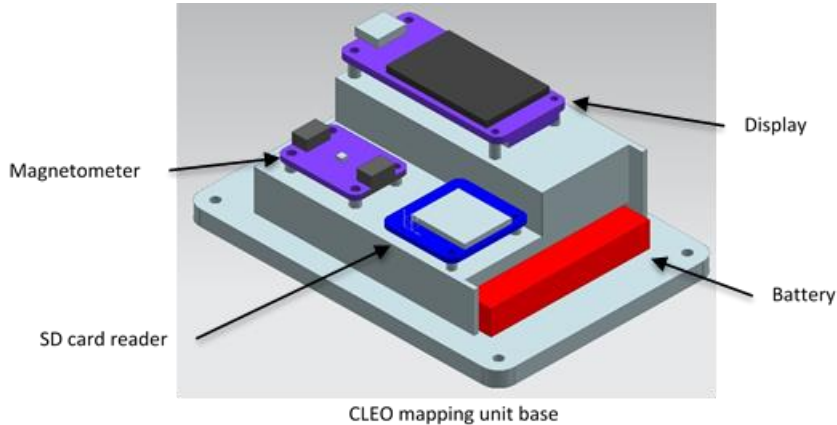## Hall A – CLEO Magnet

Aaron Brown, Brian Eng

- Continued NX12 design of sensor enclosure

NX12 model for 3D-printed enclosure base

- Total time needed for measurements is the scale from few hours to one day at most
  - ✶ Removing code that was for saving power, as this is no longer needed, and the display was having issues restarting after deep sleep

Hall A – Møller

Brian Eng

- Met with Probir to go over instrumentation and controls
  - ✶ Switching all temperature sensors to PT100s
  - ✶ Need a cost comparison between using PLC modules vs MSLEV chassis
  - ✶ Need to identify flow meters

Hall A – SoLID

Mary Ann Antonioli, Pablo Campero, Mindy Leffel

- Wired five flanges; all six complete
- Completed modifications to PLC code to monitor the axial and radial supports sensors
  - ✶ Created routines that compare each load sensor readout against warning limits and interlock limits
  - ✶ Added PLC tags to allow input of the high and low limits
  - ✶ Implemented routines to main PLC logic
  - ✶ Added code to generate slow ramp down when axial or radial supports sensors are out of set limits
- Modified *Radial & Axial Supports – Expert* HMI screen
  - ✶ Added inputs for each axial and radial support sensor to control the high and low warning and slow ramp down thresholds
  - ✶ Tested modifications; no problems

Solenoid_radial_axial_supports_expert - /SoLID_SolenoidV4//

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Solenoid Radial & Axial Supports - Expert

Radial Supports - Upstream

	Radial Support Load [Kgf]	Warning Threshold Low	High	Slow Ramp Down Threshold Low	High	Enable Interlock	Warning Status	Interlock Status	Sensor Read Fault
Radial_A	158.5	50.0	157.6	0.0	150.0	Enable	Warning	(red)	(green)
Radial_B	2322	0.0	2400.0	0.0	2500.0	Enable	OK	(green)	(green)
Radial_C	785.5	0.0	800.0	0.0	900.0	Enable	OK	(green)	(green)
Radial_D	164.4	0.0	260.0	0.0	300.0	Enable	OK	(green)	(green)
Radial_E	178.8	0.0	260.0	0.0	300.0	Enable	OK	(green)	(green)
Radial_F	180.2	20.0	30.0	0.0	900.0	Enable	Warning	(green)	(green)
Radial_G	2248	0.0	2400.0	0.0	2500.0	Enable	OK	(green)	(green)
Radial_H	189.3	39.0	3600.3	0.0	300.0	Enable	Warning	(green)	(green)

Radial Supports - Downstream

Radial_J	182.0	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)
Radial_K	2191	0.0	2400.0	0.0	2400.0	Enable	OK	(green)	(green)
Radial_L	178.2	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)
Radial_M	182.0	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)
Radial_N	179.1	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)
Radial_P	175.3	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)
Radial_R	2333	0.0	2400.0	0.0	2400.0	Enable	OK	(green)	(green)
Radial_S	169.7	0.0	260.0	0.0	260.0	Enable	OK	(green)	(green)

Axial Supports - Upstream

Axial_T	1.51	0.0	100.0	0.0	200.0	Enable	OK	(green)	(green)
Axial_V	40.03	15.0	200.0	10.0	80.0	Enable	OK	(green)	(green)
Axial_W	26.52	0.0	300.0	0.0	50.0	Enable	OK	(green)	(green)
Axial_X	-14.1	-14.3	400.0	-20.0	600.0	Enable	OK	(green)	(green)

Reset Interlocks

Radial Supports - Upstream (red)
Radial Supports - Downstream (green)
Axial Supports - Upstream (green)

Radial & Axial Supports
Radial Supports

Print

Solenoid Radial & Axial Support – Expert HMI screen

Hall B – Magnets
Brian Eng
- Solenoid fast dump: https://logbooks.jlab.org/entry/4067563
  - ✶ No obvious causes; the sequence of events module lost communication and needed to be power cycled

Hall C – NPS
Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Brian Eng, Tyler Lemon, Marc McMullen
- Completed fabrication of humidity sensor power distribution panel
  - ✶ Discussed with Brad Sawatzky the design of, and connections to, the +5 V power distribution box for the relative humidity sensors
  - ✶ The cable from the power supply to the distribution panel will be 8-conductor (four twisted pairs) terminated with an 8-pin connector
- Began low voltage Phoebus screen
- Reviewing the Phoebus screens manual
- Reviewing documentation of the VME LED Driver (VLD) module
- Discussed procedure to test Phoebus screens, set up computer for testing, and began testing the *Front Crystal Zone Temperature Monitoring* screen
  - ✶ Contacted computer center to move the Keysight mainframe and the NPS cRIO from the Hall B development subnet to the Hall C development subnet
  - ✶ Copied the hardware interlock LabVIEW program to the NPS cRIO; verified that program runs correctly
  - ✶ Installed CSS-Phoebus software on computer

- Will provide a simplified version of the hardware interlock LabVIEW program for NPS testing in the EEL building
  - ✦ The ability to disable sensors will be removed
- Tested 12 relative humidity sensors to be used for NPS – the readback of all 12 sensors' relative humidity was within 2–3% of the control relative humidity sensor
- Developing test IOC on DSG development PC for MPOD low voltage communication to EPICS
  - ✦ Investigating how to add SNMP command capabilities (how MPODs communicate over the network) to an EPICS IOC

Hall D – JEF
Mindy Leffel
- Wrapped eight crystals

EIC
Pablo Campero, Brian Eng, George Jacobs, Marc McMullen
- Beampipe PR was delayed; assigned buyer on 10/25

EIC - DIRC
Tyler Lemon, Marc McMullen, Peter Bonneau
- Met with DIRC group to discuss laser room infrastructure and interlock system
- Laser interlock system circuit
  - ✦ Latest system will use a timed relay for laser enable contacts
  - ✦ Has keyed switch for allowing control from and lockout of an exterior control panel
    - o Exterior control panel will duplicate *immediate status*, *latched status*, *reset active*, *bypass active*, and reset button so it can be seen from outside of laser area
  - ✦ Compiling list of parts and instrumentation needed for laser interlock system
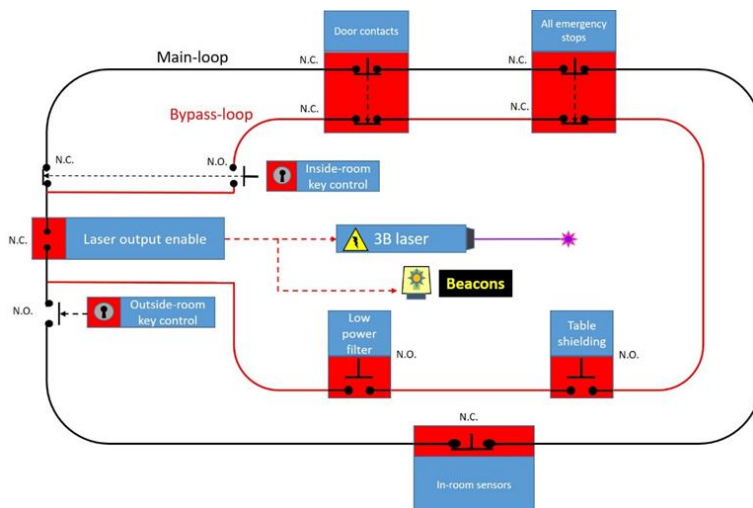
Laser interlock controls diagram

- Investigating more readily available instrumentation for photodiode data acquisition
  - ✦ National Instruments and Keithley options have ~16 week lead times
  - ✦ Can receive an Arduino external ADC and display in 2-3 weeks from ordering
- Submitted the laser task hazard analysis, laser operating procedure, and laser specific training plan to Laser Safety Officer Jenn Williams for review