



Detector Support Group

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

Weekly Report, 2023-11-08

Hall A – ECAL

Brian Eng and Marc McMullen

- The test stand is at operating temperature of $\sim 220^{\circ}\text{C}$ on the front face of the crystals; total beam exposure is 56 coulombs of charge

Hall A – GEM

Marc McMullen

- Troubleshoot gas flow on channels
 - ★ Gas flow valves were closed to do maintenance downstream of the distribution system
 - ★ The internal gas lines were over-pressured and unseated from the sensors inside the gas flow sensor chassis; resealed the gas lines

Hall A – Moller

Brian Eng

- Completed first draft of tests to perform on-site at OCEM after factory acceptance test is completed

Hall A - SoLID LAPPD

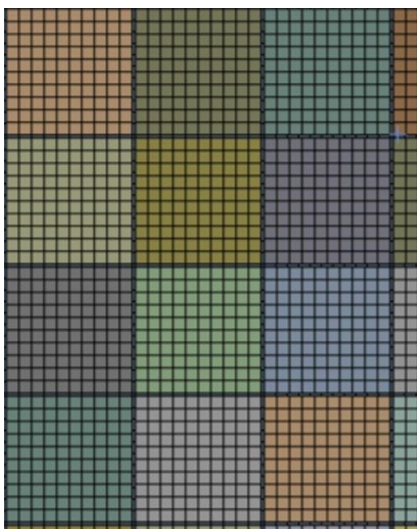
Pablo Campero

- Reviewed technical specifications of translation stage system; created PR

Hall C – NPS

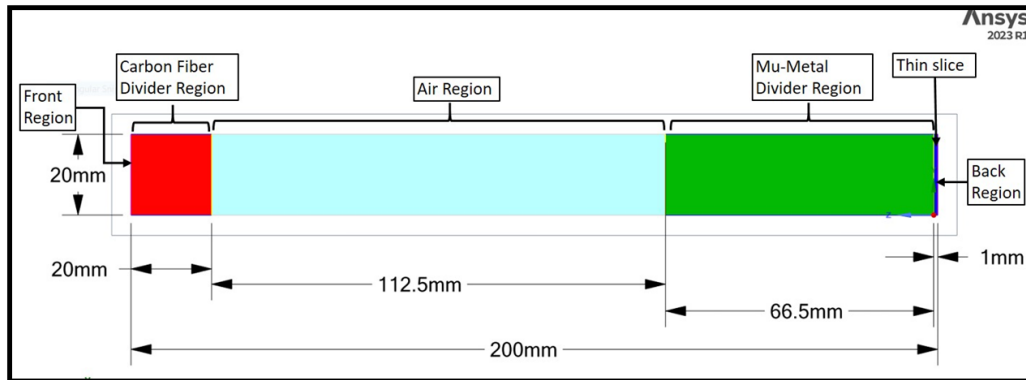
Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, and Brian Eng

- Resolved issues updating meshing of crystal array model using Ansys Mechanical Transient Thermal
 - ★ Generated a finer mesh for the crystal, but may be too fine (1,839,998 elements total); simulation has been running for more than 24 hours and is only at 37%



Screenshot of portion of crystal array mesh.

- Continued revision of LabVIEW control and monitoring software
- Made diagram of a single crystal used for Ansys Mechanical Thermal analysis



Crystal with five regions and added thin slice.

HalD – FCAL2

Mindy Leffel

- Populated 40 PMT bases; 765/1750 completed

EIC – Beampipe Thermal Test

Pablo Campero

- Re-doing Ansys Mechanical meshing due to issues found during first attempt of simulation
 - ★ Resized the mesh cells of the beryllium part in the z-axis
 - ★ Meshing inner volume of the beampipe

EIC - DIRC

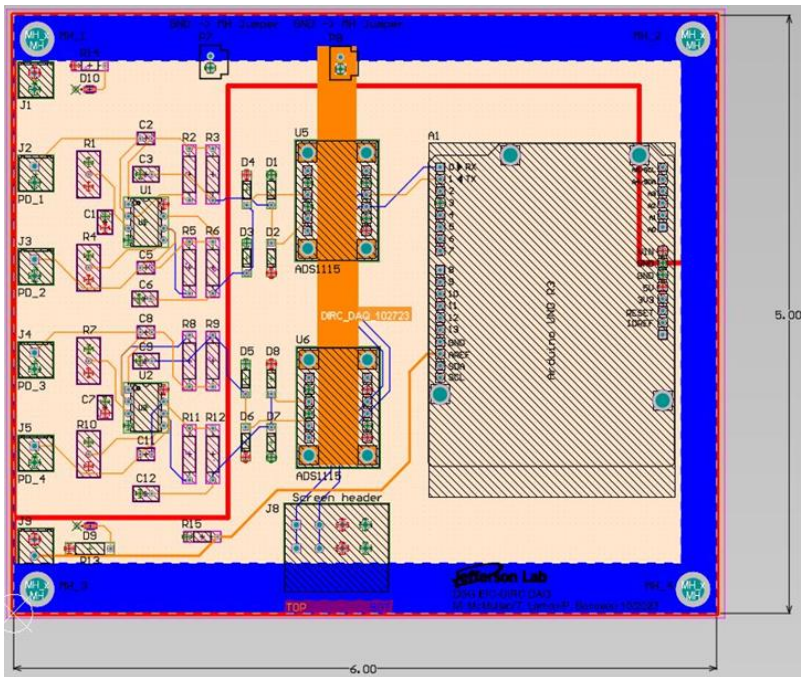
Peter Bonneau, Brian Eng, George Jacobs, Tyler Lemon, and Marc McMullen

- Started 3D printing of horseshoe clamps for holding quartz bars in test station



Printed horseshoe clamp. The white portions are polyvinyl alcohol supports that will be removed with water.

- Completed initial routing of the DAQ PCB; under review



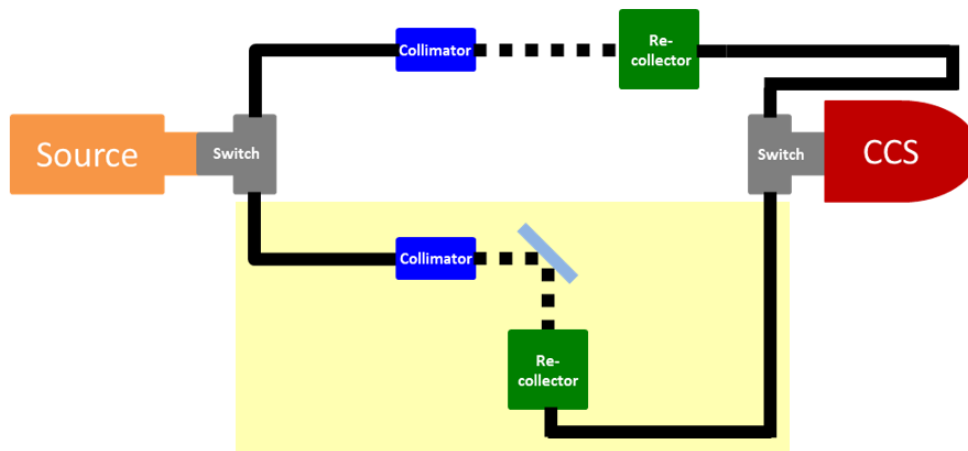
Four-layer DAQ PCB with routed traces.

- Testing and documenting system startup procedures for Phoebus alarm test of interlock
- Started wiring components of cRIO chassis for Phoebus alarm test of interlock

EIC – RICH

Tyler Lemon

- Compiled parts list for one path of compact CCD spectrometer reflectivity test station; will be used for functionality tests



Reflectivity test station with one path highlighted in yellow.



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DSG

Peter Bonneau, Aaron Brown, Mindy Leffel, Tyler Lemon

- Website
 - ★ Updated title headers on photos of supported detectors
 - ★ Added *Talk* to Document Type search parameter
 - ★ Using JavaScript, partitioned document titles into two sections – first section contains publication date and number; the second section contains the document title and author

The screenshot shows a search interface with several filter dropdowns: Year (2018-2023), Author (Mary Ann Antonioli, Peter Bonneau, Aaron Brown, David Butler, Pablo Campero, Brian Eng), Group (DSG, Hall A, Hall B, Hall C, Hall D, Accelerator), Detectors & Magnets (BONUS, CLEO, DIRC, DRIFT CHAMBER, ECAL, FCAL), Keyword (Alarm, Ana, Ansys, ASIC, BigBite, Board), and Document Type (Note, Publication, Talk). Below the filters is a 'Clear Selected Filters' button and a search input field labeled 'Enter search-word'. The search results table below shows three entries:

Date	Title	Author
2016-04-26 Talk #03	DSG: DSG Report	by Amrit Yegneswaran
2016-04-22 Talk #02	Hall B: Controls & Monitoring for Gas System	by Marc McMullen
2016-04-05 Talk #01	HDice: Progress Review of Controls and Monitoring System	by Peter Bonneau

Website search page showing added Document Type and new search results formatting.

- ★ Started Notes spreadsheet to be used for a future website upgrade; completed 2015 and 2016
- Set up new Ultimaker S7 3D printer; calibrated, configured with IP address (for monitoring), debugged feed problems, and fabricated test prints