

dRICH Envelope & Inner Components

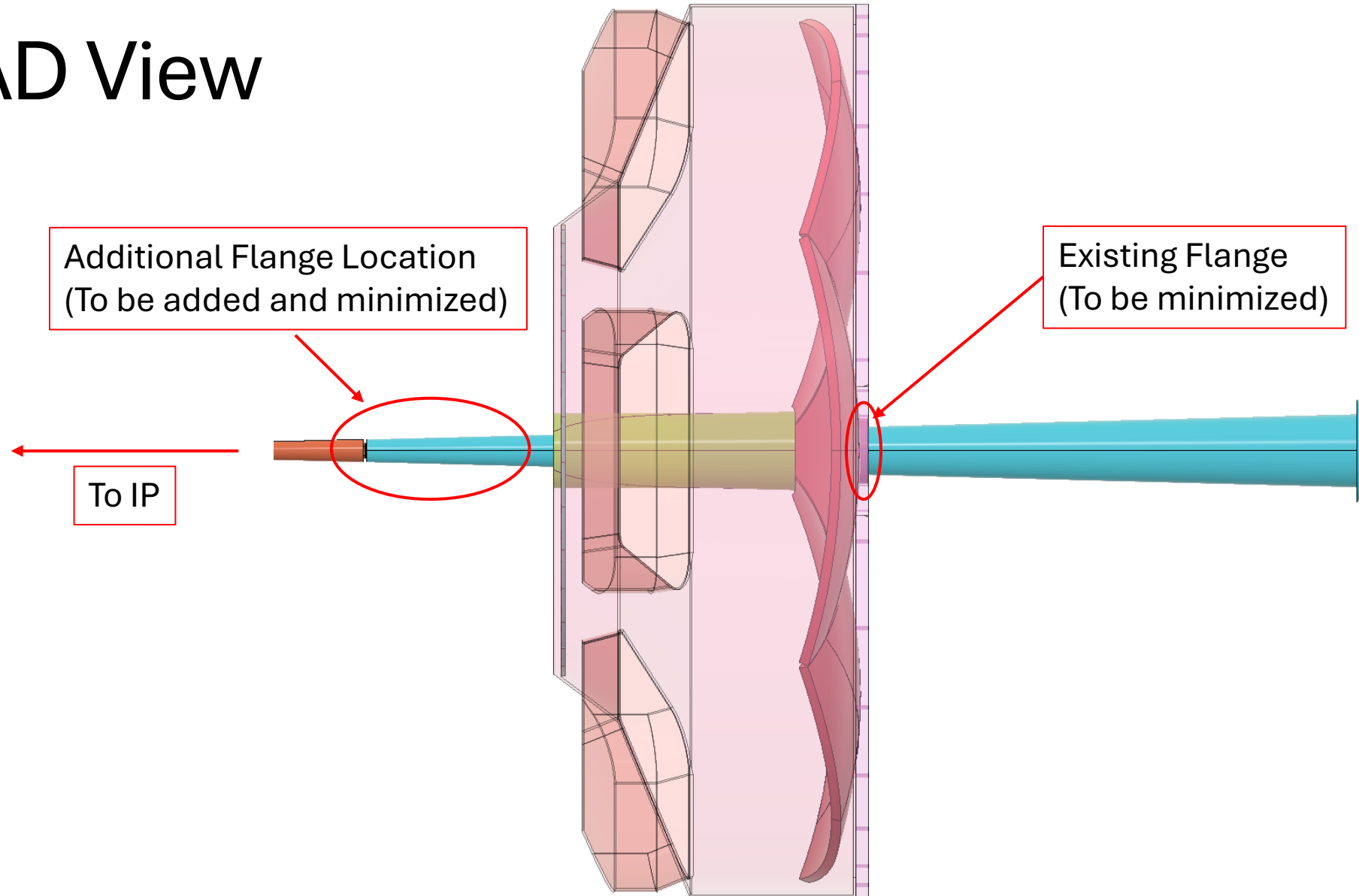
Alex Eslinger

Oct 2, 2024

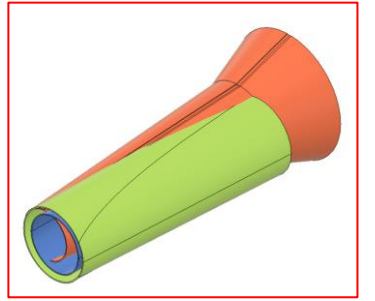
Inner Beam Pipe Bore

- Discussion about dRICH splitting is still ongoing...
- Latest info: project **does not** want to move the flange that sits behind the dRICH
 - Major factor in deciding whether the split would take place as we would be able to resize the inner bore to a smaller size
 - Working with Rolf and Charlie to resize/optimize the beam pipe flange (meeting upcoming)
 - Need ~2cm in the area to hit YR requirements
- There is a need for **an additional flange in front** of the dRICH for reasons relating to the beam pipe and the size of the IR hall
- There have been requests for up to 2cm of clearance (radially) for the dRICH installation. Discussions will be ongoing to optimize this, as well.

CAD View

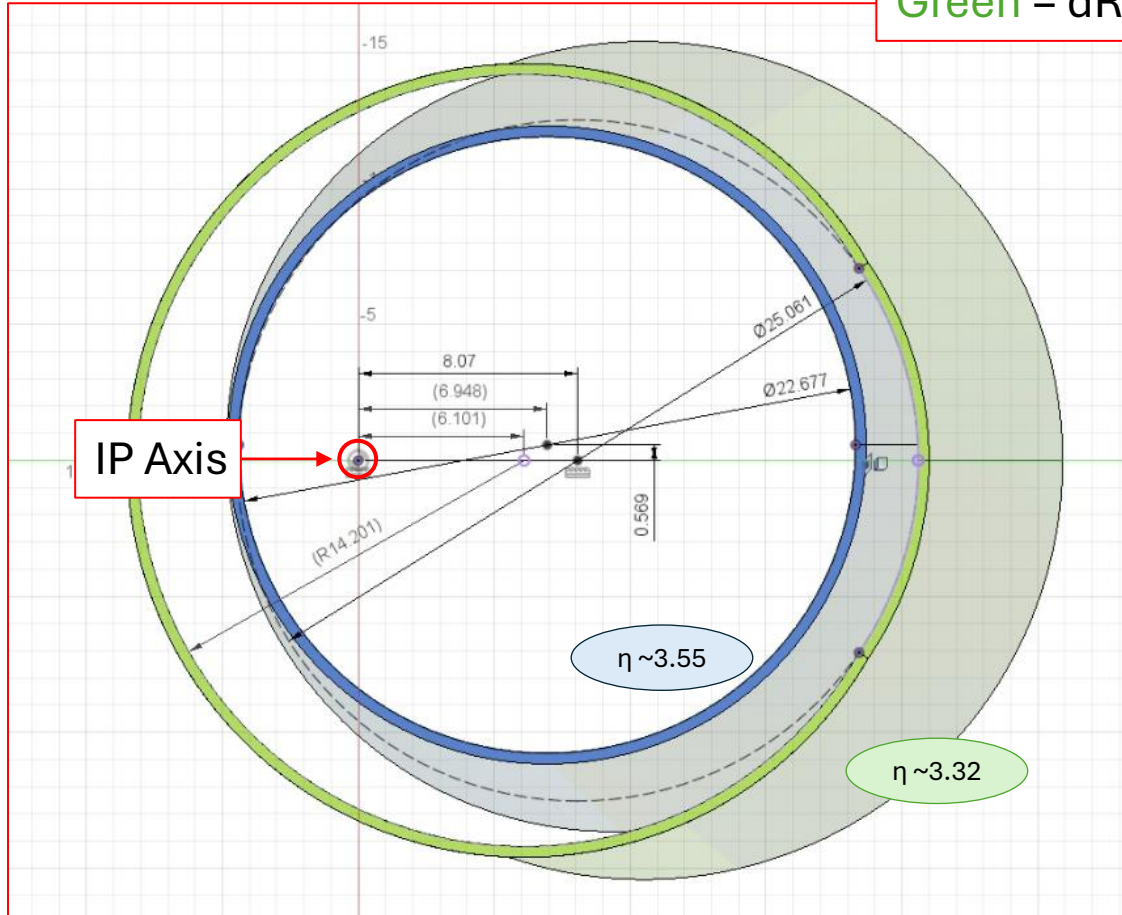


Clearance to Beampipe: 1cm

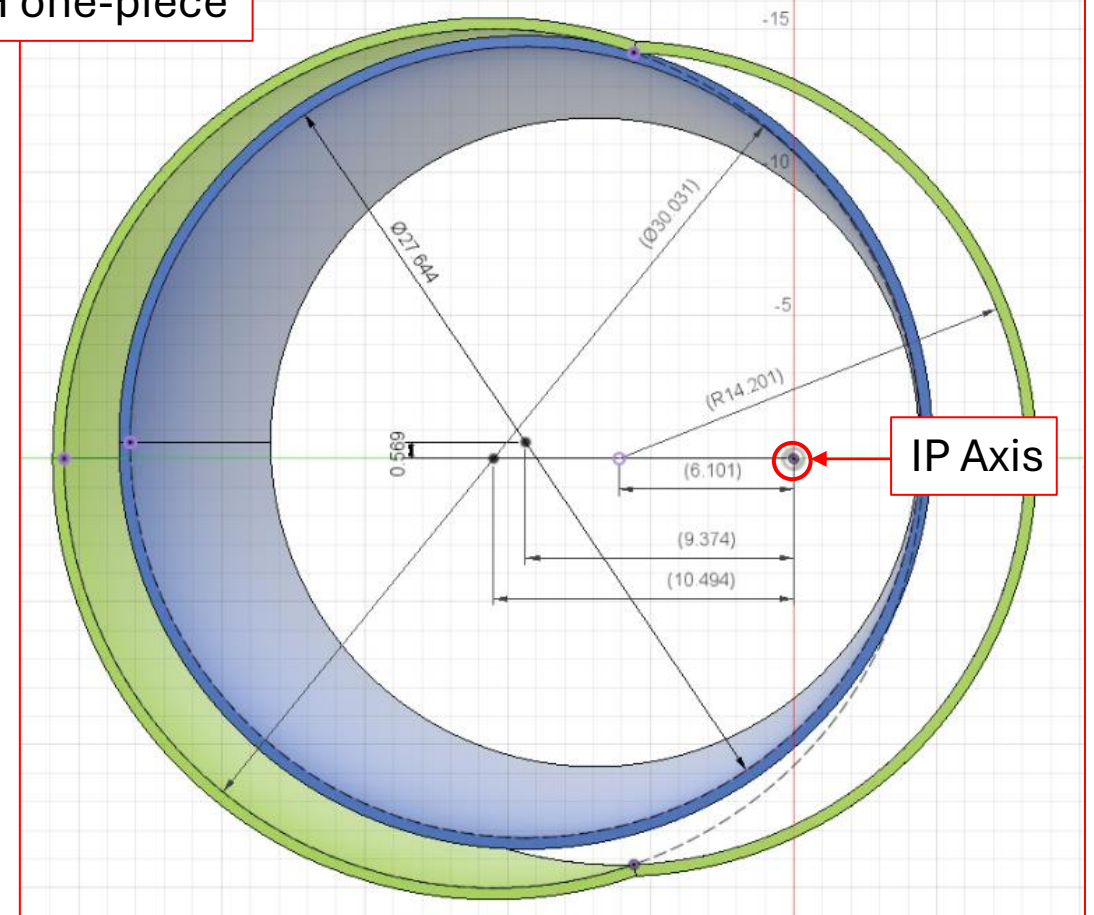


Blue = dRICH split

Green = dRICH one-piece

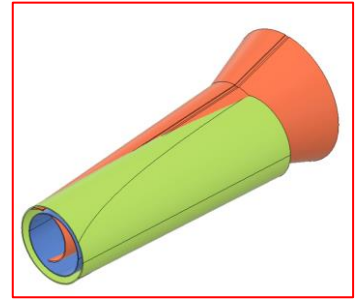


From IP



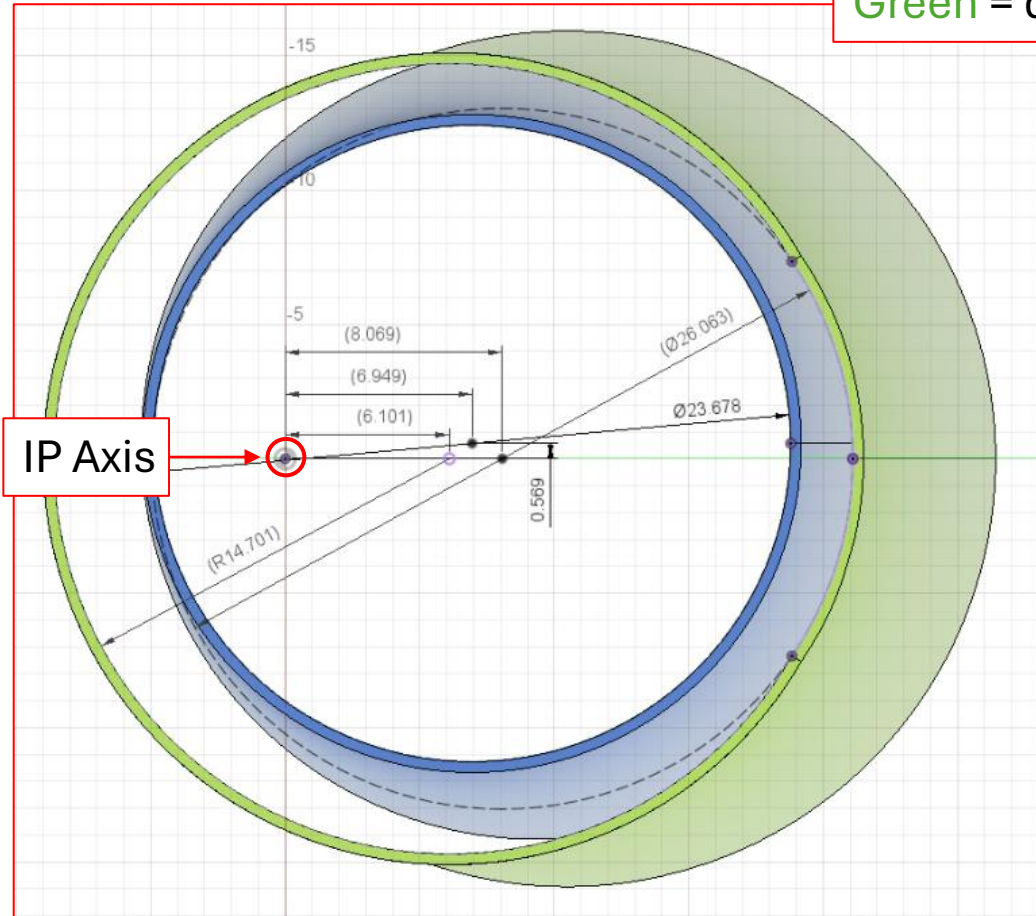
Towards IP (At Conic Section)

Clearance to Beampipe: 1.5cm

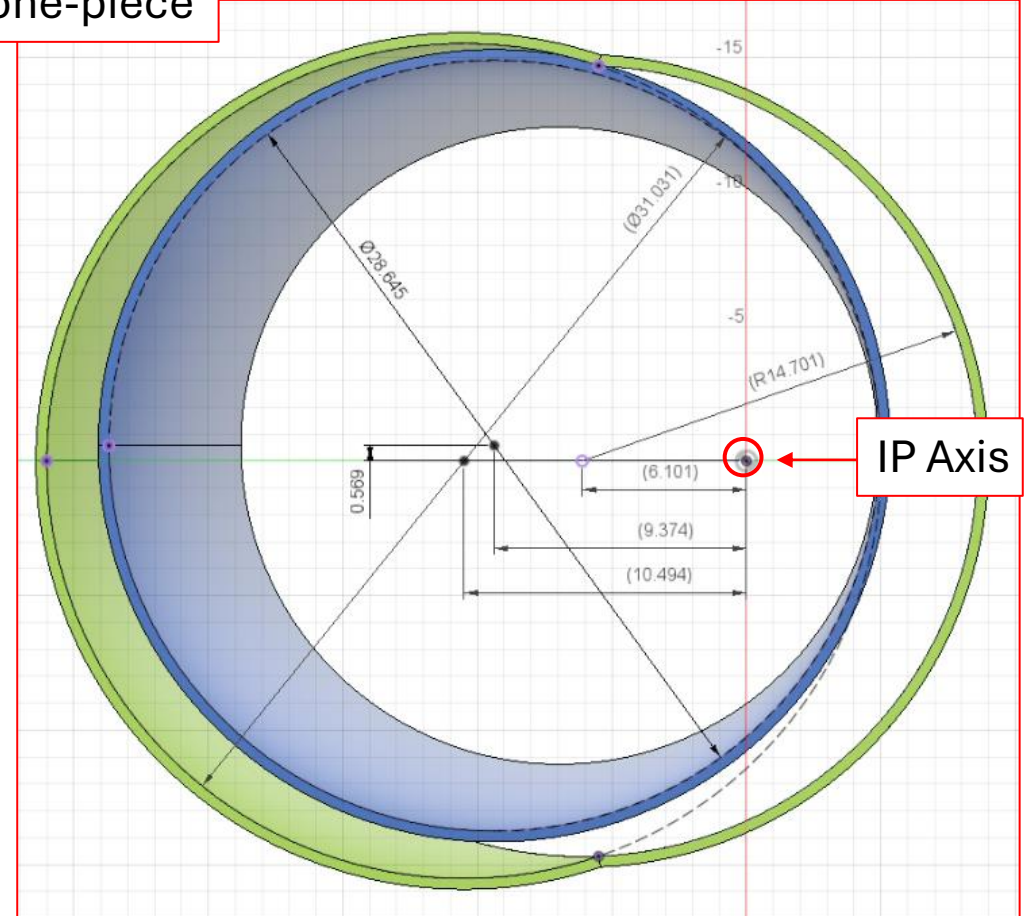


Blue = dRICH split

Green = dRICH one-piece

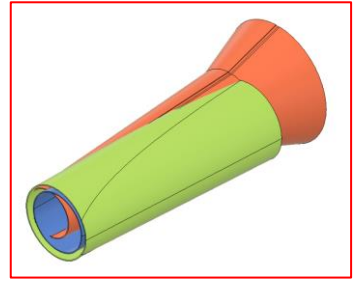


From IP

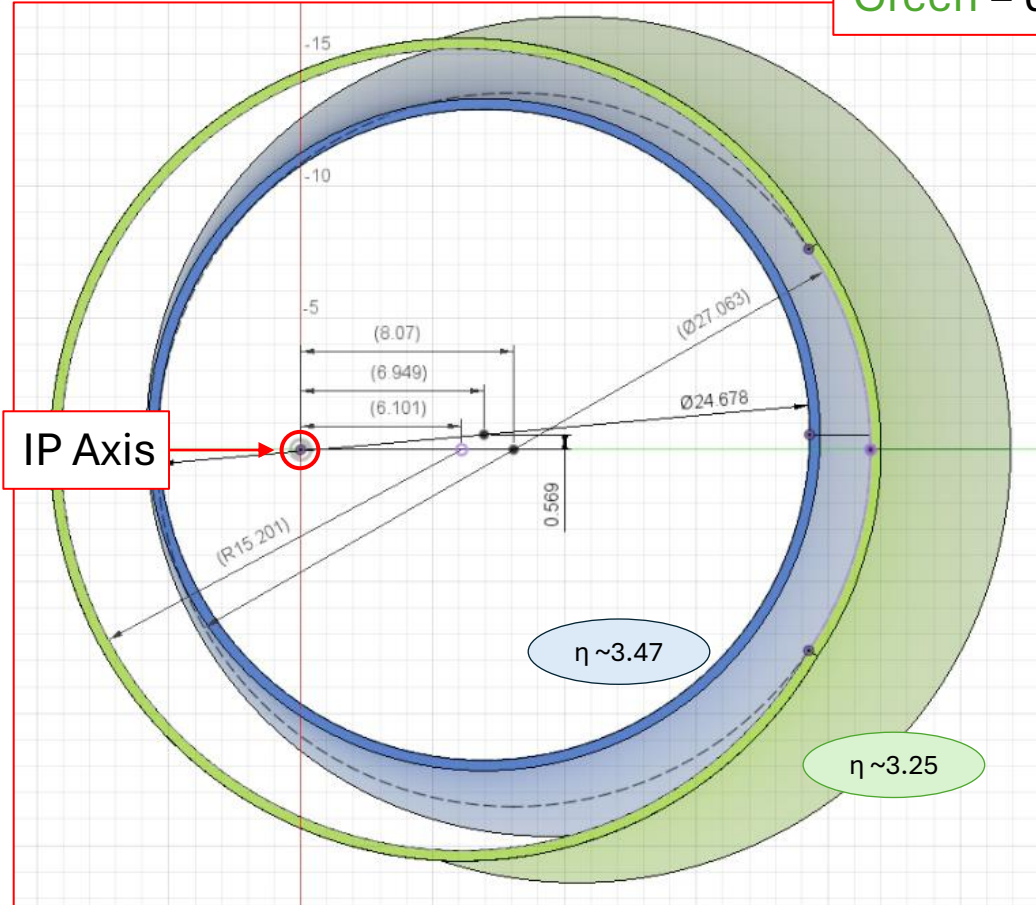


Towards IP (At Conic Section)

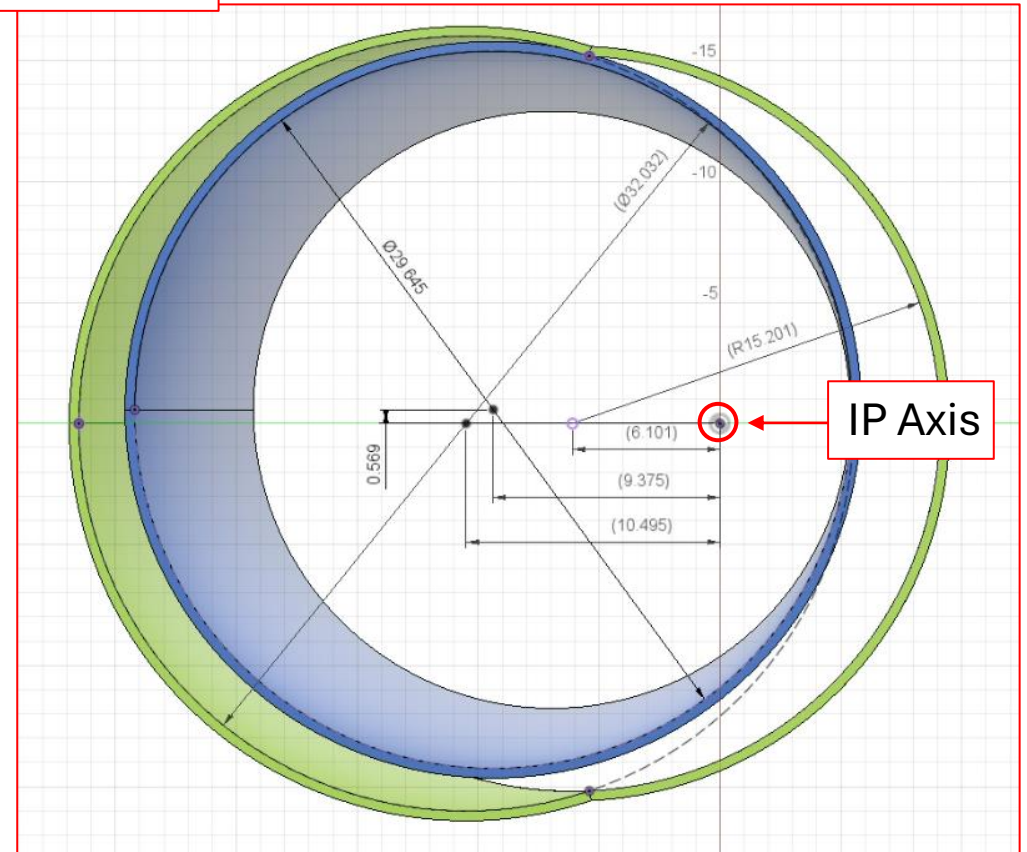
Clearance to Beampipe: 2cm



Blue = dRICH split
Green = dRICH one-piece

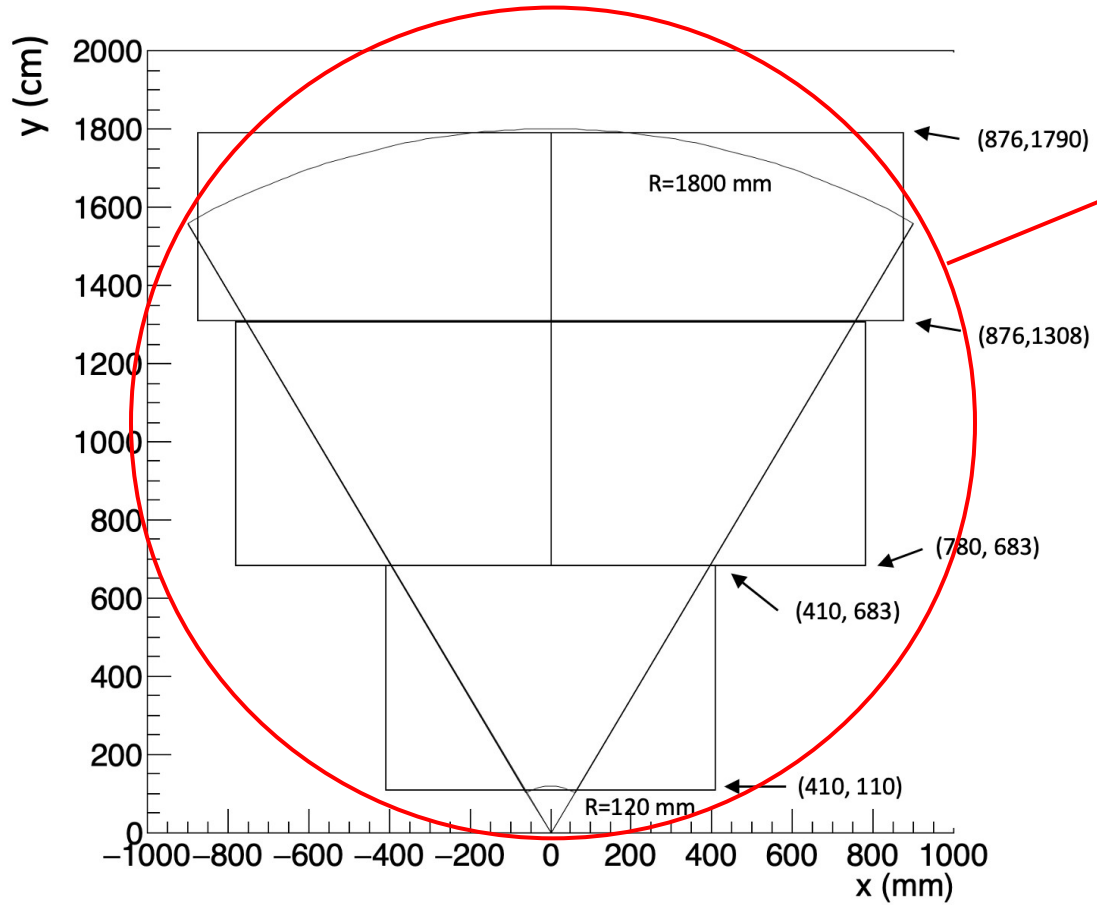


From IP

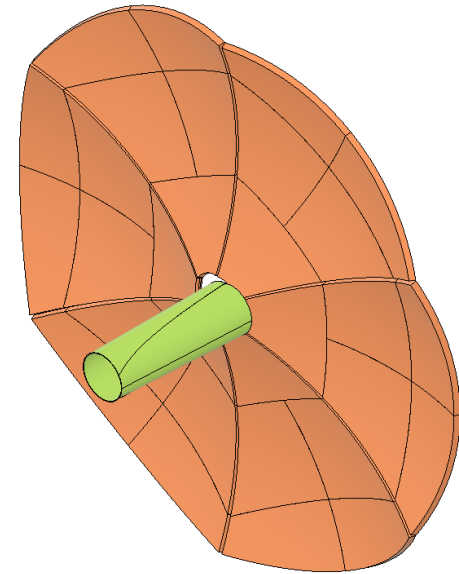
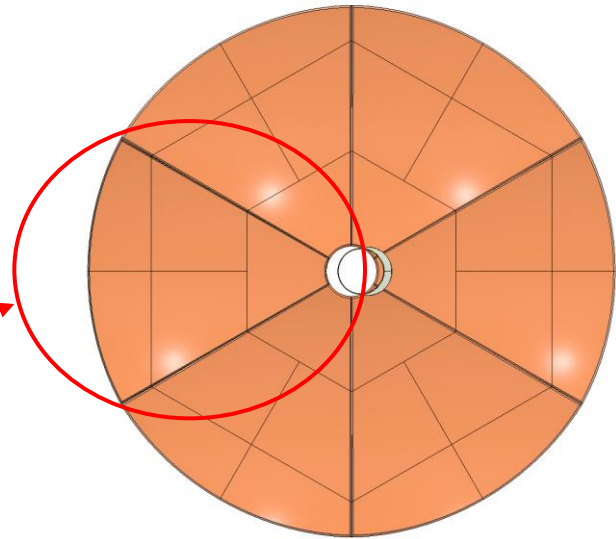


Towards IP (At Conic Section)

Mirror Divisions



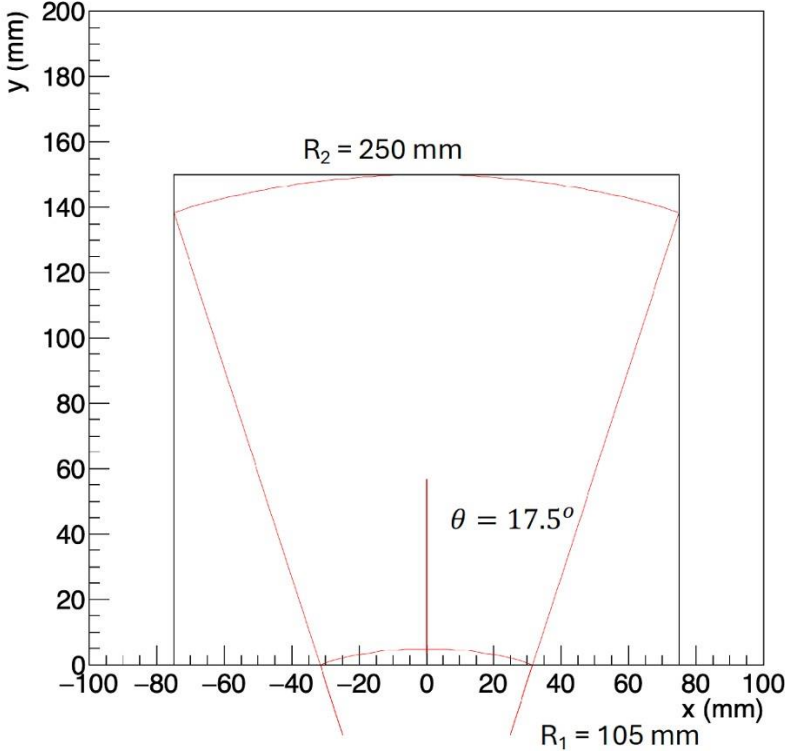
Mirror Divisions: ~1m Diagonal



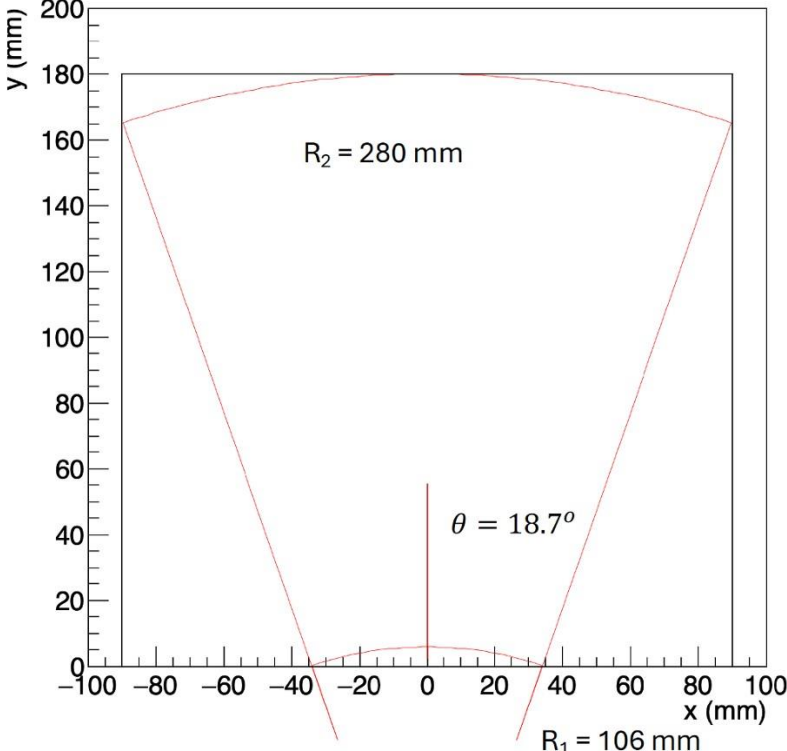
CAD: ~1m Diagonal

Aerogel Divisions

Aerogel water-jet cut shaping for 15 x 15 cm² area:

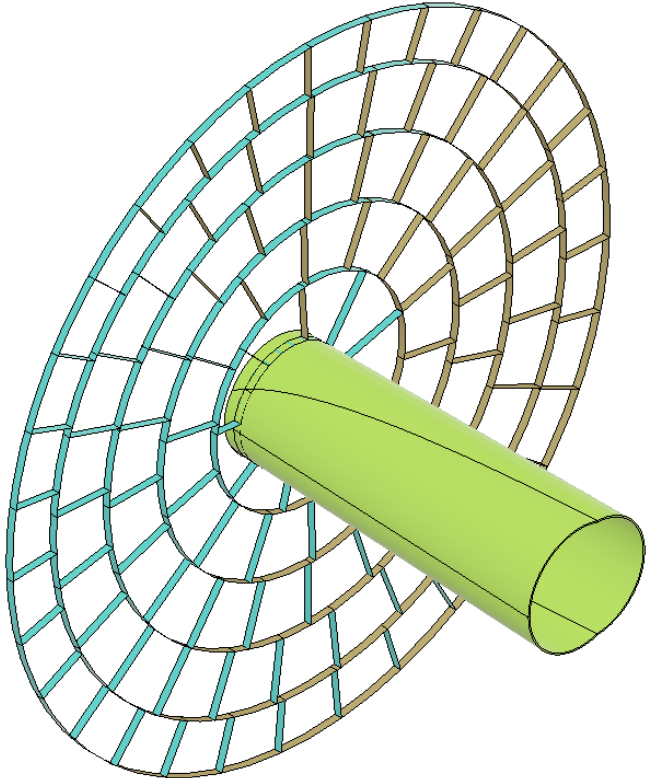
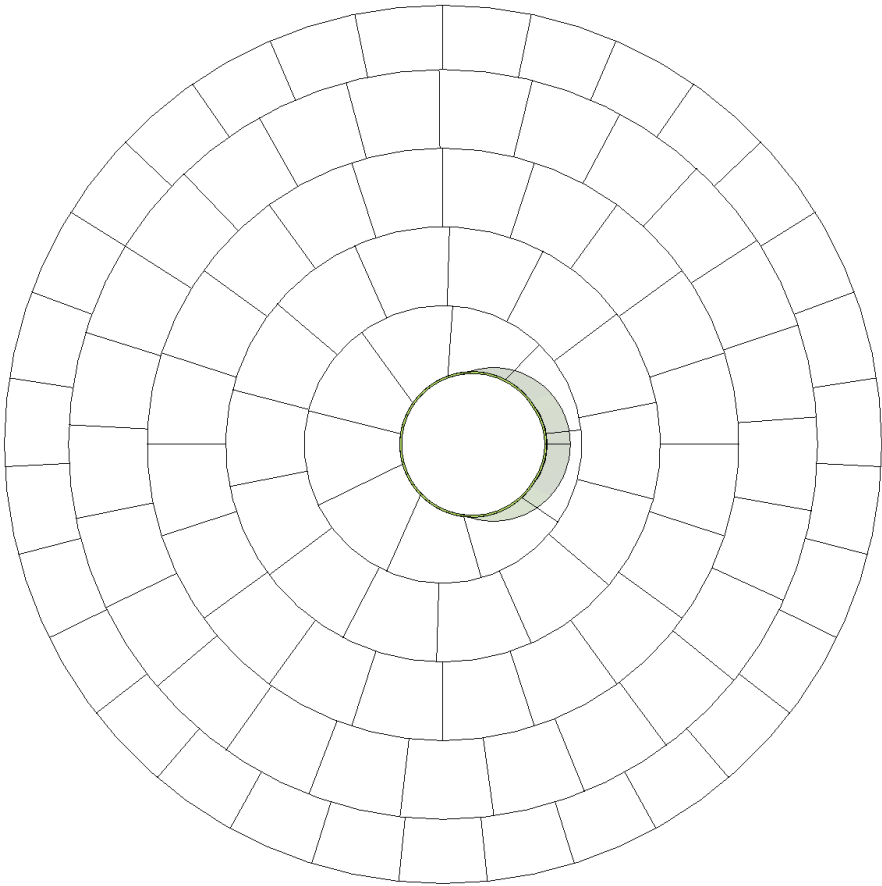


Aerogel water-jet cut shaping for 18 x 18 cm² area:



Assumed aerogel sizing

Aerogel Divisions: CAD View



Aerogel layout with “single-piece” tube at 1.5cm beam pipe clearance

Questions?