

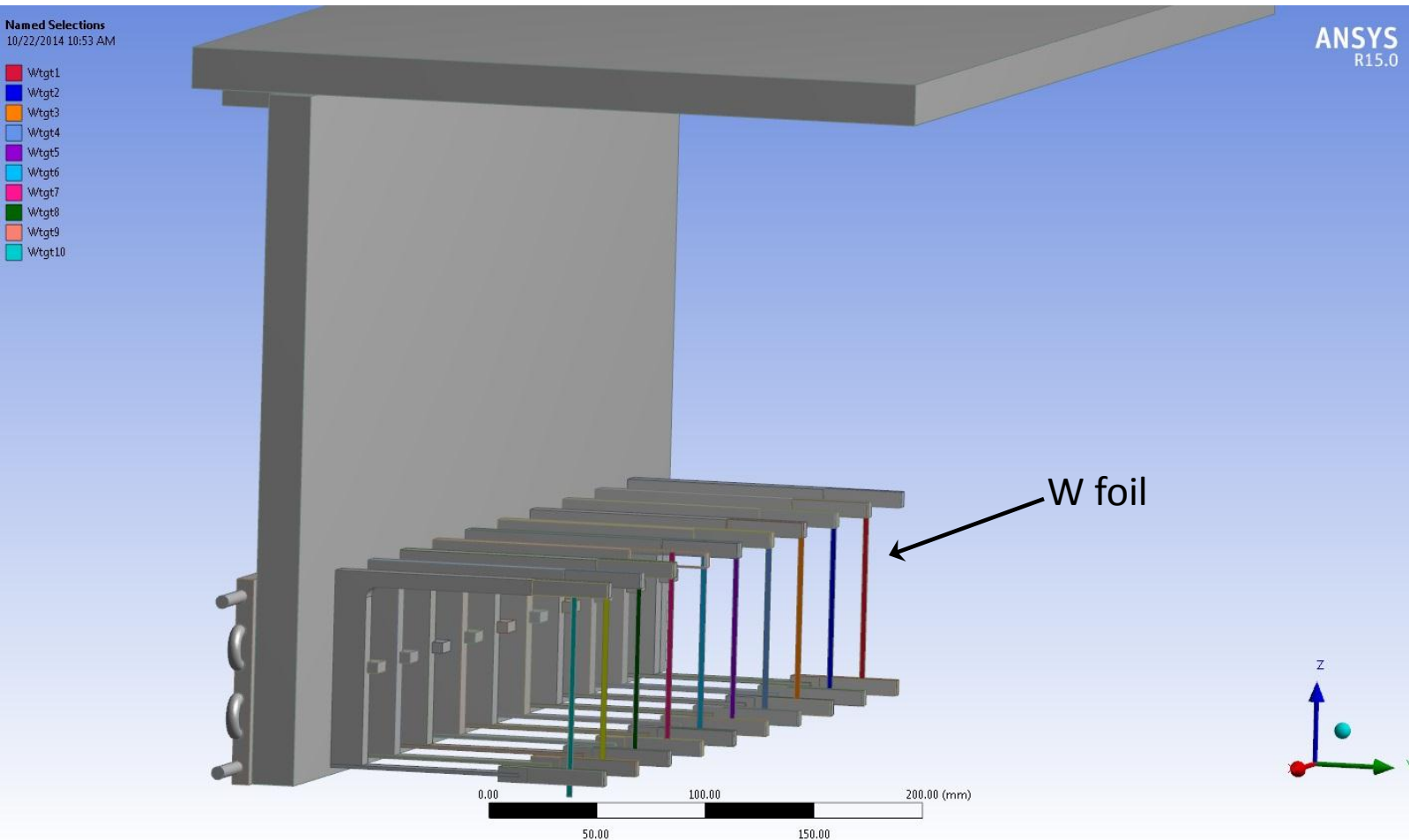
# APEX Target Update

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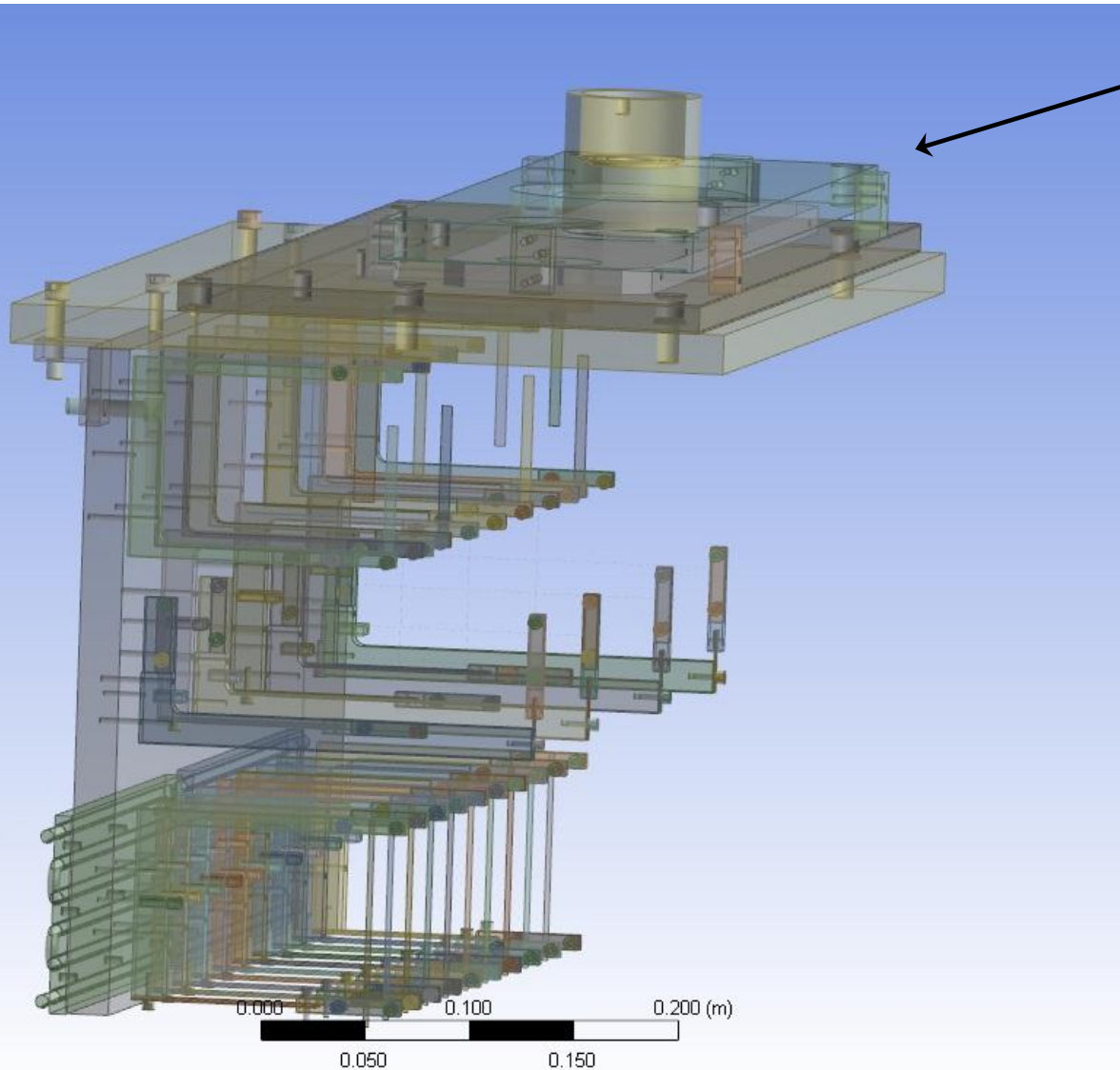
- Got a step file of target layout from Marco in June 2014
- 3D model of target generated by Hall C designer
- 3D model of target motion interface generated by high school summer student (Michael Williams) from Bogdan's 2D drawings
- Working on thermal analysis of target with computational fluid dynamics (CFD) software, work impacted badly by the availability of mechanical designers at JLab
- Meshing issues due to geometry aspect ratios (W foils are 15  $\mu\text{m}$  thick, 8 cm long, easy to mesh, hard to interface the foil mesh with the rest of the frame mesh)

# APEX 3D Target Model



A Hall C mechanical designer generated the 3D model in July 2014 while working for CFD-Facility (CFDFAC). The designer was repurposed in Aug 2014 and since then the thermal analysis of this target stalled.

# APEX Target with Motion Interface



Motion interface mechanism, originally drawn in 2D by Bogdan and modeled in 3D by a high school honors summer 2014 student: Michael Williams (great work done by a high school student who had no prior experience with 3D mechanical modeling software!)

# Future Plans

- In the process of hiring a mechanical designer to support the needs of CFDFAC (including the APEX target), subsequently will do the thermal analysis of the target
- Could not locate all the parts of the SLAC target at JLab
- A grad student would be needed to start working on the target, the student will interface with me, the target group here and my mechanical designer to make sure all target parts are here and in good standing (if not, new parts will have to be procured/made), the target can be interfaced with the existing motion system, mounted in the target chamber and surveyed in-situ.