

# DSG-NPS R&D Meeting Minutes

**Date:** September 07, 2021

**Time:** 11:00 AM – 12:30 PM

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

## 1. Reviewed 08/31/2021 meeting minutes

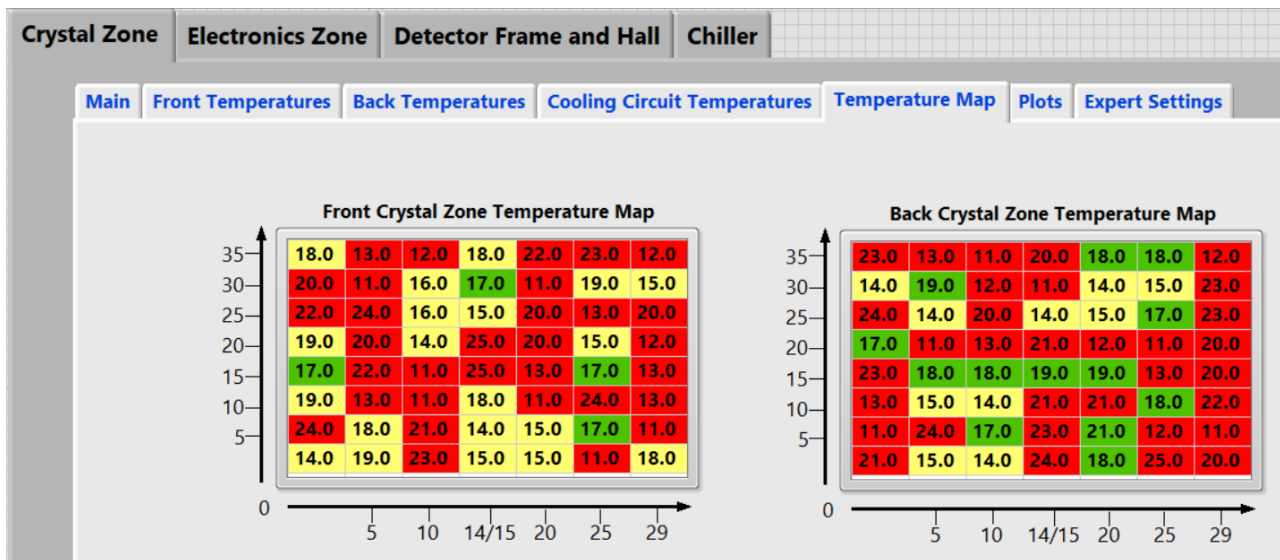
DSG

1. [08/31/2021 DSG-NPS R&D Meeting Minutes](#)

## 2. Hardware Interlock System development

*Mary Ann Antonioli, Peter Bonneau, Aaron Brown*

1. Reviewed additions to *Temperature Map* tab for the LabVIEW Hardware Interlock Monitoring program
  - Back crystal zone temperature map has been added
  - “°C” will be added to each map
  - An additional map indicating  $|T_{\text{front}} - T_{\text{back}}|$  will be added



Screenshot of front and back crystal zone temperature maps for LabVIEW Hardware Interlock Monitoring program

2. Peter Bonneau and Aaron Brown will research direct communication with the Keysight switch/mainframe (bypassing LabVIEW) via a Python script

## 3. Databasing

*Aaron Brown, Pablo Campero, George Jacobs*

1. Reviewed first version of MySQL database, using HeidiSQL, for DSG’s NPS drawings, notes, and talks
  - A separate average standard deviation column will be added to the *module\_info* table
  - An Excel spreadsheet will be developed detailing individual channel averages and standard deviations for module current and voltage stability tests

module_...	channel_...	date_te...	plot_type	average	location	comments
128	(NULL)	(NULL)	Current Stability	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/128-slot6-current.png">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/128-slot6-current.png</a>	(NULL)
128	(NULL)	(NULL)	Ramp	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Ramp/mod%20128.1%20volta...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Ramp/mod%20128.1%20volta...</a>	(NULL)
128	(NULL)	(NULL)	Voltage-Curre...	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/mod128density.pdf">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/mod128density.pdf</a>	(NULL)
128	(NULL)	(NULL)	Trip	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Trip/mod%20128%20current%...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Trip/mod%20128%20current%...</a>	(NULL)
173	(NULL)	(NULL)	Ramp	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Ramp/mod%20173%20voltage...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Ramp/mod%20173%20voltage...</a>	(NULL)
173	(NULL)	(NULL)	Trip	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Trip/mod%20173%20current%...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Trip/mod%20173%20current%...</a>	(NULL)
173	(NULL)	(NULL)	Voltage Stability	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/173-slot8-voltage(larg...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/173-slot8-voltage(larg...</a>	(NULL)
173	(NULL)	(NULL)	Current Stability	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/173-slot8-current.png">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/173-slot8-current.png</a>	(NULL)
173	(NULL)	(NULL)	Voltage-Curre...	(NULL)	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/mod173density.pdf">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/mod173density.pdf</a>	(NULL)
128	0	11/17/...	Ramp	(NULL)	O:\DSG\Mary Ann\Python testing\python HV ramp tests\128_sl1_ch0_ramp test_voltage.png	(NULL)
128	(NULL)	02/18/...	Voltage Stability	1499.99 V +/-...	<a href="https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/128-slot6-voltage(larg...">https://www.jlab.org/div_dept/physics_division/dsg/technical_documentation/Hall_C/NPS-2/Stability/128-slot6-voltage(larg...</a>	(NULL)

Screenshot of HeidiSQL *module\_info* database table

#### 4. Thermal Analysis

*Aaron Brown*

1. Reviewed 3x3 block of PbWO<sub>4</sub> crystals with added carbon fiber dividers for the front of the crystal array
  - A new simulation will be conducted without both the carbon fiber dividers and the copper shell

#### 5. High Voltage Supply Cable testing

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

1. Mindy Leffel has the hot glue, glue gun, and enclosure (plastic box)
2. Brian Eng is writing the test procedure for the encapsulation test of the Radiall 52-pin connectors