

DSG-NPS R&D Meeting Minutes

Date: November 16, 2021

Time: 11:00 AM – 12:00 PM

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

1. Hardware Interlock System Development

Mary Ann Antonioli, Peter Bonneau, Aaron Brown

1. Reviewed LabVIEW hardware monitoring program
 - Sensor labels need to be added for both the temperature and relative humidity sensors
 - The status LEDs for the temperature and relative humidity will be removed
 - Discussed the limits for relative humidity; 40% is the high-high limit, lower limits may not be necessary



Screenshot of the Hall tab of the LabVIEW hardware monitoring program

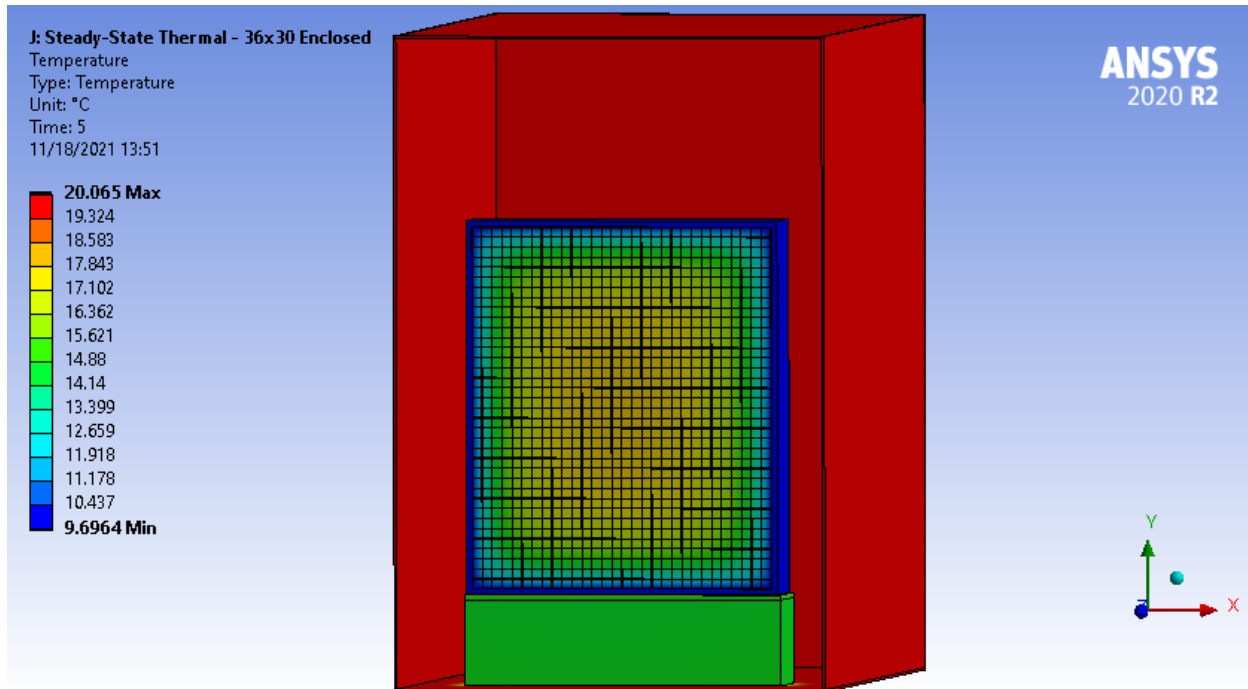
2. Discussed communication with Keysight mainframe using Python
 - Reviewed chart comparing two Python packages—PyVISA and python-vxi11
 - Python-vxi11 is the preferred package to communicate with the Keysight mainframe

Package	Change Timeout?	Channel Query Limit	Connection Method
PyVISA	NO	45	USB, Serial, GPIB, LAN(?)
python-vxi11	YES	NONE	LAN

2. Ansys Thermal Analysis

Aaron Brown

1. Reviewed thermal simulation of 36x30 PbWO₄ crystal array model enclosed in polyethylene box
 - Ambient temperature inside enclosure was set to 18°C, ambient temperature outside enclosure was set to 22°C
 - Maximum crystal temperature was ~17.9°C



2. Discussed research into Ansys Python scripting capability
 - Able to export minimum, maximum, and average temperature of thermal simulation to a CSV file
 - Researching how to export temperature probe results using a Python script; currently only able to export probe results manually

3. ESR Pre-shaping Progress

George Jacobs and Mindy Leffel

1. 210 of 600 foils completed (~35%)

4. MariaDB Database Development

Aaron Brown, Pablo Campero, Brian Eng, George Jacobs

1. Tyler Lemon was able to access the local DSG database by remotely logging into *dsgcomp11*, the machine on which the database is stored
2. Researching setting up remote access to database without needing to log in to *dsgcomp11*