

DSG-NPS R&D Meeting Minutes

Date: November 09, 2021

Time: 11:00 AM – 12:00 PM

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

1. Reviewed 11/02/2021 R&D Meeting minutes

DSG

1. Link for details: [11/02/2021 DSG-NPS R&D Meeting Minutes](#)

2. Hardware Interlock System Development

Mary Ann Antonioli, Peter Bonneau, Aaron Brown

1. Discussed issue of embedded display not being visible in Phoebus screen
 - Background color for embedded display was supposed to be as red, but wasn't showing up at all
 - Issue was resolved by changing background color's "Alpha" parameter, which controls opacity, from Alpha = 0 to Alpha = 255, with 0 being completely transparent and 255 being fully opaque
2. Discussed communication with Keysight mainframe using Python
 - Two Python packages available for communication—PyVISA and Python-vxi11
 - Able to issue "MEASure?" command, which reads back value for sensors, using both packages for multiple multiplexer channels
 - Able to change timeout length using Python-vxi11 to allow measurement of channels for multiple multiplexers – investigating whether same can be done using PyVISA
 - Aaron Brown will generate a table comparing the utility of both packages

3. Ansys Thermal Analysis

Aaron Brown

1. Reviewed changes to thermal simulation crystal array model
 - Added box to enclose crystal array and stand for crystal array
 - Heat exchangers will be added to the model
 - Goal for future simulations is to determine if cooling can maintain 18°C inside detector box
2. Discussed Ansys Python scripting capability
 - Able to use scripting to get nodal temperature results
 - Researching how to use scripting to retrieve and export face temperature results

4. ESR Pre-shaping

George Jacobs and Mindy Leffel

1. Reviewed progress of ESR foil pre-shaping; 180 of 600 foils completed (~30%)
2. Discussed ergonomic concerns with foil pre-shaping procedure
 - To avoid repetitive stress injury caused by bending and lifting, the bottom shelf of jig transport cart will no longer be used
 - An allen head screwdriver will be procured for assembling/disassembling jigs

5. MariaDB Database Development

Aaron Brown, Pablo Campero, Brian Eng, George Jacobs

1. Reviewed communication from David Chopard regarding accessing database via DSG's webpage
 - Security concerns were raised by lab's web developers
 - Aaron Brown will contact David Chopard and Marty Wise to explain that the database server will be maintained by the computer center, so there should be no security problems