Detector Support Group
**Weekly Report, 2020-05-20**

Summary

EIC
Brian Eng
- Initial BlueJeans meeting with Brookhaven National Laboratory
  - ✷ Converted STEP file model of their Hall to DWG

Hall A – SoLID Magnet Controls
Mary Ann Antonioli, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, Marc McMullen
- Added six PLC tags to read pressure and flow rate for GHe (300 K), LHe(4.5 K) supply and He warm return
  - ✷ PVs to be associated with cryoplant EPICS PVs
- Modified PLC code for load cells and strain gauges sensors
  - ✷ Added PLC tags to monitor interlock status for each sensor
  - ✷ Added PLC tags to the SoLID program to enable interlocks for each sensor
- Continued developing PLC code to control JT valves for heat exchanger
  - ✷ JT valves will control LN2 and LHe flows
- Added GitHub repositories to store PLC code
- Completed axial and radial supports CSS screen
  - ✷ Tested and debugged
- Completed initial routing of the *Motor Controller Relay* board
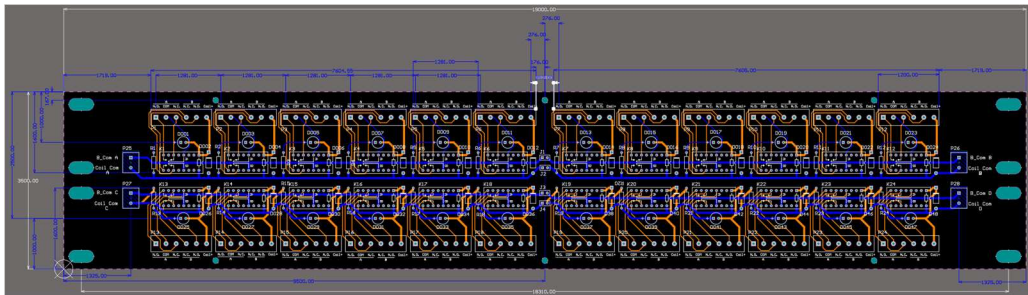
Altium routing design of Motor Controller relay board

- Modified *Cryo Control Reservoir* HMI screen
  - ✷ Added controls and monitoring features and animations for *Warm Return* valve
  - ✷ Verified JT valve location and labels displayed on the screen
  - ✷ Added error handler animation for seven JT valves
- Modified *Radial and Axial Support Expert* HMI screen
  - ✷ Added reset interlock button
  - ✷ Added PLC tags for all indicators and controls
  - ✷ Tested modification on the screen
- *Radial and Axial Support Expert* CSS-BOY screen under development
  - ✷ Verified that correct PLC tags are used on HMI screen
  - ✷ Updated database spreadsheet with PLC tags and proposed EPICS PVs
- Developed *Solenoid-Radial Supports* CSS-BOY screen

- Adding ability to Test OPI Creator to place text or numeric controls on to test screens to allow more complete testing of rules
  - ✦ Previous version only placed Boolean controls on test screen for rule testing, but some rules also require text/numeric inputs to trigger the rules
- Rewriting Test OPI Creator to consolidate parsing of OPI for PVs and rules

Hall A – SoLID HGC
George Jacobs
- Continued modification and updates for HallA/HGC gas system drawing

Hall B – SVT Hardware Interlock System
Peter Bonneau
- Developing new system initialization routine for startup after power cycle

HDice - fsNMR Program
Peter Bonneau, Tyler Lemon
- Program testing was successful and returned correct data
- HDice group requested additional new features not previously mentioned in initial request

Hall C CAEN - HV Test
Aaron Brown, George Jacobs
- Continued analysis of stability test data in Excel for module 0302 and 0262
  - ✦ Error bars on plots are standard deviation of voltages during stability test

CAEN Module 0302 LOADED Average Voltages
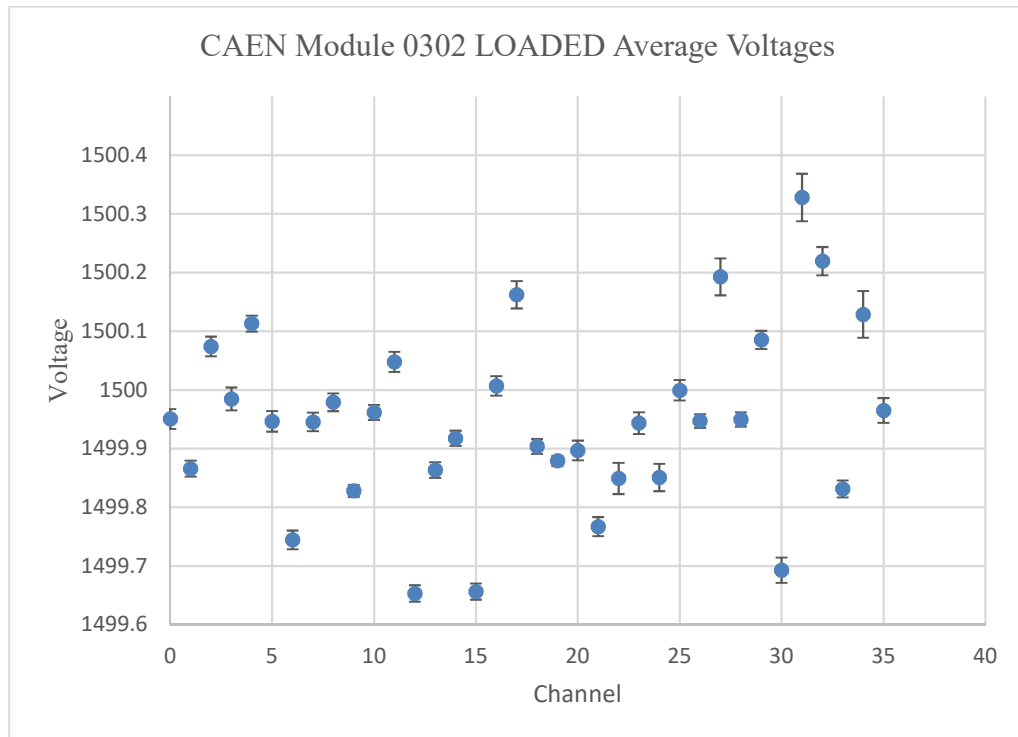
Average channel voltage of module 0302 during stability test with load
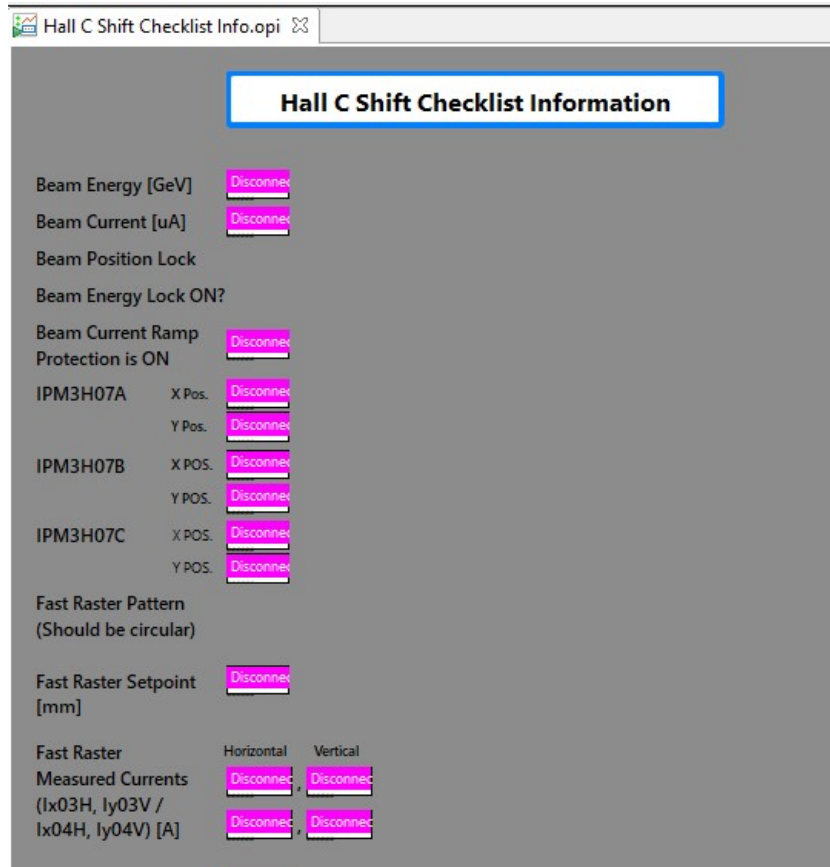
Hall C- Magnets CSS Screen Development
Mary Ann Antonioli, Pablo Campero, Brian Eng, Aaron Brown, Tyler Lemon
- Continued HMS Dipole NMR CSS screen

Hall C – CSS-BOY Screen Development for Checklist
Peter Bonneau, Tyler Lemon, Aaron Brown
- Generating CSS-BOY screen for the Hall C Shift Checklist

Hall C Shift Checklist Information CSS-BOY screen under development

Hall C – NPS
Aaron Brown, Mindy Leffel
- Continued developing ComCal Control screen
- Started developing of Overview screen

Hall C ComCal HVControl CSS-BOY screen under development

- Continued fabrication of NPS HV diverter cables, 50 cables completed

DSG R&D - RICH
Peter Bonneau,
- Reviewed specifications for next-generation National Instruments sbRIO-9629
  - ✶ Single board controller being considered for RICH hardware Interlock System