

DSG Ansys R&D Meeting

Date: July 6, 2023

Time: 2:00 PM – 2:30 PM

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

1. EIC test stand thermal analysis

Pablo Campero, Brian Eng, and Marc McMullen

1. Discussed modifications to the EIC test stand model
 - Reduced the contact surface area between the outer face of the heater pipe and the inner face of the beampipe
 - Modified heater pipe and the inner volume of the beampipe
 - Changed units from inches to mm and changed grid size options to find the minimum allowed distance to reduce the mentioned contact surface
2. Verified that there were no geometry issues with the modifications
3. Applied shared topology
4. Meshed model using Ansys-Fluent with Mesh software
 - Had issues with thin surfaces
 - Reduced the element mesh size and improved surface mesh quality to solve issues
5. Running simulation
6. Discussed rotation of the beampipe in the actual test stand
 - This might involve changes for the temperature sensors' locations by degrees
 - Will use sensor locations for the probe's placement in Ansys-Fluent to make future comparisons