

DSG-NPS R&D Meeting Minutes

Date: September 14, 2021

Time: 11:00 AM – 12:15 PM

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

1. Reviewed 09/07/2021 R&D Meeting minutes

DSG

1. Link for details: [09/07/2021 DSG-NPS R&D Meeting Minutes](#)

2. Reviewed 09/09/2021 Collaboration Meeting minutes

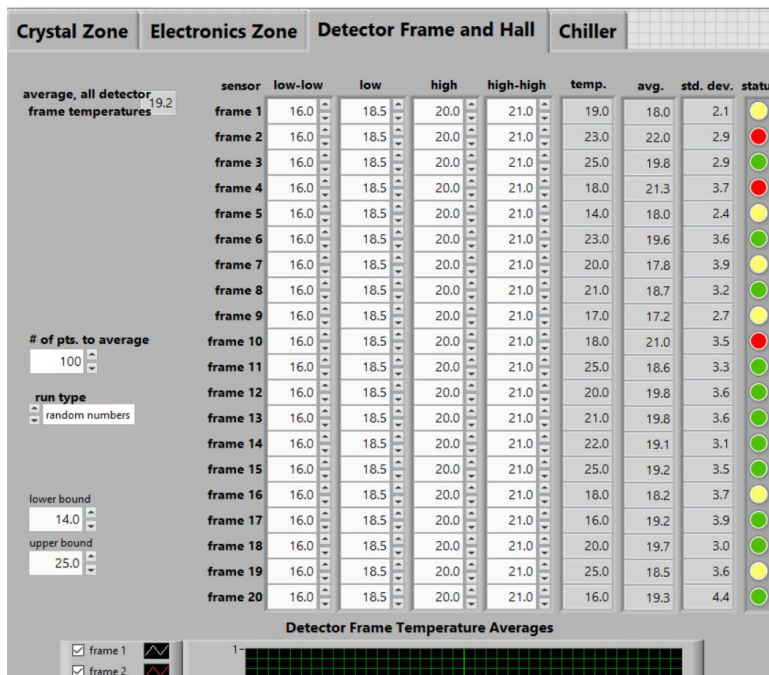
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1. Link for details: [09/09/2021 NPS Collaboration Meeting Minutes](#)

3. Hardware Interlock System development

Mary Ann Antonioli, Peter Bonneau, Aaron Brown

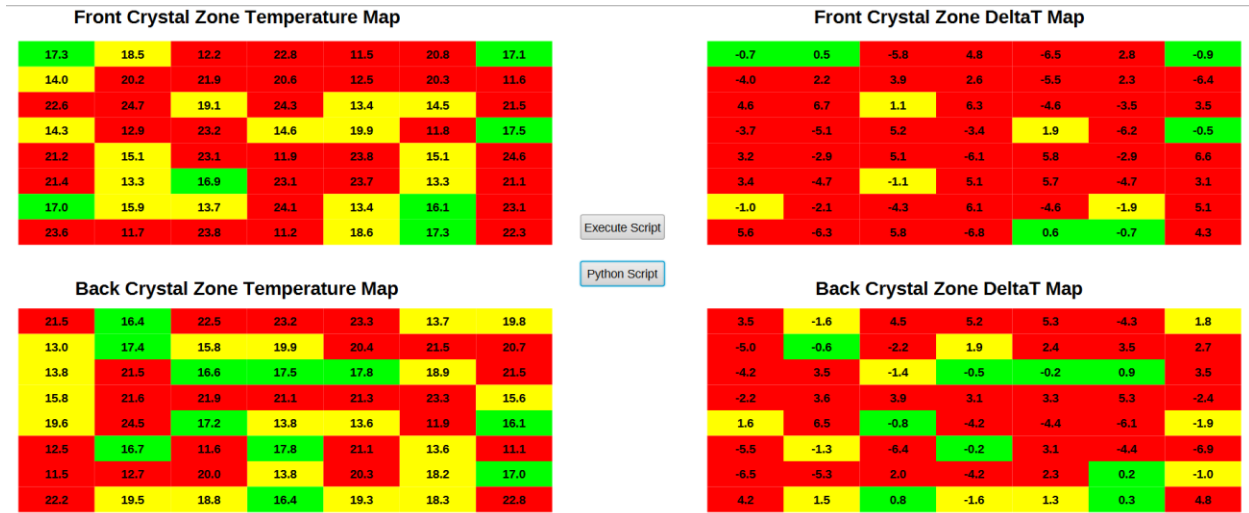
1. Reviewed *Detector Frame and Hall* tab for the LabVIEW Hardware Interlock Monitoring program
 - Will rename tab to *Detector House and Hall* tab
 - Aaron Brown will draw a diagram detailing where detector volume temperature sensors will be located



Screenshot of Detector Frame and Hall tab from LabVIEW Hardware Interlock Monitoring program

2. Reviewed EPICS Temperature Maps Phoebus screen
 - Map titles will be changed to something like “Front Crystal Zone Readback Temperature Map” (same for the back crystal zone) and “Difference Between Front Crystal Zone Readback Temperatures and Optimal Temperature (18°C)”

- Limits for LED colors should be identical across all maps (including LabVIEW program maps) – Aaron Brown will send new limits to Mary Ann Antonioli

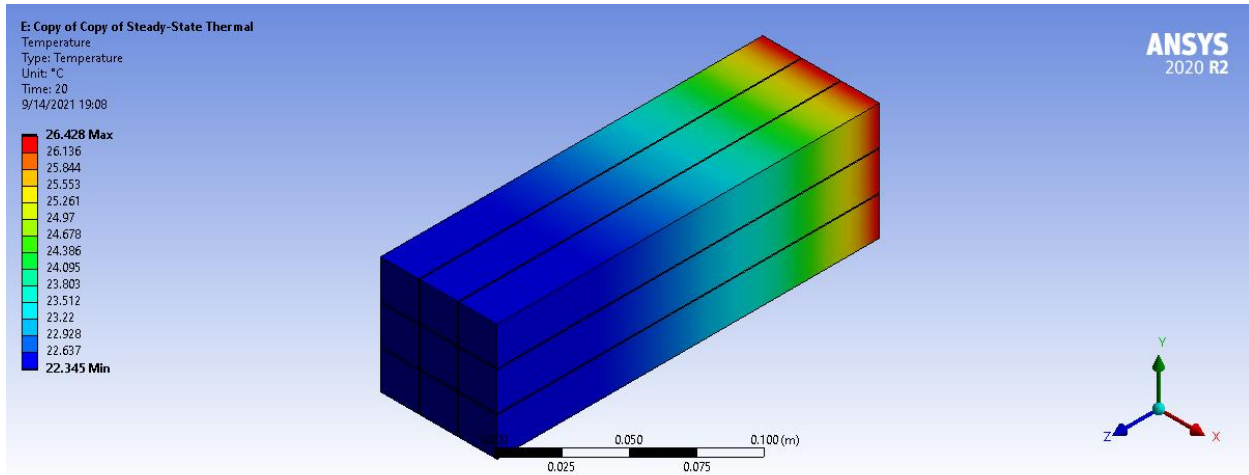


Screenshot of EPICS Temperature Maps screen generated using Phoebus

4. Thermal Analysis

Aaron Brown

1. Reviewed 3x3 block of $PbWO_4$ crystals with no carbon fiber dividers and no Cu shell



Screenshot of simulation of 3x3 $PbWO_4$ crystals; no dividers and no Cu shell

2. New simulations will be conducted with two 5 cm sections of nine crystals to represent the front and back ends of the crystals
 - The “front” section will have carbon fiber dividers added; the “back” section will have mu metal dividers added

5. High Voltage Supply Cable testing

Peter Bonneau, Aaron Brown, Brian Eng, George Jacobs, Mindy Leffel, and Marc McMullen

1. Mindy Leffel is fabricating test enclosure
2. Marc McMullen showed diagram of test setup

NPS HV cable test set-up

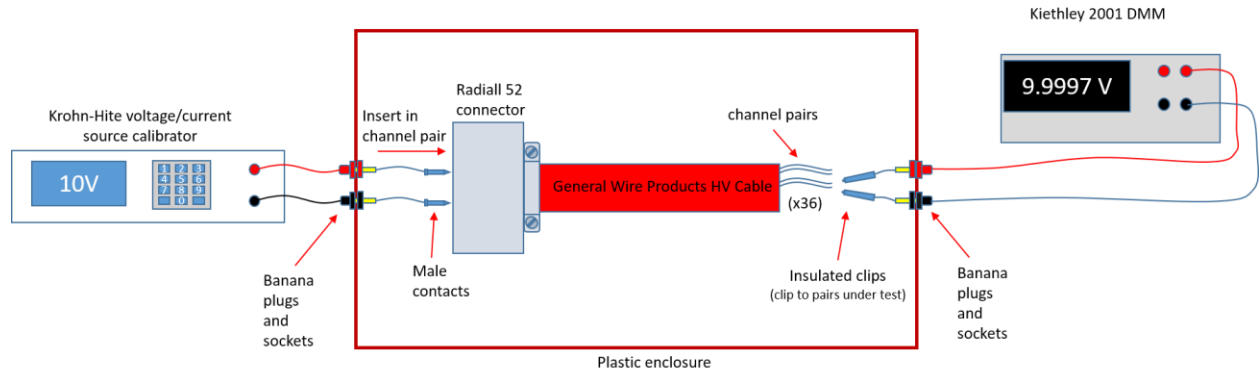


Diagram of high voltage supply cable voltage testing station