

DSG-NPS R&D Meeting Minutes

Date: February 28, 2023

Time: 02:00PM – 02:30PM

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

1. Thermal readback errors

Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, and Tyler Lemon

1. The computer center was contacted to connect the production Keysight mainframe (currently located in EEL 108) on the Hall C subnet
2. Connected to the Keysight mainframe via ethernet (hostname: nps-mux-1) and read out front and back crystal zone temperatures using the installed Keysight cables attached to the multiplexers and terminal blocks
3. Some back crystal zone channels (multiplexer 1) are returning junk values; will swap known good cables from multiplexer 2 to determine if the problem is caused by the multiplexer or the cables
4. Reviewed email from Carlos Munoz
 - Will investigate the way thermocouples behave when wired improperly and see how to mitigate the issue using software only

[Dsg-internal] Fw: NPS temperature sensors in crystals

From: Carlos Munoz Camacho <munoz@jlab.org>

Sent: Tuesday, February 28, 2023 10:04 AM

To: Aaron Brown <ambrown@jlab.org>

Cc: Simona Malace <simona@jlab.org>

Subject: NPS temperature sensors in crystals

Dear Aaron,

we have just realized that the thermocouples on the NPS crystals have been wired the opposite way into the terminals: the green wire should go to the "H" slot and the white one should go to "L". This basically implies that when the temperature goes up, the reading goes down (and vice-versa).

We believe this is something that can be corrected by software, without having to recable all thermocouples (1-2 days of work). The readings would need to be calibrated, though (which was still needed even if the cabling have been done correctly).

Hopefully this is not a big issue, but I wanted to let you know as you will notice as soon as you (or Simona) start testing the temperature.

Best,
Carlos

2. Hardware

Aaron Brown and Marc McMullen

1. Developed Python program to automate extension cable test; user inputs cable number
 - Aaron will write a test procedure for George Jacobs who will be conducting the test
2. Reviewed discussion with Simona Malace regarding the high voltage supply cable lengths
 - Cables may be too short (140' may need to be increased to ~160')
 - Contacted vendor (General Wire Products) for new quote and lead time

3. LED controls

Aaron Brown and Brian Eng

1. Reviewed documentation provided by Bryan Moffit for LED process variable creation
2. Discussed what changes will be needed for the control screen to provide appropriate process variable access