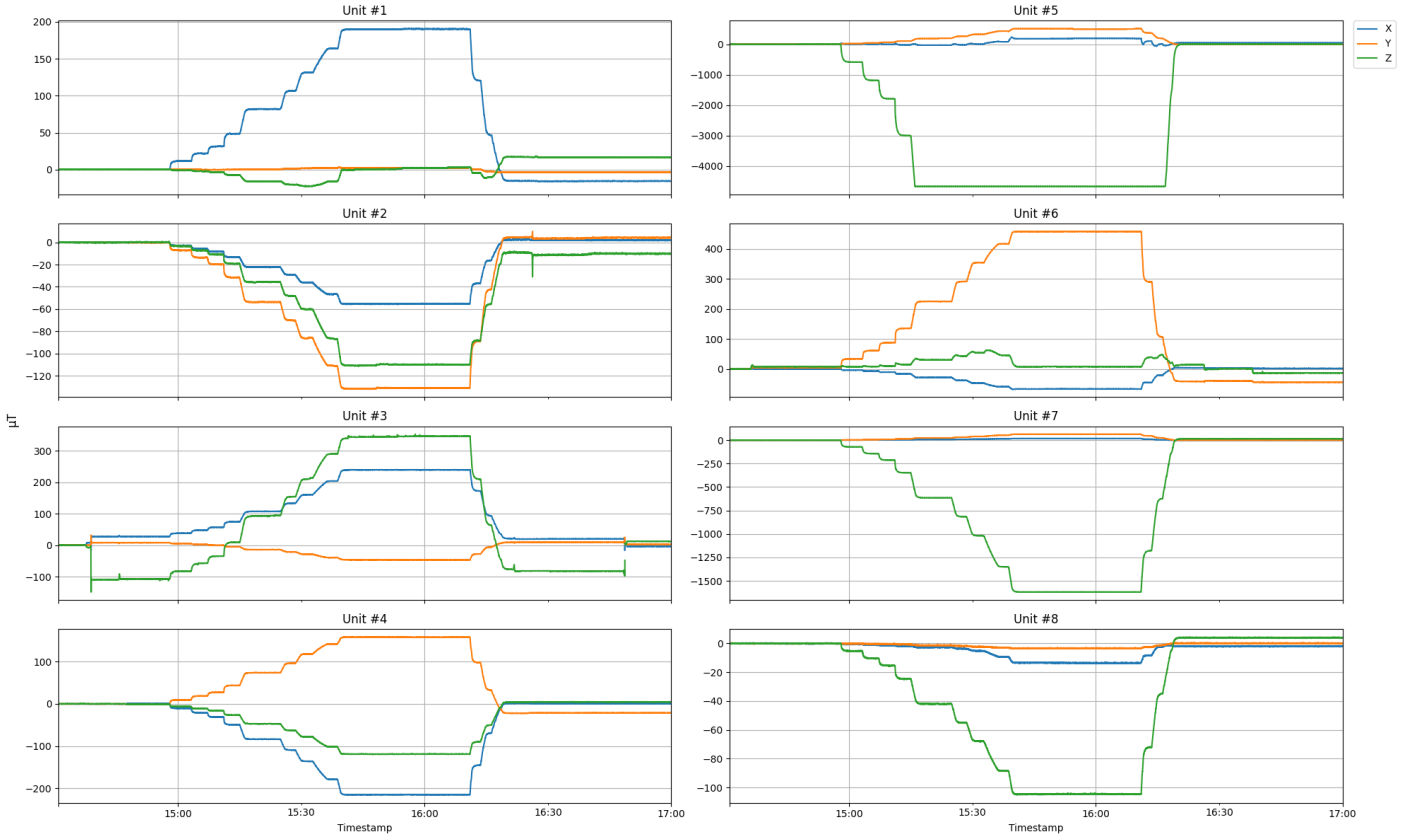
We choose to do these things "not because they are easy, but because they are hard".

Weekly Report, 2023-04-05

Hall A – CLEO

Brian Eng

- Manually changed orientation of sensor data so all field mapping units have common coordinate system; generated subplots of each unit



Hall A – ECAL

Brian Eng, Tyler Lemon, and Marc McMullen

- Creating a new Ansys SpaceClaim model for the aluminum wraps around the lead glass blocks; suspect the wraps are causing meshing problems

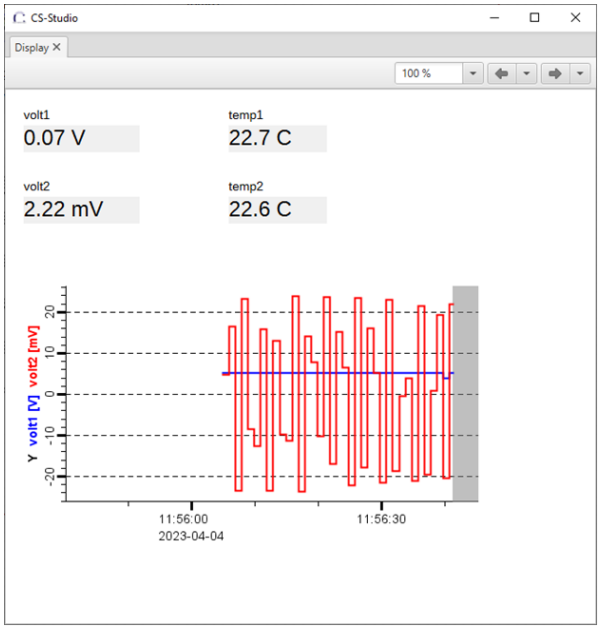
Hall A - GEp

- Completed second high voltage box
- Wired two Fischer connectors and fabricated 48 sets of ground jumper wires for the third box

Hall A – Møller

Mary Ann Antonioli and Brian Eng

- Created test IOC to communicate with Siemens PLC; made test Phoebus screen to view the process variables



  - ✶ Will test scan rate further, since periodic polling does not match up with fixed pulse input, e.g. EPICS PV record with poll rate of 100 ms does not get updated data every 100 ms
- Combined the four Phoebus screens with voltage displays as a list into one screen

Hall A – SoLID

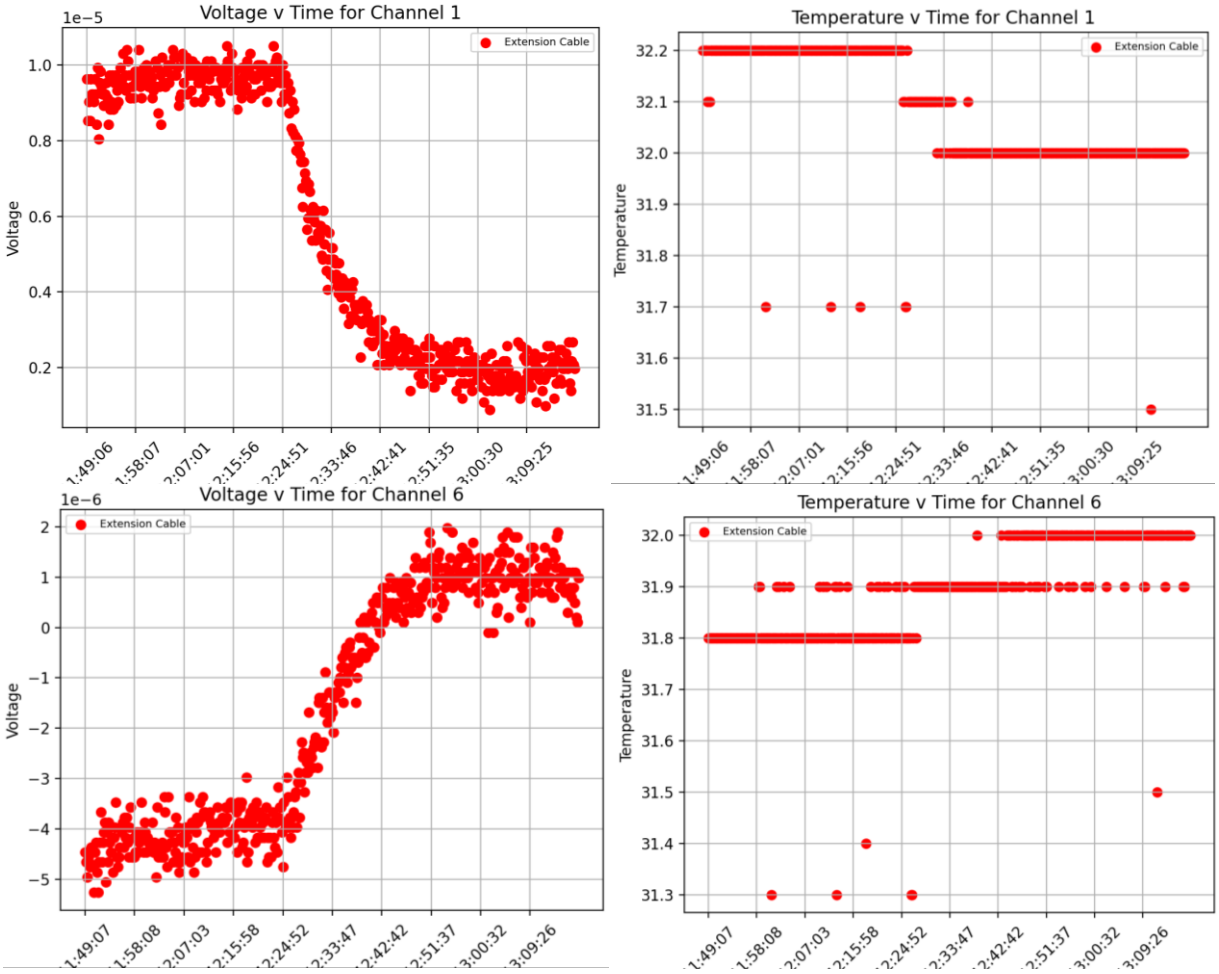
Pablo Campero

- Debugging warnings in FactoryTalk View data logger system
  - ✶ Created SQL database file
  - ✶ Attempted to transfer data from backup files to SQL Lite database file; failed
  - ✶ Failed to install SQL data Server since system needs to be rebooted

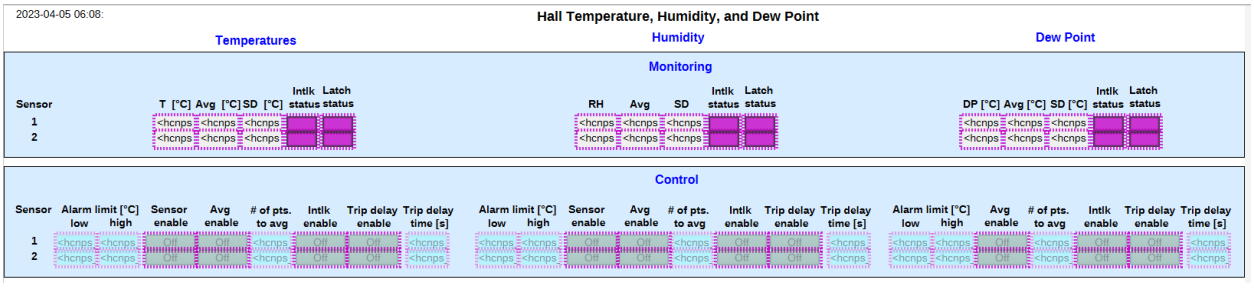
Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Mindy Leffel, and Marc McMullen

- Developing softIOC to host the thermal readback process variables; tested the softIOC to give one of the process variables a new value
- Made plots of temperature vs time and voltage vs time for the 40 thermocouples in terminal block 1, using one Keysight extension cable
  - ✶ Thermocouples are incorrectly wired, giving temperature and voltage a positive slope



- Continued making new Phoebus screens, without using arrays
  - ✶ Added controls to crystal zone back and electronics zone screens; these screens are completed.
  - ✶ Made new screen for hall

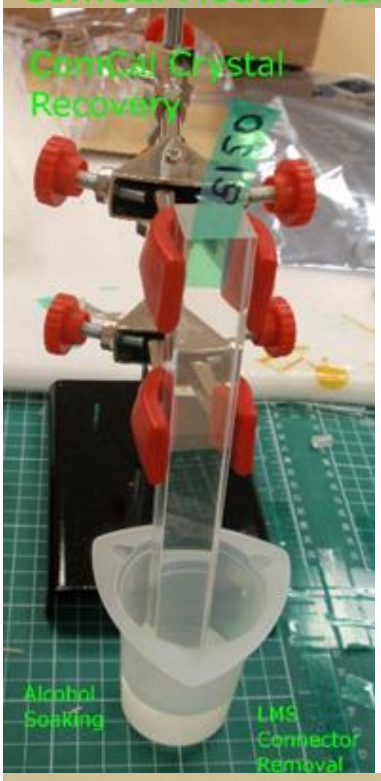


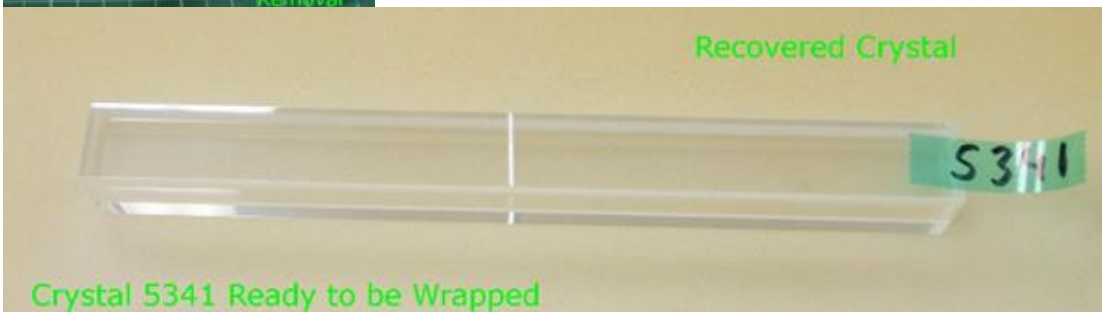
  - ✶ Made monitoring portion for detector frame and chiller coolant
  - ✶ Updated spreadsheet with additional PVs
- Evaluated the implementation of Phoebus alarm system archiver

Hall D – JEF

George Jacobs

- Disassembled, cleaned, and inspected 15 crystals

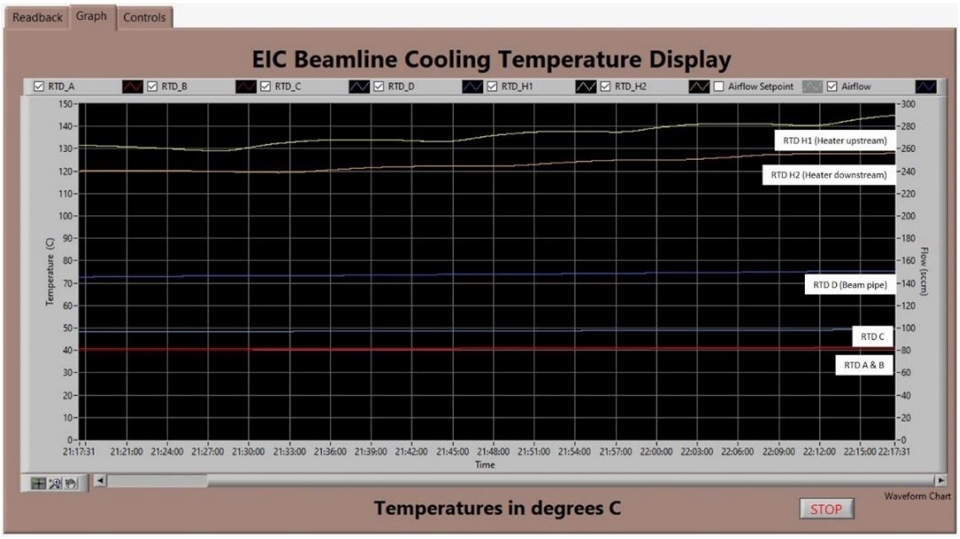




EIC- Test Stand

Brian Eng, Pablo Campero, George Jacobs, and Marc McMullen

- Completed initial heat-up test to ~100°C on the simulated beampipe
- Modified temperature ramping code to slow the heating process (the top plotted line for RTD_H1 below)

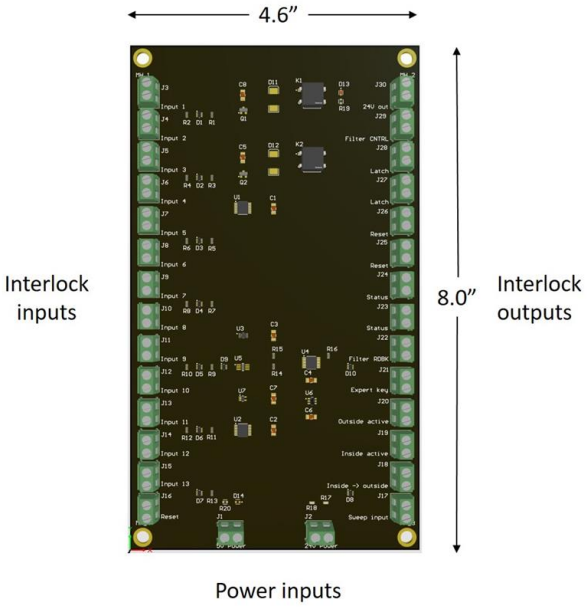


- Set Omega process controller to shut down power to the heater and latch before the flash point of the mineral oil (186ºC)

EIC-DIRC

Tyler Lemon and Marc McMullen

- Created physical prototype of photodiode DAQ readout circuit
  - ✶ Converted 15-mA input into a ~5-V output with a transimpedance amplifier
  - ✶ Investigated and successfully tested single power supply version of the op-amp circuit
- Made cardboard prototype for holder of sensor that monitors position of optical table sidewall; checking hole spacing and proper height
- Completed initial placement of all components on laser interlock board design and changed through-hole decoupling capacitors to surface mount type



DSG Website

Peter Bonneau, Tyler Lemon

- Created missing Ansys R&D meeting minutes from weekly report and posted them on website
- Developing new revision of main webpage