



U.S. DEPARTMENT OF  
**ENERGY**



# EIC Beamline R & D Status

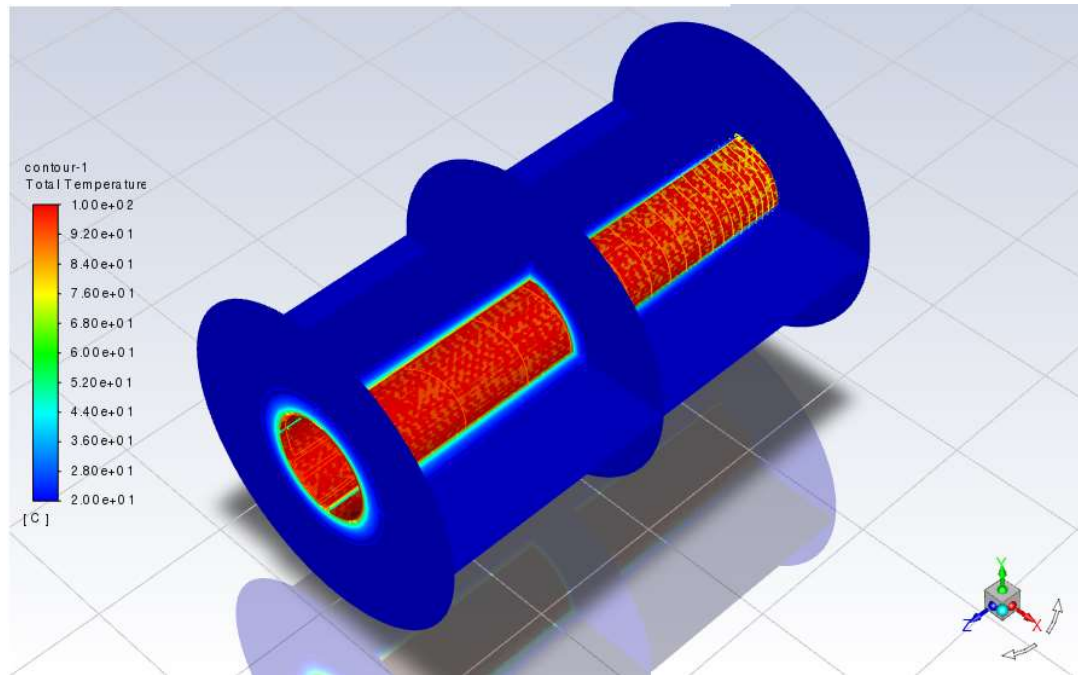
Detector Support Group  
February 8, 2023

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## EIC

*Brian Eng and Pablo Campero*

- Modified 3D model of beryllium pipe section and imported model to *Ansys Fluent*
  - Configurations for thermal analysis
  - Beryllium pipe temperature: 100°C
  - Air temperature for enclosure and annulus space: 20°C
  - Air inlet velocity for enclosure and annulus space: 0.001 and 1 m/s
  - Number of iterations : 100
- Ran two simulations; preliminary result shows the maximum temperature of silicon layer 1 is 98.35°C when velocity is 0.001 m/s and 65°C when the velocity is 1 m/s



Isometric view of the temperature model with aerogel, 1 m/s air flow velocity, and 2 mm of separation between beryllium pipe and silicon layer1