

DSG-Ansys R&D Meeting Minutes

Date: April 7, 2022

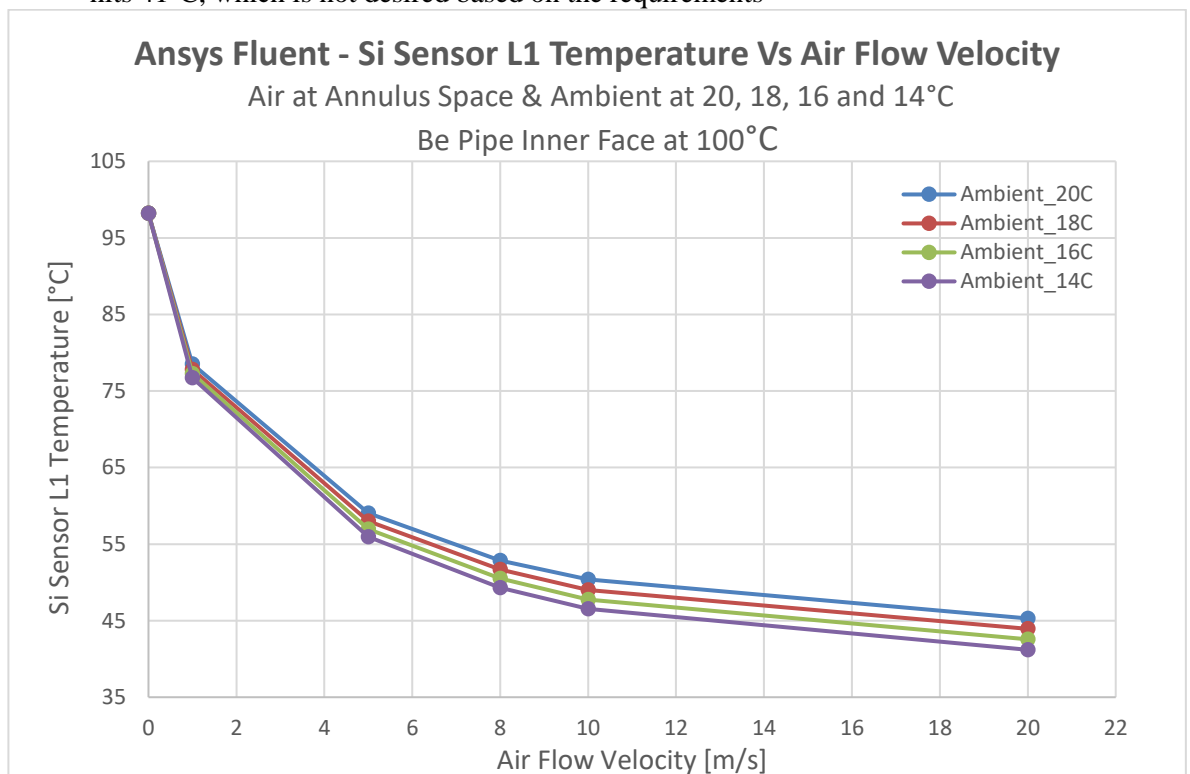
Time: 14:00 to 15:00

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

1. EIC beryllium section

Pablo Campero and Brian Eng

1. Discussed *Ansys Hub Learning* (AHL) subscription
 - Registered to AHL and accessed available material for fluid interaction in *Ansys Fluent*
 - Material consisted of presentations and examples to be opened in *Ansys*
 - Will create a common folder to store all learning material
2. Discussed plot of preliminary results from simulation done in *Ansys Fluid Flow Fluent* with double precision option for air at different velocities and temperatures
 - With an air temperature of 14°C at 20 m/s the temperature in the silicon sensor layer 1 hits 41°C, which is not desired based on the requirements



3. Discussed more thermal analysis in *Ansys Fluid Flow Fluent*
 - Will change the air in the annulus space to aerogel; fluid domain will be converted to solid domain and the thermal properties for aerogel will be applied (thermal conductivity 0.0156 W/mK)
 - Will modify the model to have a separation of 2 mm and 3mm between the outer face of the beryllium pipe and the inner face of the silicon sensor L1
 - Thermal simulations will be performed for different temperatures and velocities for the air ambient and annulus space