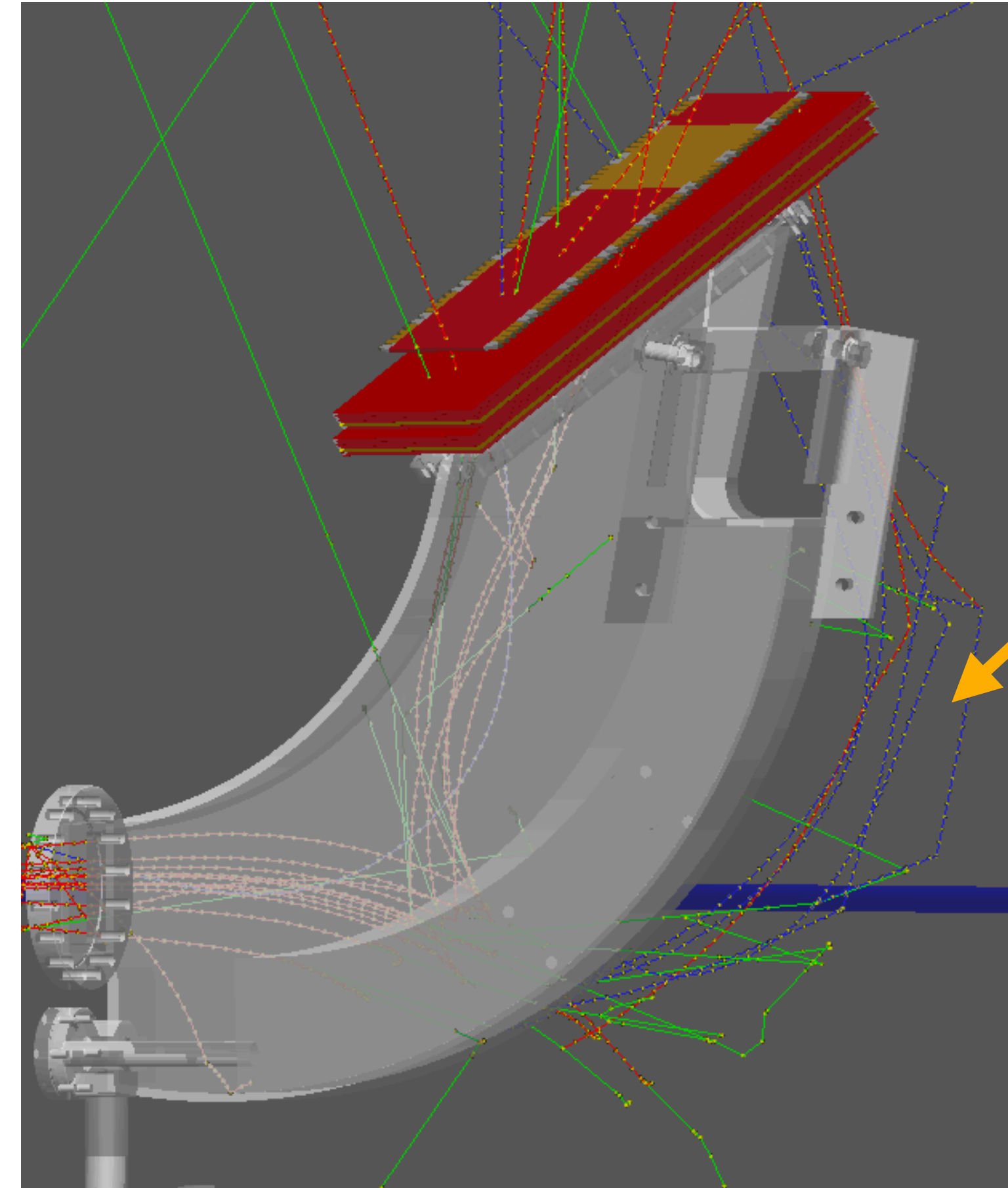


Final(?) PEEK Update

Laura, 2024-07-23

Previously (on the e^+ arm)...

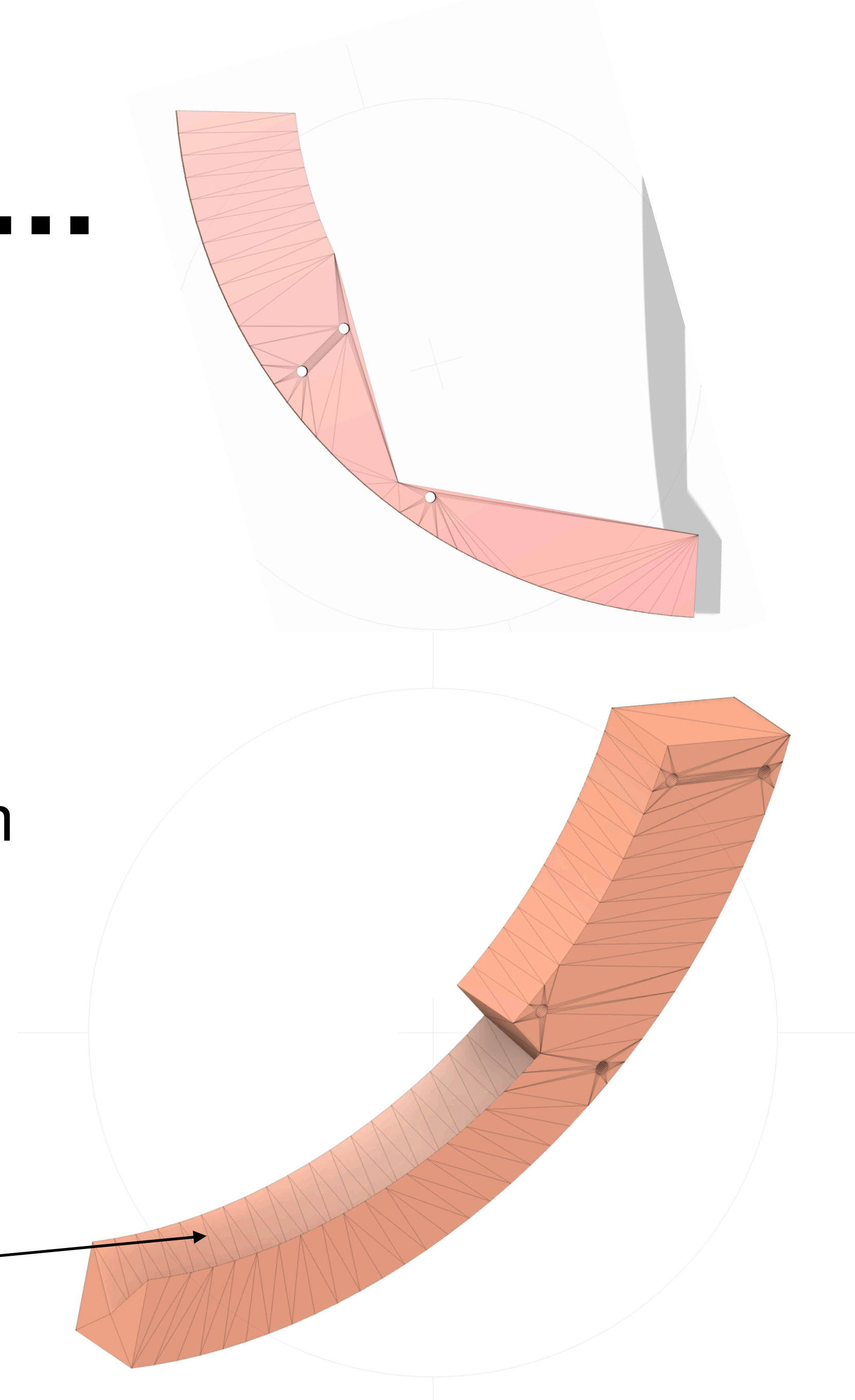


- For the positron arm: best (i.e. lowest rate) I could find was simply the solid PEEK
- Of the scattered electrons that caused hits in the GEMs, a subset were ones that exited out the back wall of the spectrometer and caught the edge of the GEM
- These don't necessarily cause a trigger since they hit the very top edge of the GEM
- Probably in our best interest to put the trigger as low as possible (and will probably want to do a study to quantify this)
- With this trigger position: rate is ~ 41 kHz

Previously (on the e- arm)...

- For the electron arm: best shape I could find when testing was the triangle
- Resulted in a rate of 209 kHz
- ...but not structurally sound
- Main issue is electrons clipping the bottom corner of the PEEK and losing enough momentum to enter into the GEMs
- After discussion with MIT, trying this design:

Channel



e- Rate

- After some Fusion woes (my software update phobia is well founded)...
- Rate with the new design in the e- arm is 293 kHz
- Slightly worse than the triangle (209 kHz), but still the third best of all the shapes I tried
- I think if this is satisfactory, we go ahead with this design in the electron arm and the solid PEEK in the positron arm

