Detector Support Group

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

Weekly Report, 2021-12-01

Summary

Hall A – SoLID

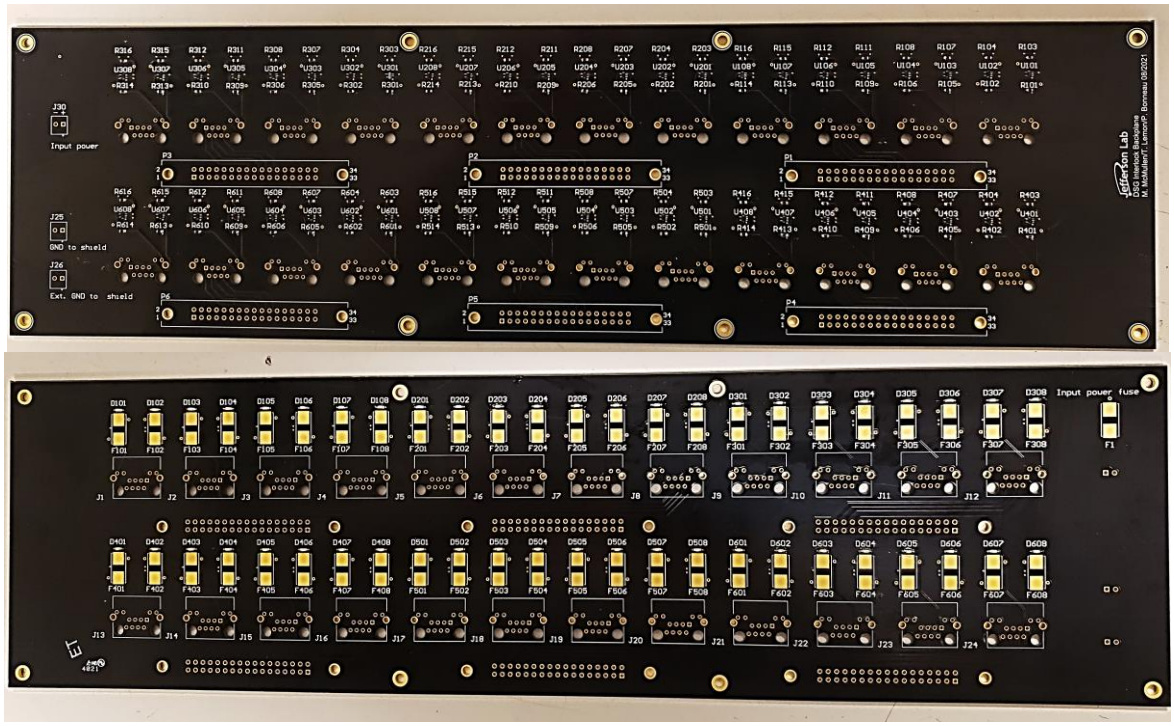
Mary Ann Antonioli, Pablo Campero, Brian Eng, Mindy Leffel, and Marc McMullen

- Completed drawing A00000-16-03-0000, an index of drawings
- Converting EPICS CSS-BOY screens to CSS Phoebus screens
- Fabricated 19 cables: 16 ferrule-to-ferrule and three ferrule-to-DB9 connector

Hall B – RICH-II

Mary Ann Antonioli, Peter Bonneau, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, and Marc McMullen

- Testing hardware interlock system RMC
  - ✶ Created prototype adapter to connect 37-pin IDC header to breadboard
  - ✶ Verifying voltages and signal routing through RMC to sensor PCB are correct
- Contacted hardware interlock chassis fabricator, Par-metal, to procure two chassis
- Fabricated four Molex cables; 17 of 24 complete
- Populating one of two backplane PCBs (~25% complete)



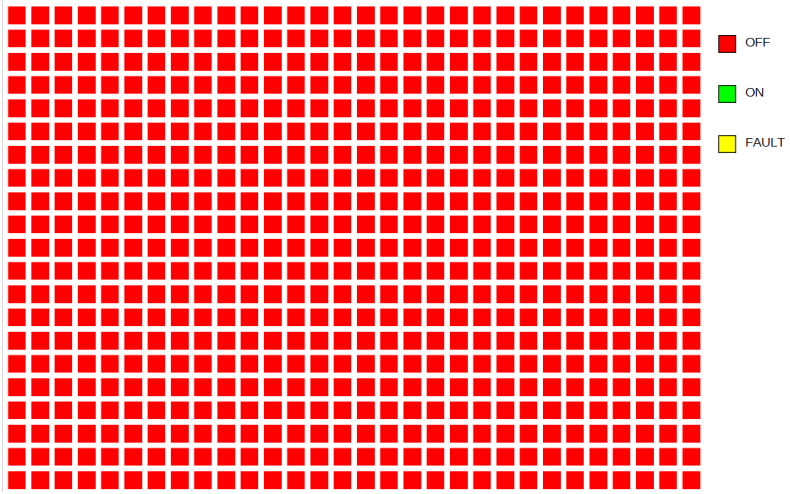
Backplane PCB top and bottom layers

Hall C – NPS

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

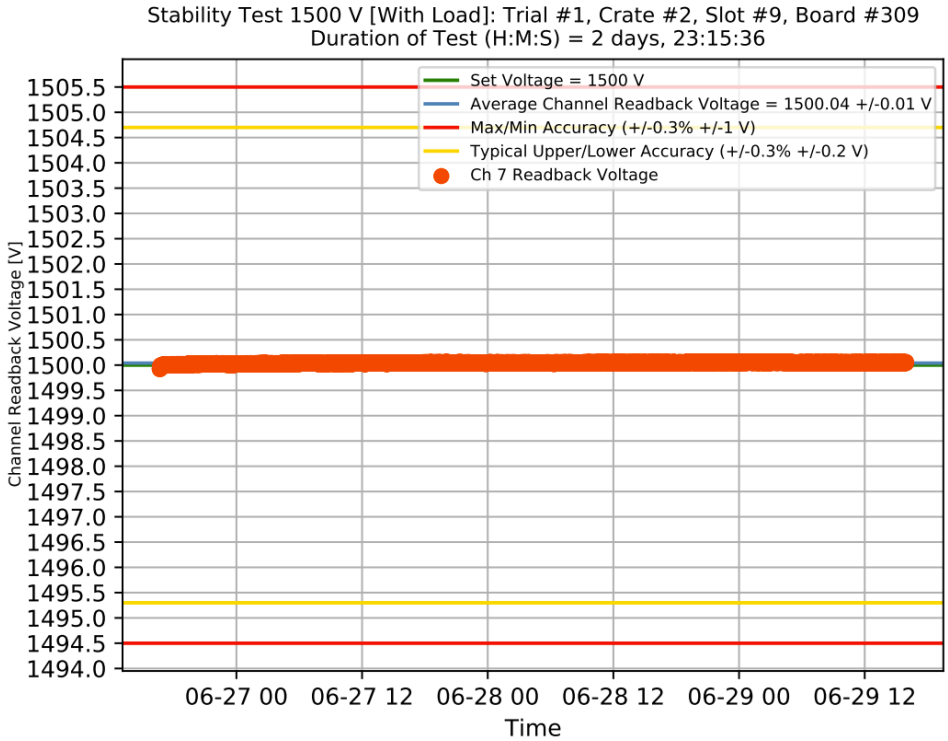
- Developed Python script to generate *NPS Overview* Phoebus screen

- ✶ Screen features an embedded display for each PMT channel that changes color to indicate if channel is on, off, or in a fault state
- ✶ Each embedded display, when clicked, opens a pop-up window (*PMT Status*) that details the nature of the fault and displays readback voltage and current



Screenshot of *NPS Overview* CSS Phoebus screen

- Developed IronPython script, in Ansys, to export temperature probe values to a text file
- Developed Python script to generate voltage stability plots for all channels of a module to be included in the DSG testing & analysis MariaDB database



Plot of voltage stability for module 309 channel 7

- Developed list of LabVIEW programs needed for the hardware interlock system
- Worked on ESR film pre-shaping – 320 of 600 completed (~55%)

EIC

Pablo Campero, Brian Eng

- Generated, using NX12, new simplified model of Be beam pipe and Si sensor L1 and imported to Ansys
    - ✶ Shortened the length of the Be pipe from 1470 mm to 320.5 mm; the same length as the Si sensor L1
    - ✶ Performing calculations and evaluating/verifying results