DSG Ansys R&D Meeting

Date: May 4, 2023
Time: 2:00 PM – 3:00 PM

Attendees: Aaron Brown, Pablo Campero, Brian Eng, Marc McMullen, and Tyler Lemon

1. **EIC beampipe test stand thermal analysis**
   Pablo Campero, Brian Eng, and Marc McMullen
   1. Adding 1-mm thicker aerogel to model
   2. Discussed possible modification to model
      - In the Ansys model, air flows in the axial direction to the annulus space formed between the pipes that represent the beampipe and the silicon layer; in the test stand model the air is from four connectors located radially
      - Air flow of Ansys model could replicate the test stand model

2. **NPS detector volume CFD thermal simulation**
   Pablo Campero
   1. Measured distance in model's separation between the cooling plate and the crystal block volume
   2. Unable to access Fluent in the past two days

3. **NPS crystal blocks thermal analysis**
   Aaron Brown, Pablo Campero, and Brian Eng
   1. Possible reason for different results between the steady state analysis and the transient analysis for the maximum temperature could be the errors with the geometry used for both analyses
   2. Recommended using shared topology in SpaceClaim instead of the automatic contact in Ansys Mechanical
      - Automatic contact sometimes generates incorrect contact regions
   3. Correct geometry and set up again using same thermal conditions
   4. Run steady state and transient simulations again