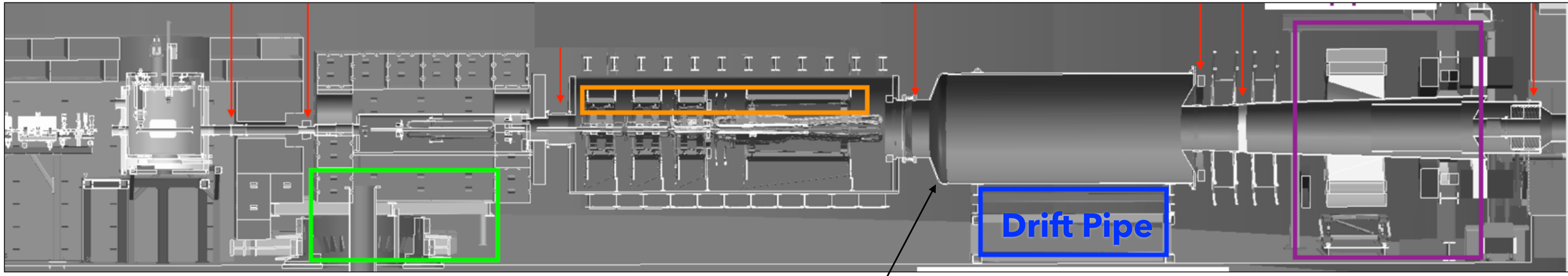
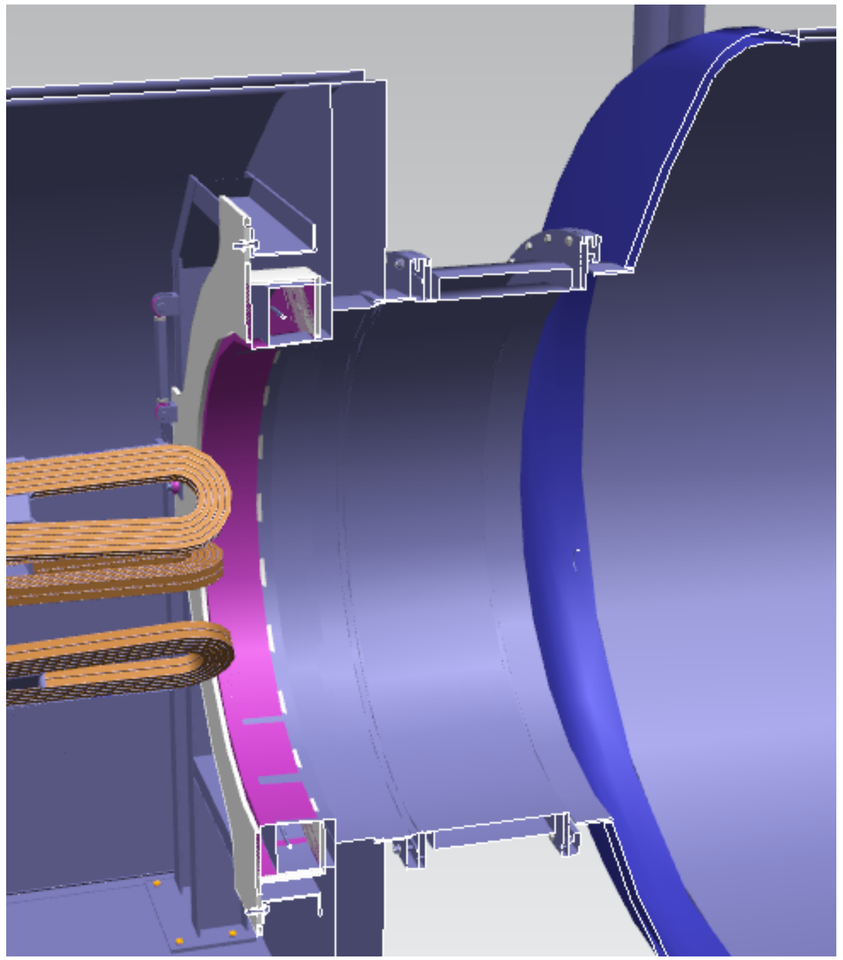
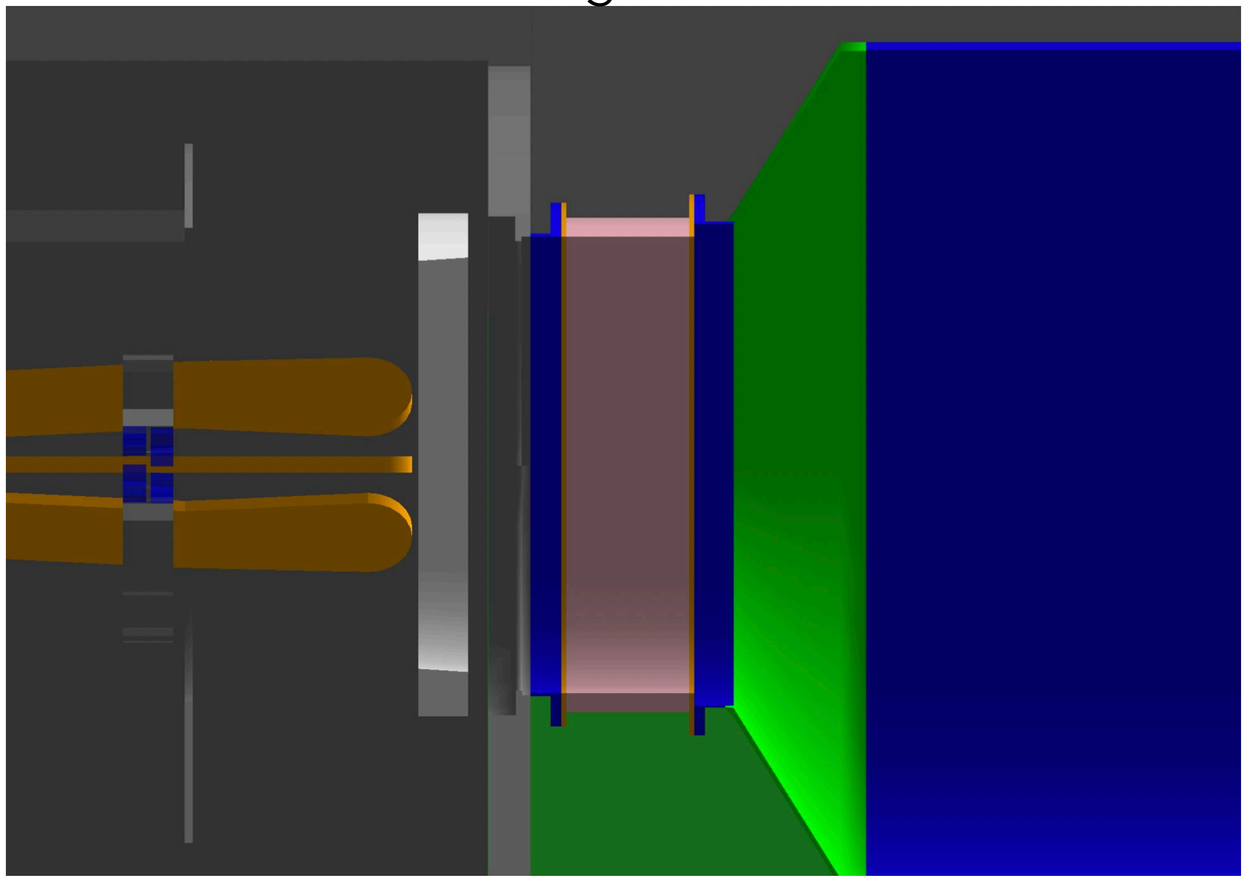

Drift Pipe
upstream end cap

Drift Pipe Upstream Endcap

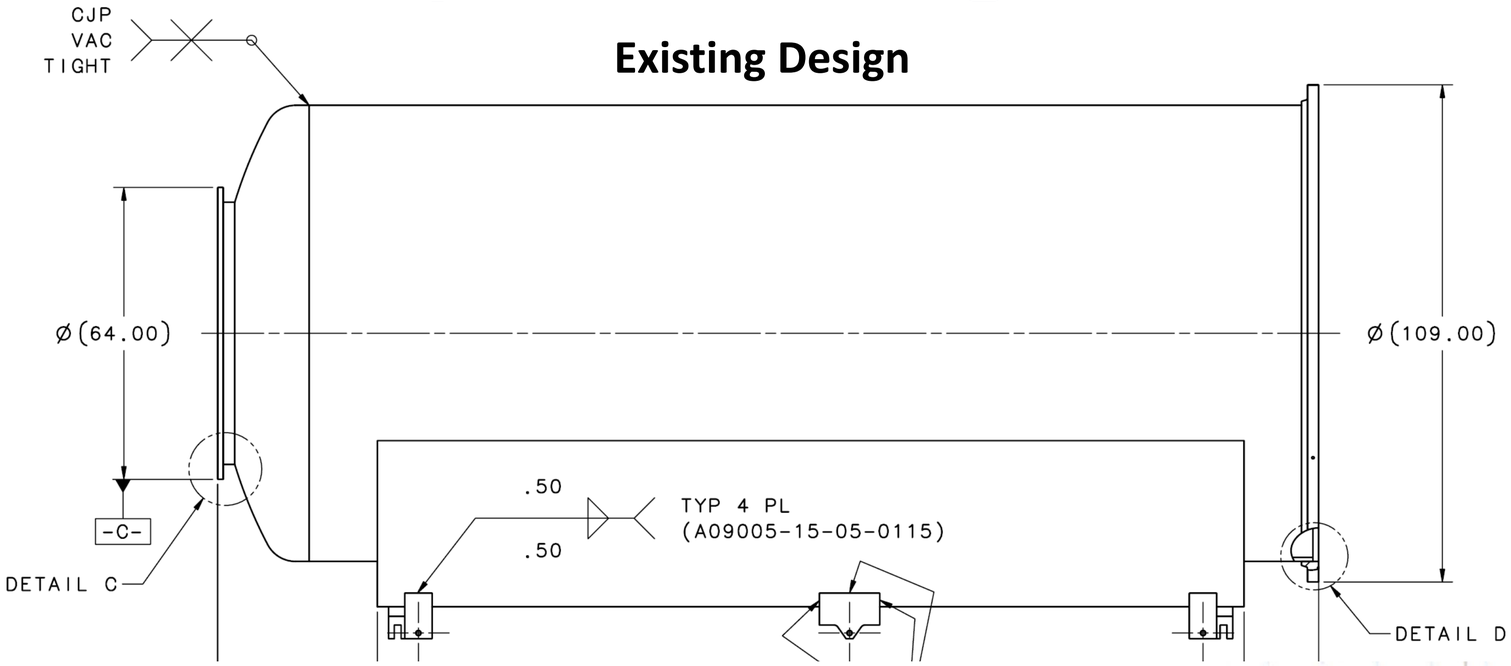
model

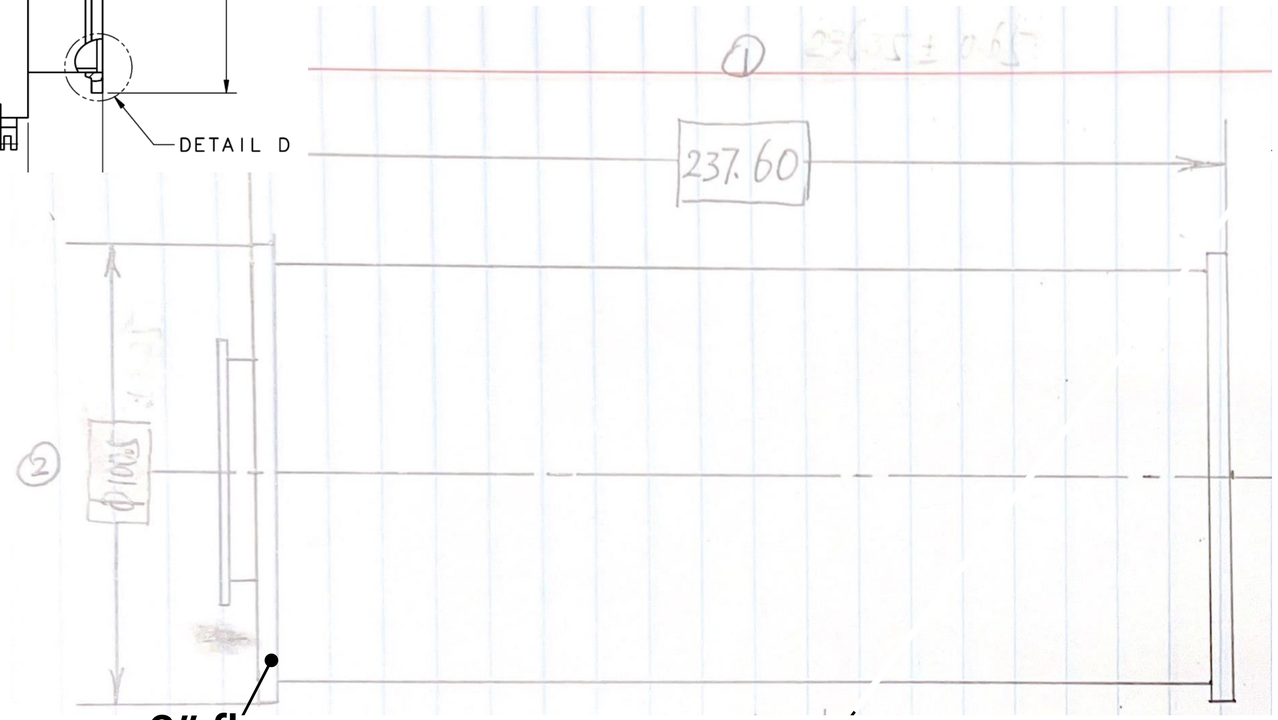


gdml



Proposed change: “dish head” to flat flange

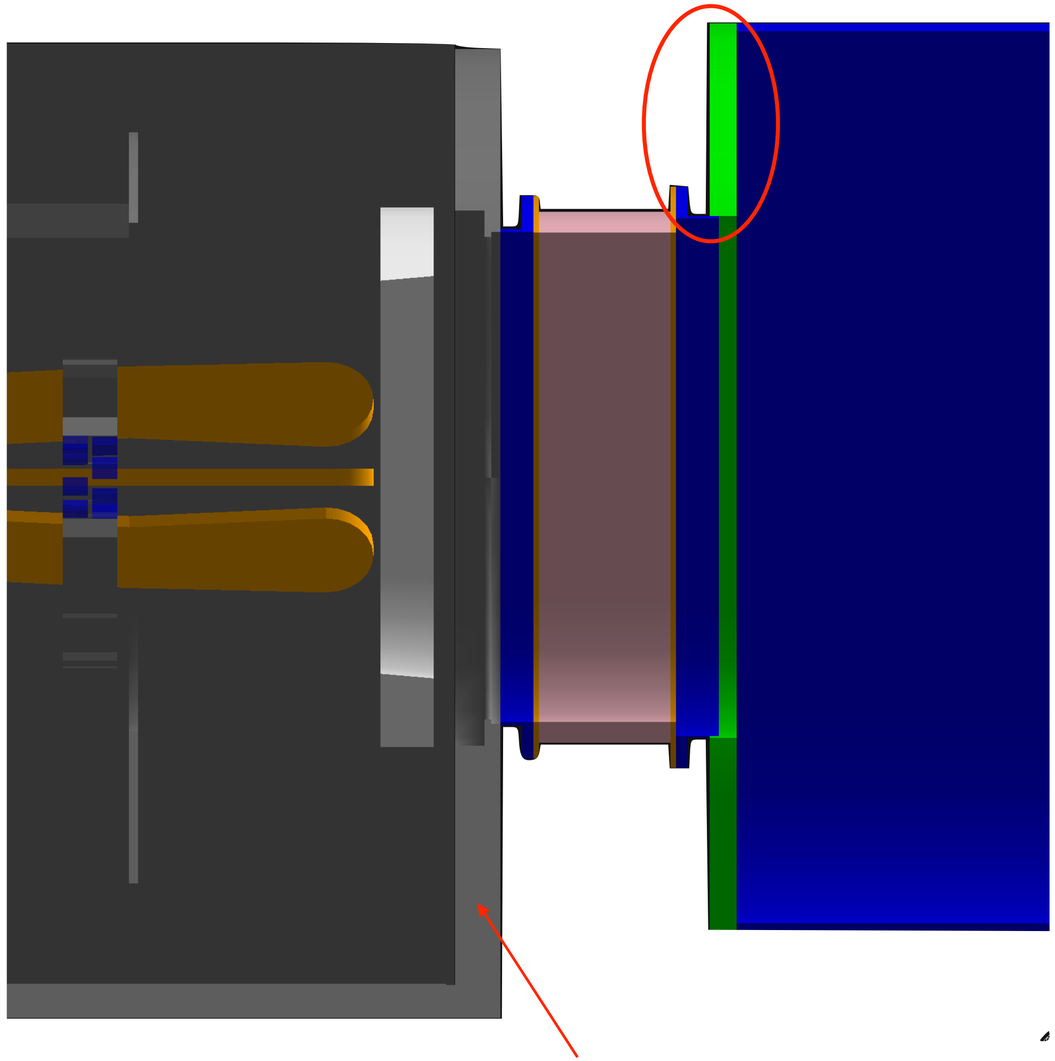




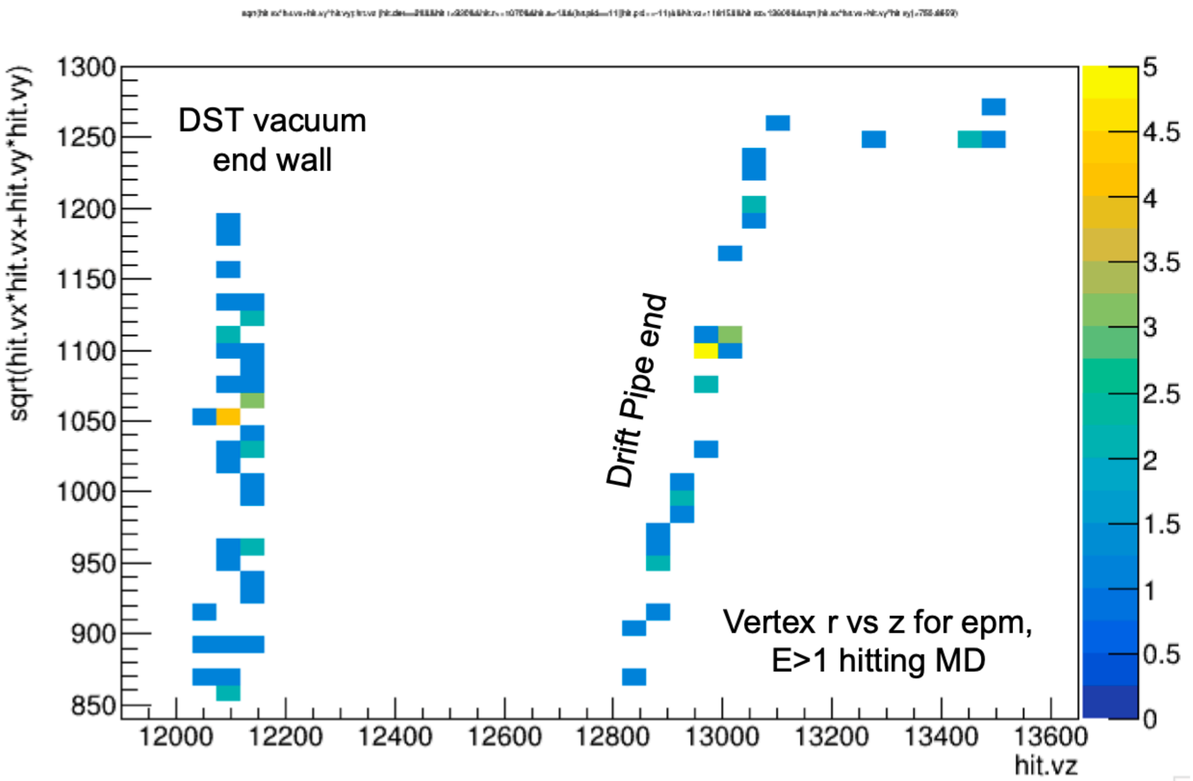
Two potential concerns:

- thicker material
- extended z-length at connection point

Is new thickness a worry?

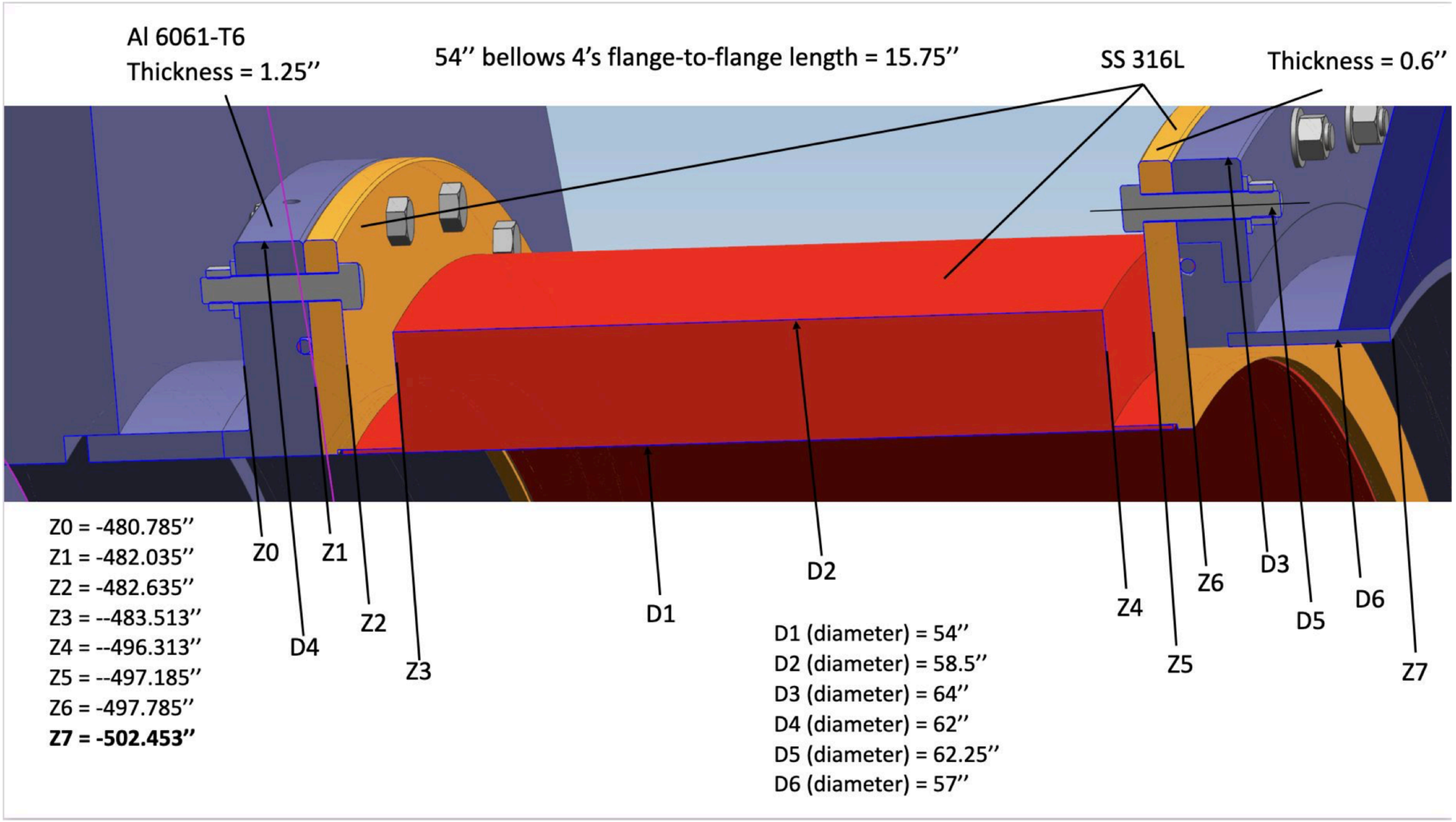


Already had 5″ thick Al wall, for downstream torus vacuum box

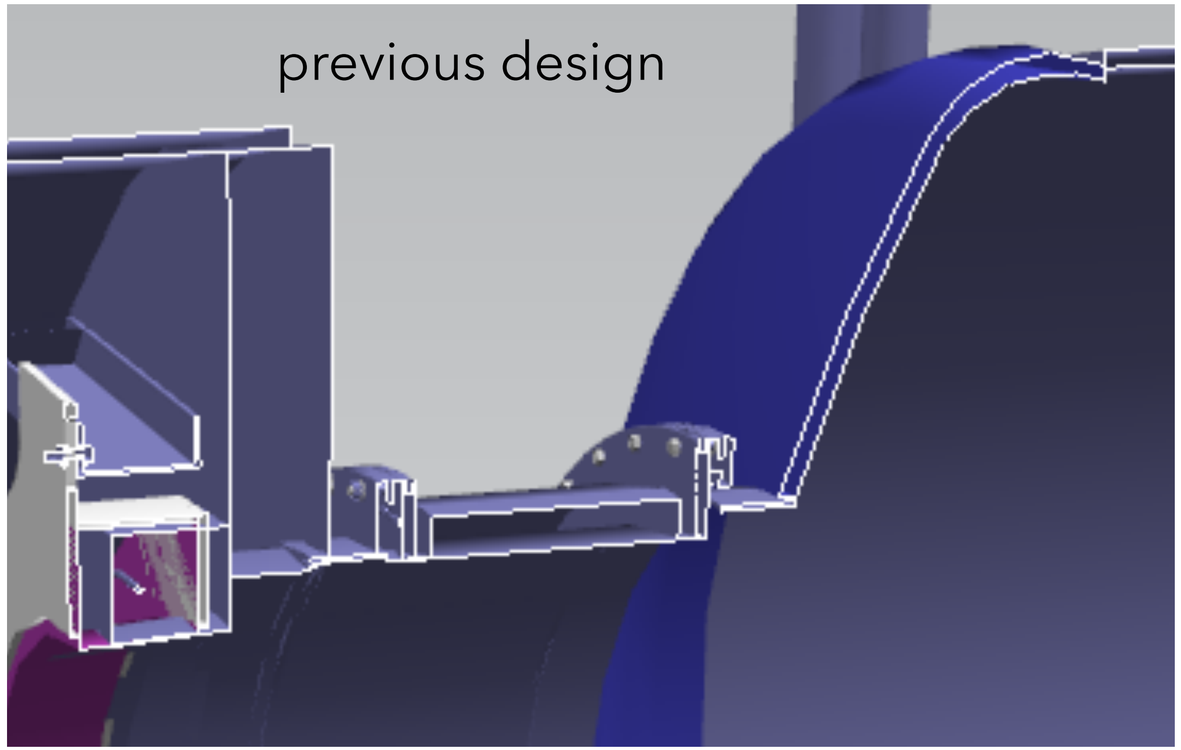


previous design ~1″ effective thickness

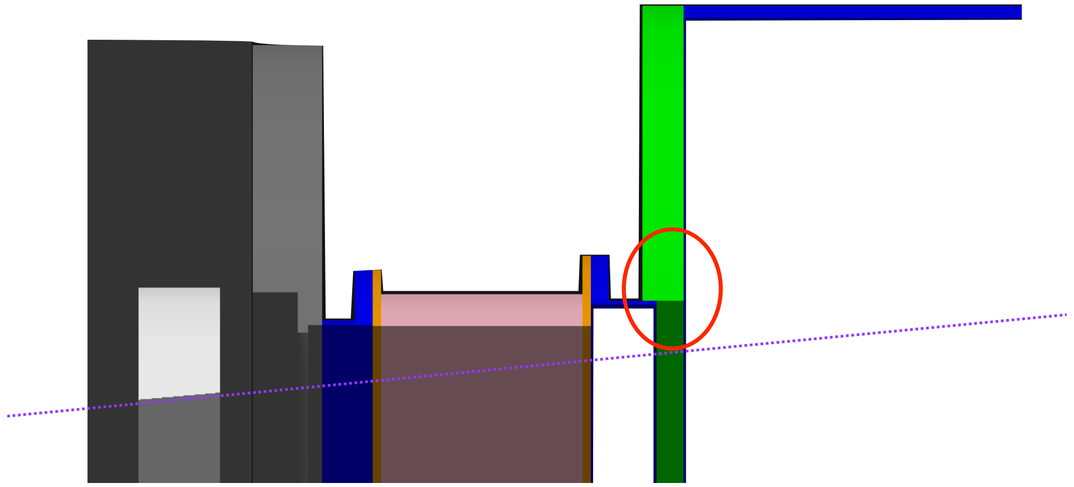
IR expanded to hide connection in Collar 1 shadow



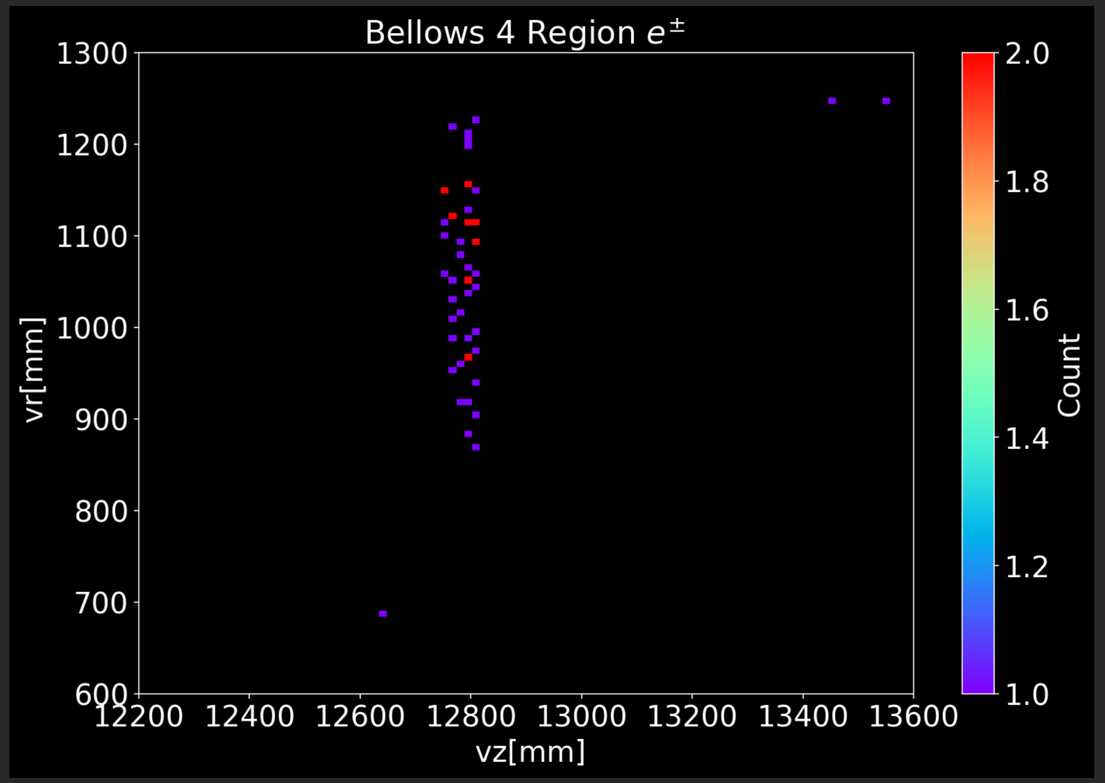
Connection hides in shadow of collar 1



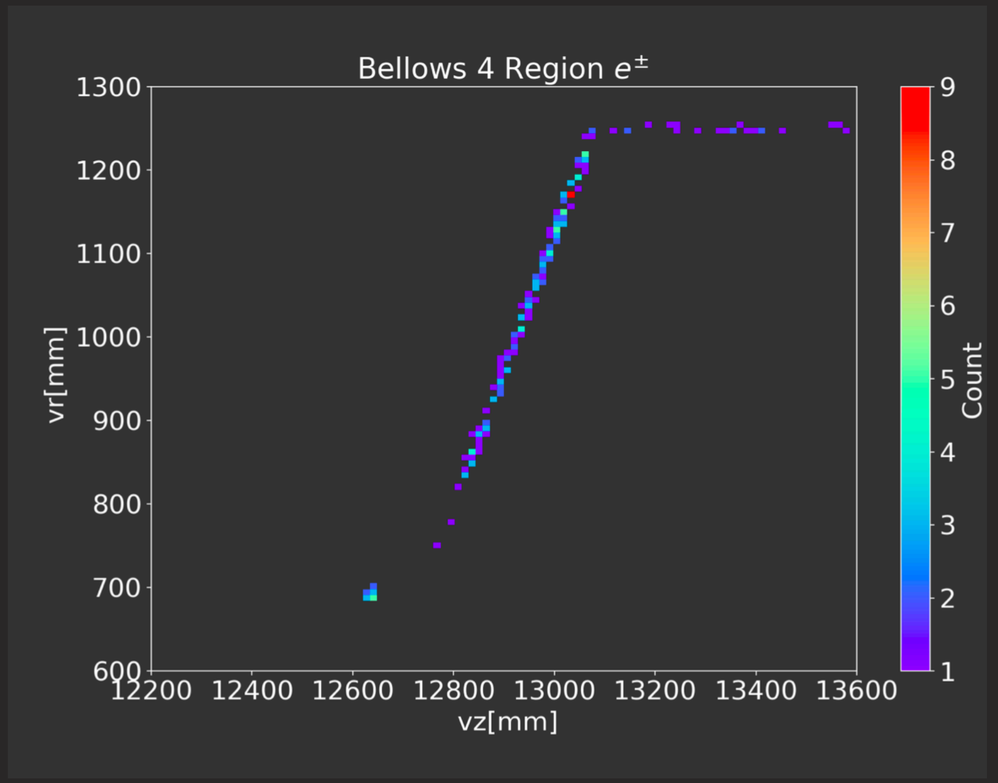
new design (gdml)



A previous change, reducing the Collar 1 inner radius, has already extended the Collar 1 shadow



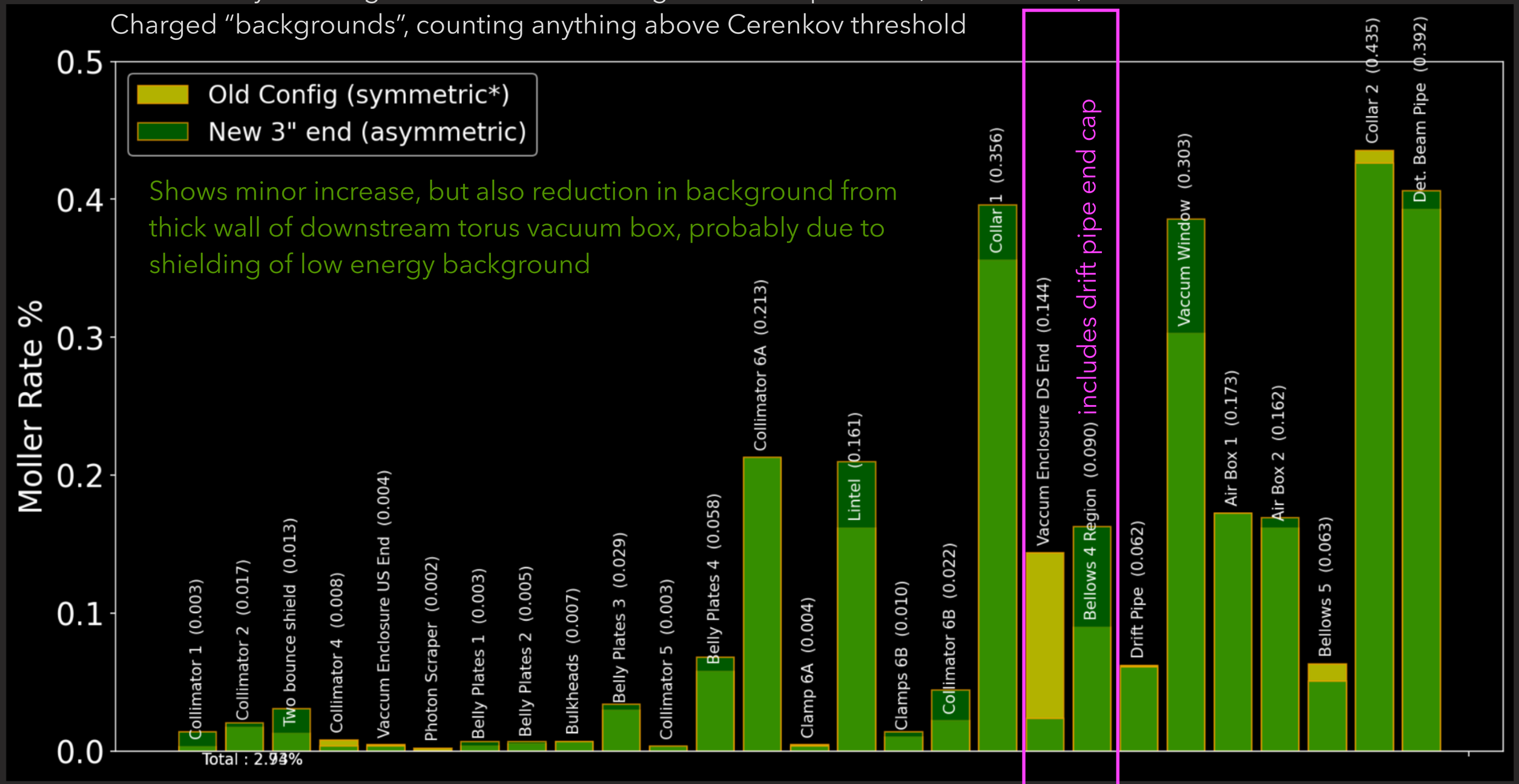
Symmetric field with new 3” configuration.
100M events



Symmetric field with old configuration.
1B events

No indication of new problem outside of Collar 1 shadow

From a study of background from various edges and components (docdb:1156).
Charged “backgrounds”, counting anything above Cerenkov threshold



Summary

- No indication of increased backgrounds
  - may be some indication of reduced backgrounds, due to filtering of low energy shower from DST vacuum enclosure

- We don’t yet have a drawing with specific dimensions, so still need a final check that the simulation matches the design