

Detector Support Group

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

Weekly Report, 2022-07-13

Summary

Hall A – GEN-II

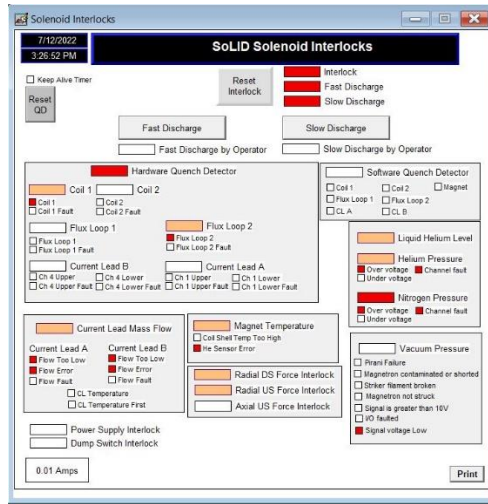
Mindy Leffel

- Terminated, tested, and labeled 60 RG59 SHV cables – 340 of 400 complete

Hall A – SoLID

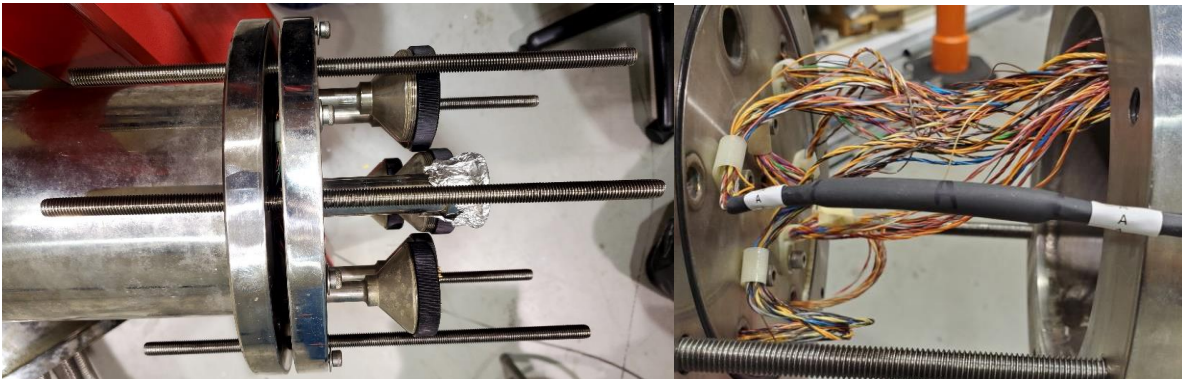
Pablo Campero, Mindy Leffel, and Marc McMullen

- Completed *SoLID Solenoid Interlocks* HMI screen



Screenshot of Interlocks HMI screen

- Debugged radial support load sensors readout – wiring was corrected at Dataforth signal conditioning modules
 - ★ Fourteen of sixteen are working now, two remaining sensors could be bad
- Developing FactoryTalk View data logger
- Labeled wires in flanges B through F, inserted rods, and started cutting wires



Rods inserted (left); flange A wires isolated (right)



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Hall B – RICH-II

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

- Updated and deployed Hardware interlock system CSS-BOY screens to clascss

Hall C – NPS

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

- Developing Python script to generate GUI for high voltage settings
 - ★ Modified GUI so that input fields are no longer populated with values when the GUI is opened
 - ★ Only the parameters for which values are input are sent to the CAEN crate; these values are saved to a timestamped text file
- Developing Ansys Fluent thermal simulations which include heat exchangers' heat removal effects by adding rotation to the fans in a perfectly isolated detector enclosure
 - ★ Modified geometry, added planes with sketches to separate multiple contact regions in the electronics volume and air volume that contain the crystals
- Tested high voltage supply cables using Python – 40 of 40 cables tested
- Terminated four divider cables consisting of three connectors: Samtec, SHV, and BNC



Terminated BNC-to-Samtec SHV cables

Hall D – JEF

Mary Ann Antonioli, Aaron Brown, George Jacobs, and Mindy Leffel

- ESR foil pre-shaping – 1691 foils complete

EIC

Pablo Campero, Brian Eng

- Attended Detector 1 tracking meeting – replaced the inner MPGD with an outer Si layer to improve tracking resolution (near yellow report levels)



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DSG R&D – EPICS Alarm System

Peter Bonneau

- Configuration and debugging of 2.13-3.2.0 Kafka for the alarm system
 - ★ Completed debugging errors on startup of Kafka Zookeeper – rewrote configuration files to support the new versions of both Kafka and Phoebus
 - ★ Debugging errors on startup of the Kafka server

DSG R&D – PXI R&D

Peter Bonneau and Tyler Lemon

- Modifying SHT35 sensor readout program for PXI as a way to become familiar with modules and architecture
 - ★ Program uses two DIO channels in PXIe-7846R R-series mixed input/output module as clock and data lines for I²C communication
 - ★ Once program successfully converted to run on PXI, timing will be adjusted to test out PXI's faster timing and different capabilities