

## DSG-Ansys R&D Meeting Minutes

**Date:** February 10, 2022

**Time:** 14:00 to 15:00

*Attendees: Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, and Tyler Lemon*

### 1. NPS Thermal Analysis

*Aaron Brown*

1. Made simplified model to run steady state thermal analysis
  - Model consist of crystals, cooper, and carbon fiber dividers
  - Removed enclosure, heat exchanger, and supports from model
2. Ran simulation and got a heat transfer of 0.5 W
3. Will run script to get temperature probe values for crystals

### 2. EIC beryllium section

*Pablo Campero and Brian Eng*

1. Ran steady-state thermal analysis for five models
  - Models with separation between Be pipe and Si Sensor L1 of 1.24, 2, 3, 4, and 5 mm
  - Repeated simulation for each model with different temperatures for air in annulus space and ambient for 5, 10, 15 and 20°C
2. Still waiting on purchase of Computational Fluid Dynamics (CFD) license
  - Unable to access JLab license this week
3. Discussed available materials in Ansys Fluid Flow CFX and Ansys Fluid Flow Fluent
  - Material selection is limited, could not find beryllium (solid) and nitrogen (fluid)