



Detector Support Group

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

Weekly Report, 2022-06-22

Summary

Hall A – GEn-II

Mindy Leffel

- Terminated seven RG59 SHV cables, tested and labeled 48 of 400

Hall B – SVT

Brian Eng

- Completed a gain scan; analyzing resultant data file
 - ★ Register test passes except for register 16, which controls the data lines, but error occurs beyond the valid range, as it should

Hall C – NPS

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

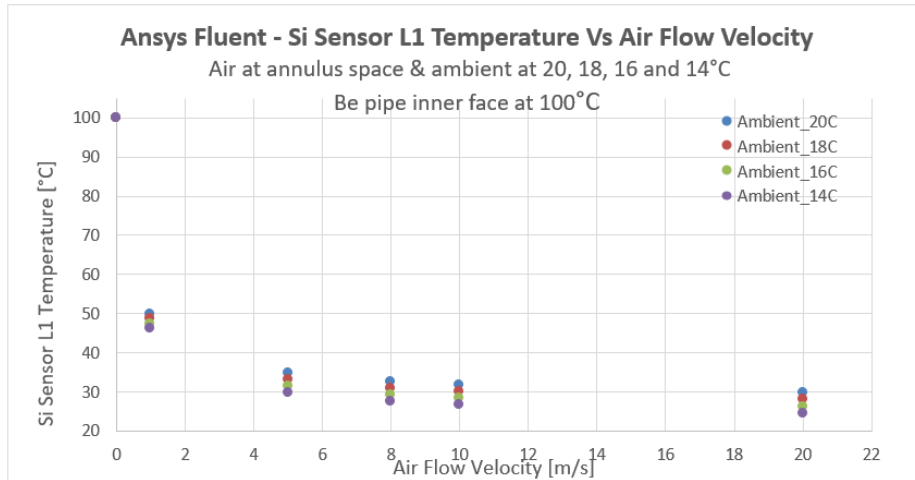
George Jacobs, Mindy Leffel, Tyler Lemon, and Marc McMullen

- Developing hardware interlock LabVIEW program
 - ★ Creating local variables, network variables, process variables
- Developing configuration file control subVIs for hardware interlock LabVIEW program
 - ★ Wrote Python program to generate initial configuration file
 - ★ Debugging issue where only one column of configuration file data is retained by subVI
- Developing hardware interlock system Phoebus screens for EPICS user interface
 - ★ Modified crystal zone cooling circuit alarm limits screen to sensor controls screen – added sensor enable, averaging enable, interlock enable, and trip enable buttons, and trip delay time input
 - ★ Redesigned main menu screen; created two sections: monitoring and controls
 - ★ Created electronics zone controls screen and detector frame controls screen
 - ★ Changed electronics zone and detector frame screens to monitoring screens
- Developing Ansys Fluent thermal simulations which include heat removal effects of heat exchangers
 - ★ Ran simulation with air inlet velocity of 3000 m/s to verify air is flowing through heat exchanger

EIC

Pablo Campero, Brian Eng

- Generated simplified model with a separation of 4.25 mm between the outer face of the Be pipe and the inner face of the Si sensor layer 1
- Ran simulation for ambient air temperatures of 20°C, 18°C, 16°C, and 14°C and for different air flow velocities of 0, 1, 5, 8, 10, and 20 m/s

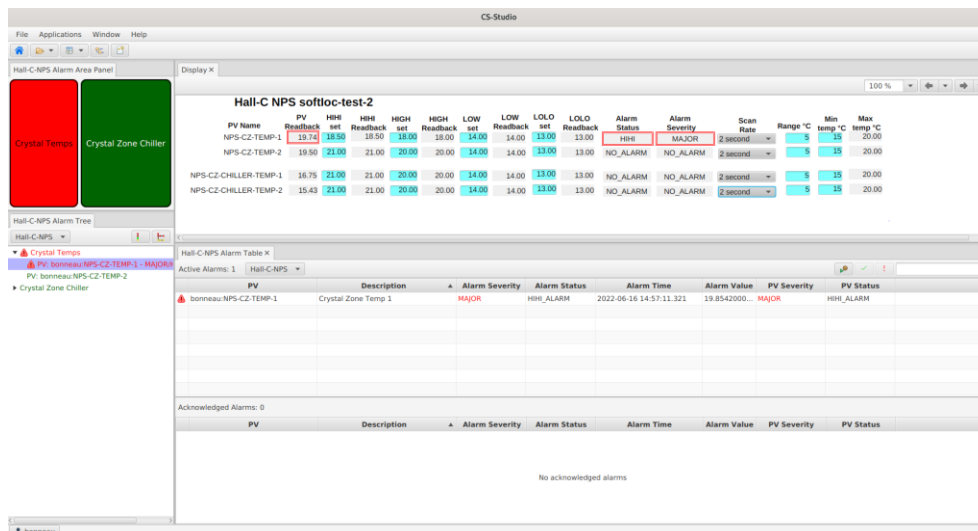


- Generating cable services
 - ★ MPGD – currently using BB/SBS GEMs (have all but LV cable)
 - ★ Silicon – have power and data cables from ALICE

DSG R&D – EPICS Alarm System

Peter Bonneau

- Developing a modular test station for the Phoebus alarm system
 - ★ Developed software to support the direct readout of alarms generated by the Phoebus alarm system’s EPICS test softIOC
 - The softIOC outputs the alarm status and the alarm severity for each of the PVs generated by the softIOC
 - The alarm status (HIHI, HIGH, LOW, LOLO) and severity (Major, Minor, No_Alarm) is transmitted to the Phoebus alarm server via EPICS channel access
 - ★ Added alarm status and severity indicators to the Phoebus alarm user interface



Phoebus PV Alarm Status and Severity in User Interface