



Some Progress on ILD Yoke Design

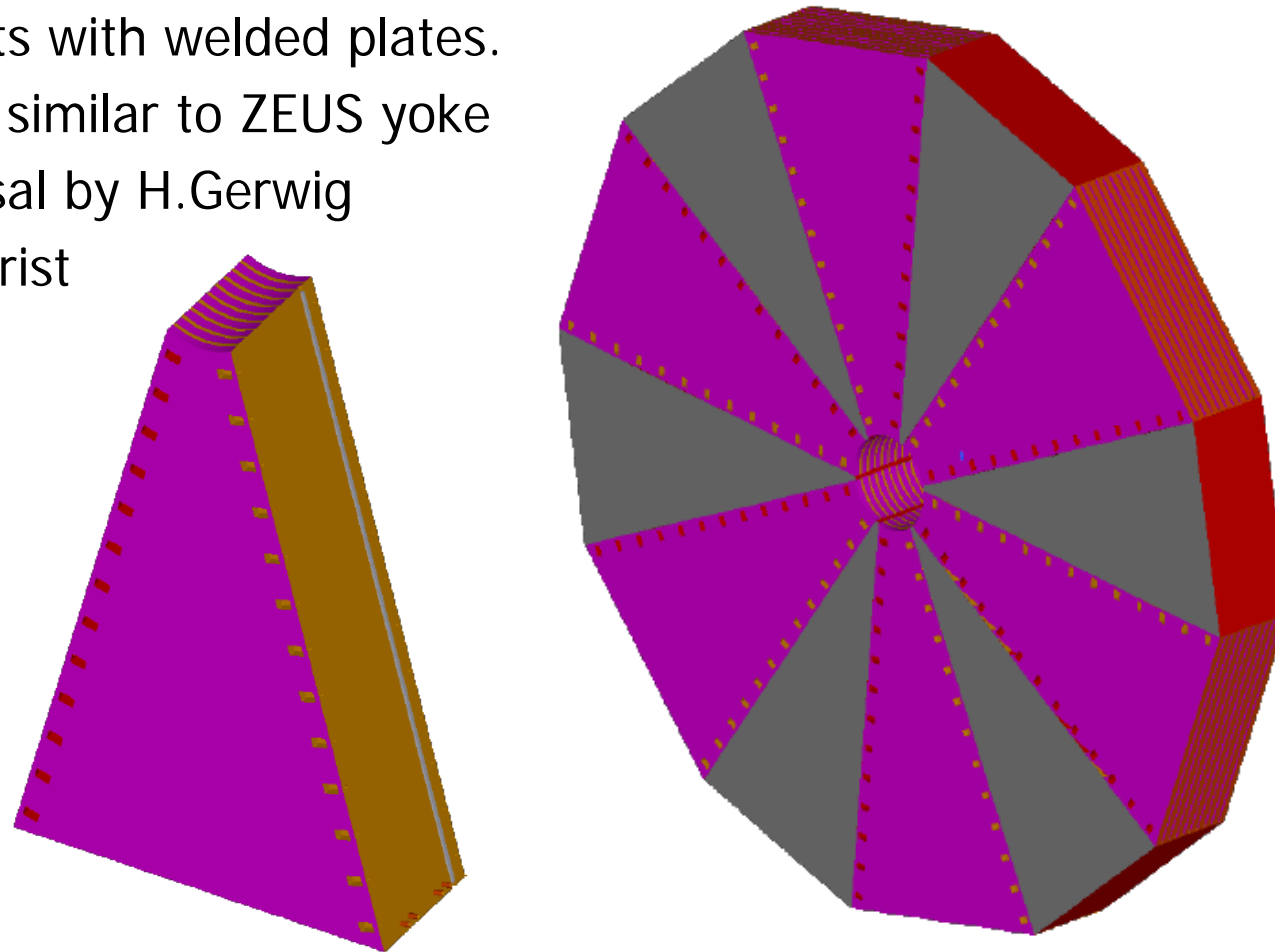
Uwe Schneekloth
DESY

3.02.2009

Mechanical Design of End-Cap

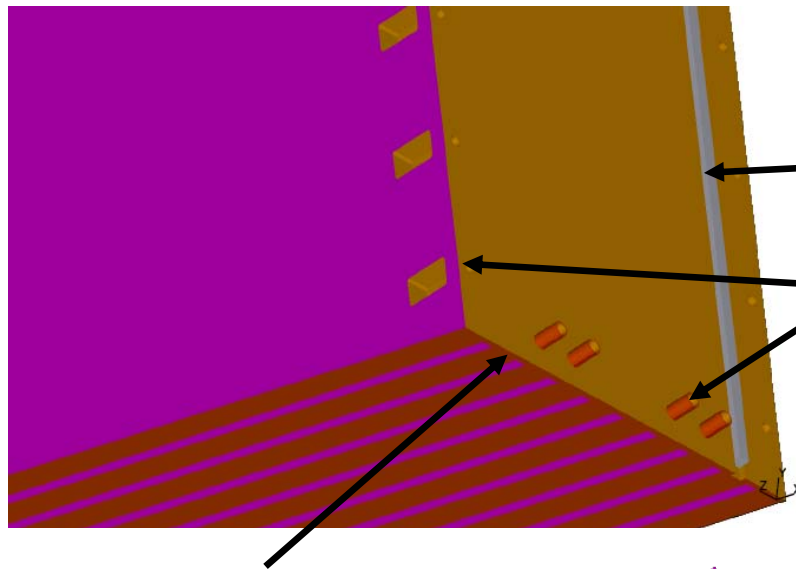
Recently, started looking into design of segments with welded plates. Somewhat similar to ZEUS yoke and proposal by H.Gerwig and N.Siegrist

R.Stromhagen/U.S.



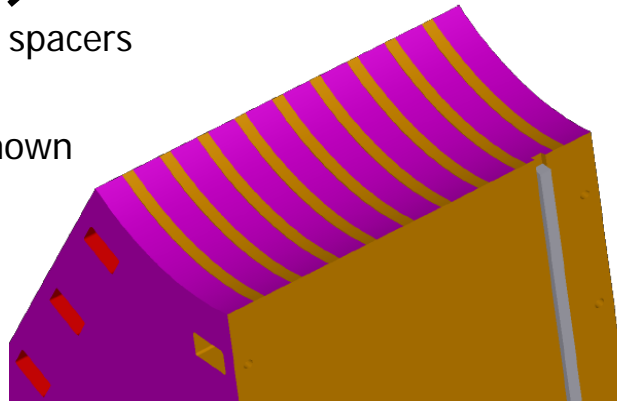
Assembly of End-Cap Segments

Details of inner end-cap part



Plates welded to spacers

Inner ring not shown



Segment assembly:
Gravitational load

- Using shear keys and tension springs
- Segments connected by M30 bolts

Magnetic load

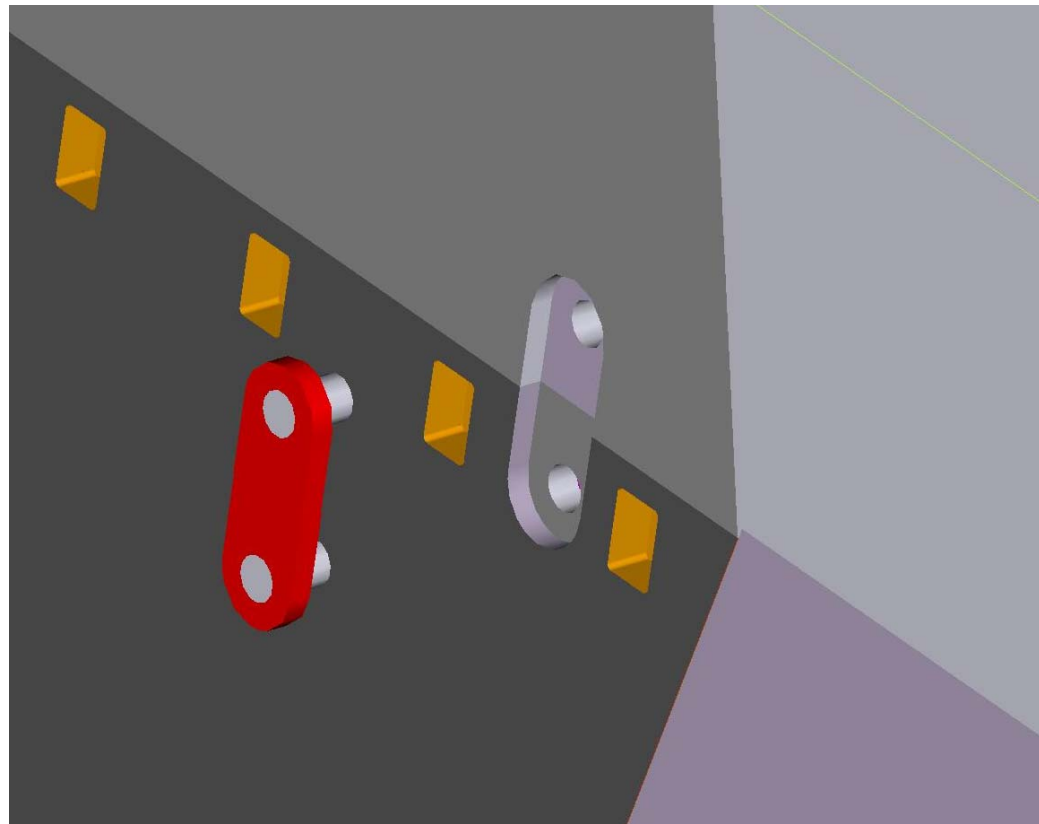
First calculation of tangential force between segments about 2000t on IP side. To be checked.

Connection of segments

- Using shear pins in FSP and first plate. Similar to proposal in CMS Magnet TDR.
(Joining segments by welding not recommended)

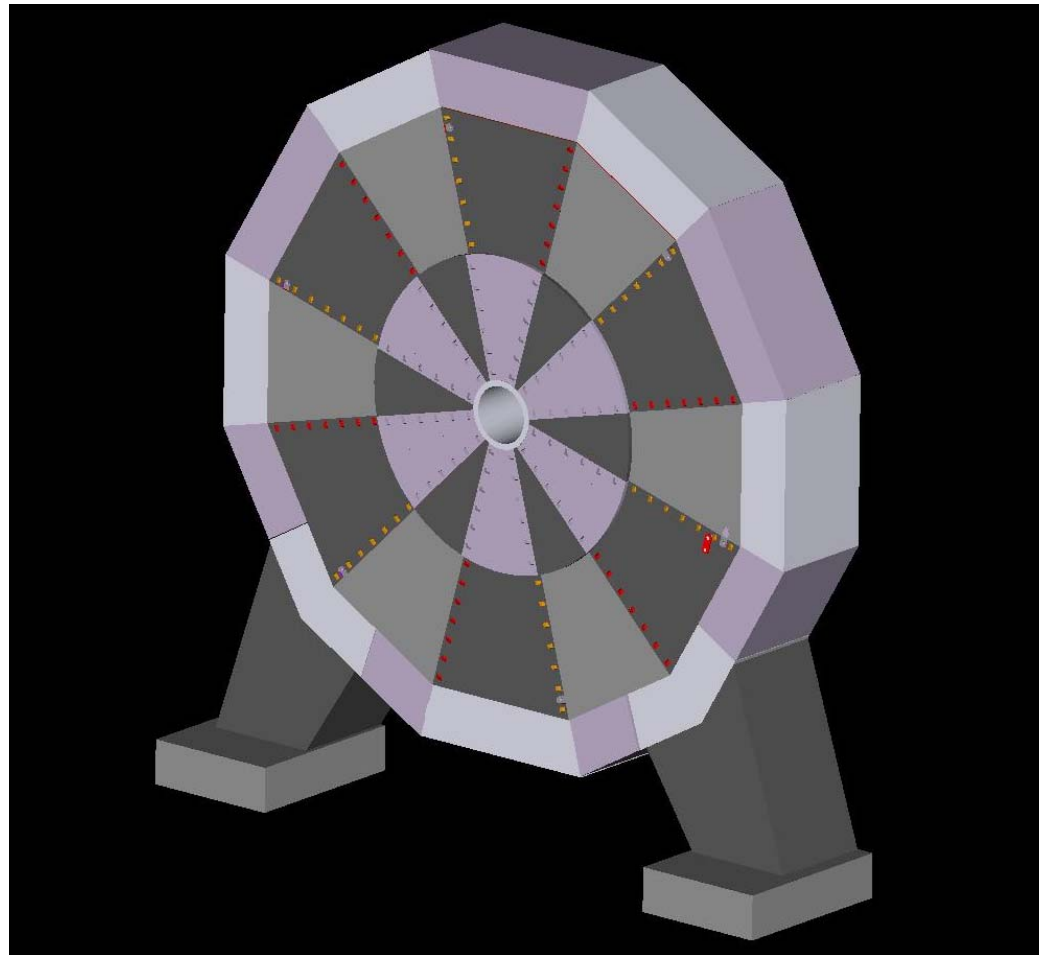
Mechanical Design of End-Cap

Connections of segments using plates and shear pins on first and last plate and FSP



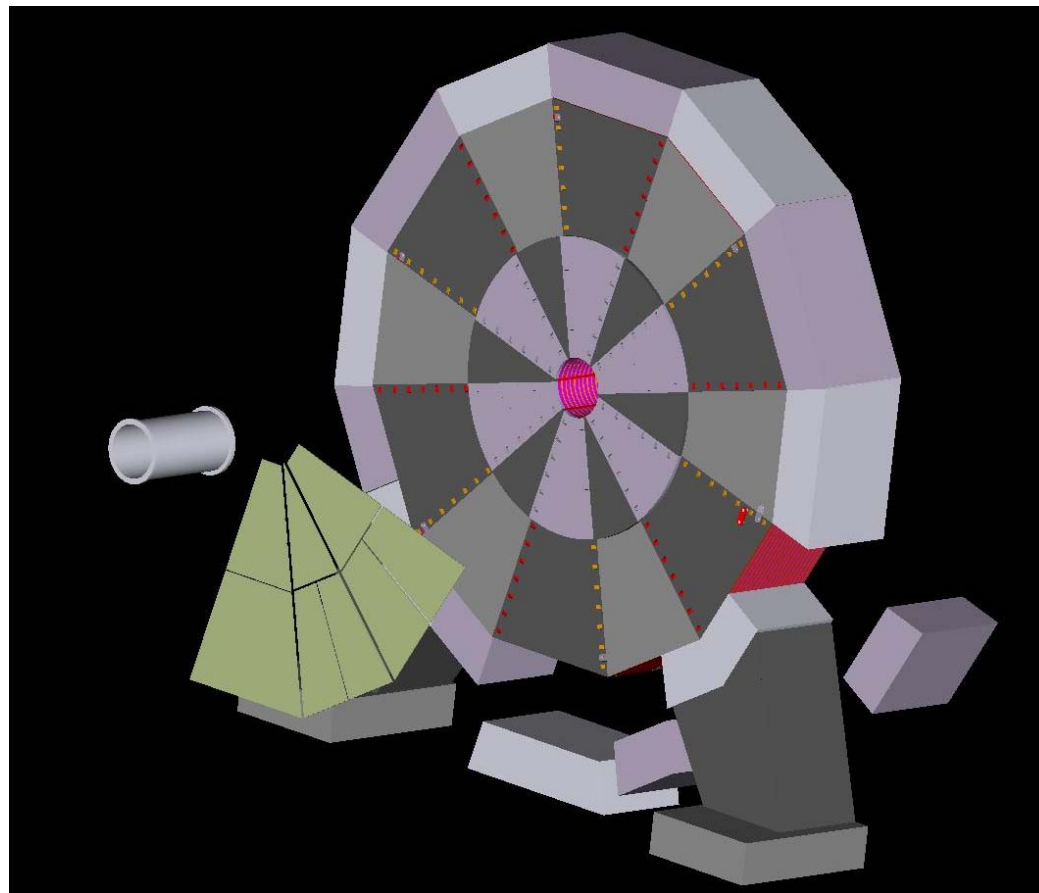
Mechanical Design of End-Cap

End-cap with support feet

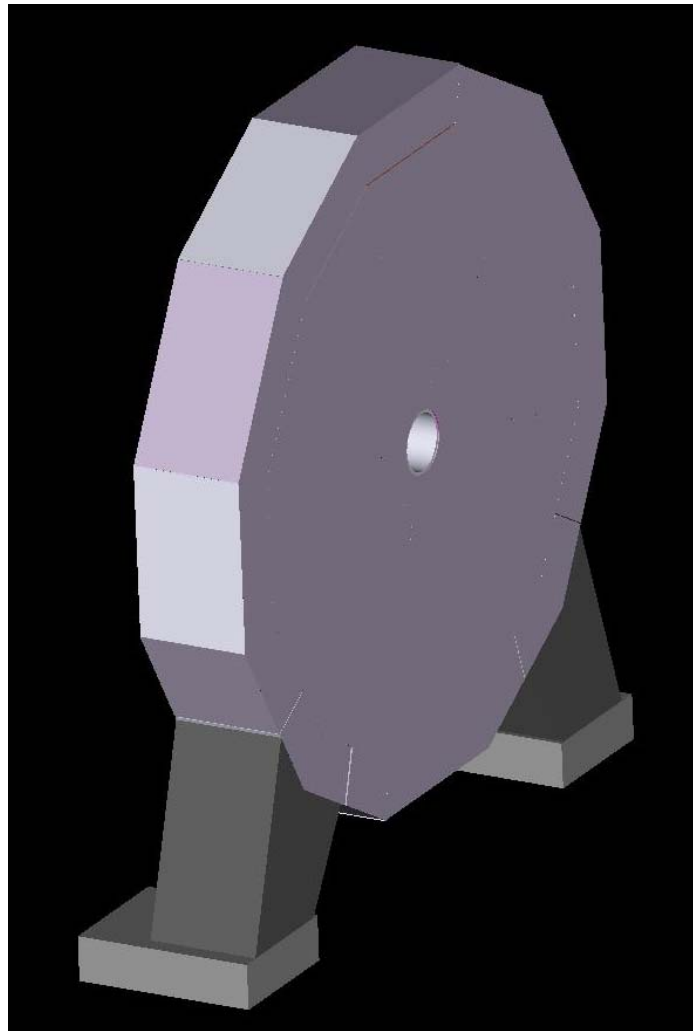


Mechanical Design of End-Cap

End-cap assembly
inner ring, outer filling pieces and muon chambers

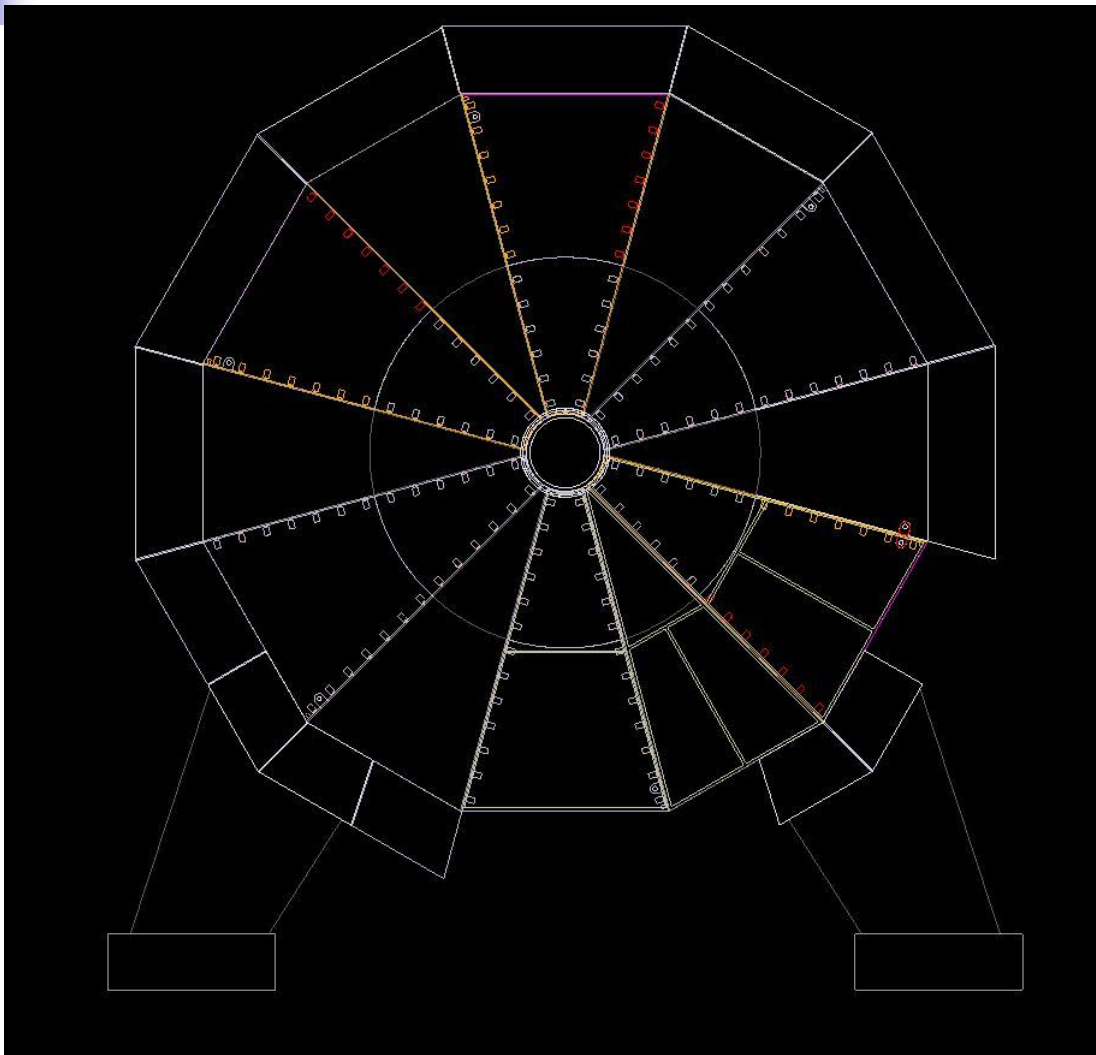


Mechanical Design of End-Cap



Rear view

Design of End-Cap



Muon chambers
Filling pieces
removed for
installation