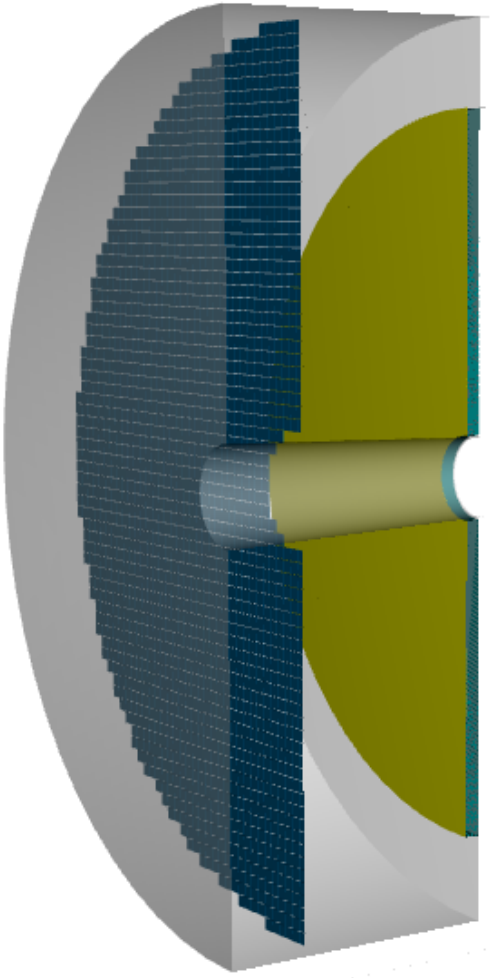
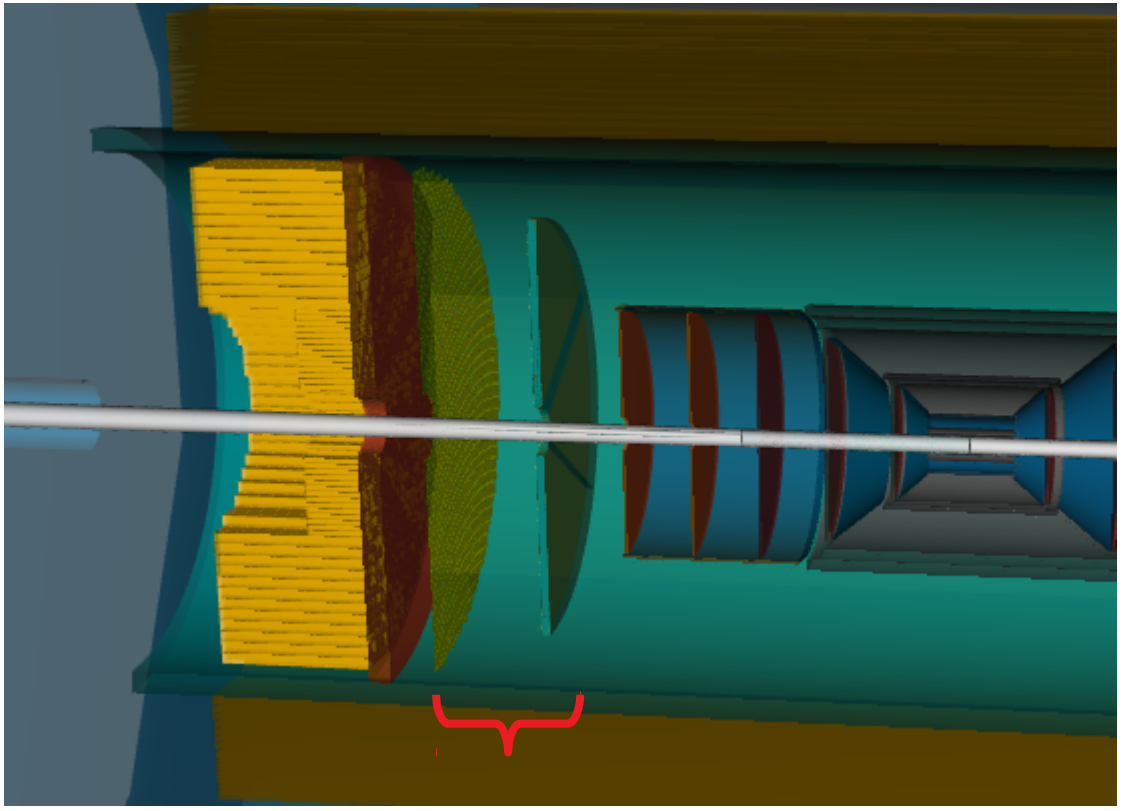
Proximity Focusing RICH geometry in dd4hep





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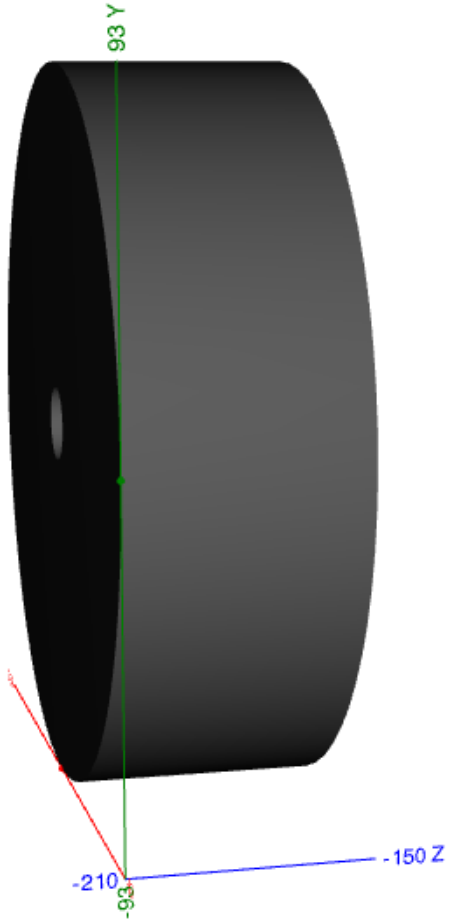
Name TBD, currently “eRICH”

Envelope dimensions and position (60cm length)



sensor plane
~3,800 SiPMs

```
##### Sensor module
- based on Hamamatsu S13361-3050AE-08
  - effective area: 24.0 x 24.0 mm
  - enclosure size: 25.8 x 25.8 mm
  - pixel size: 3x3 mm (8x8 matrix)
  - thickness: 1.5 mm
```

aerogel (3cm) + filter

e^-

~20 cm Extra space (electronics, room for optimization, etc.)

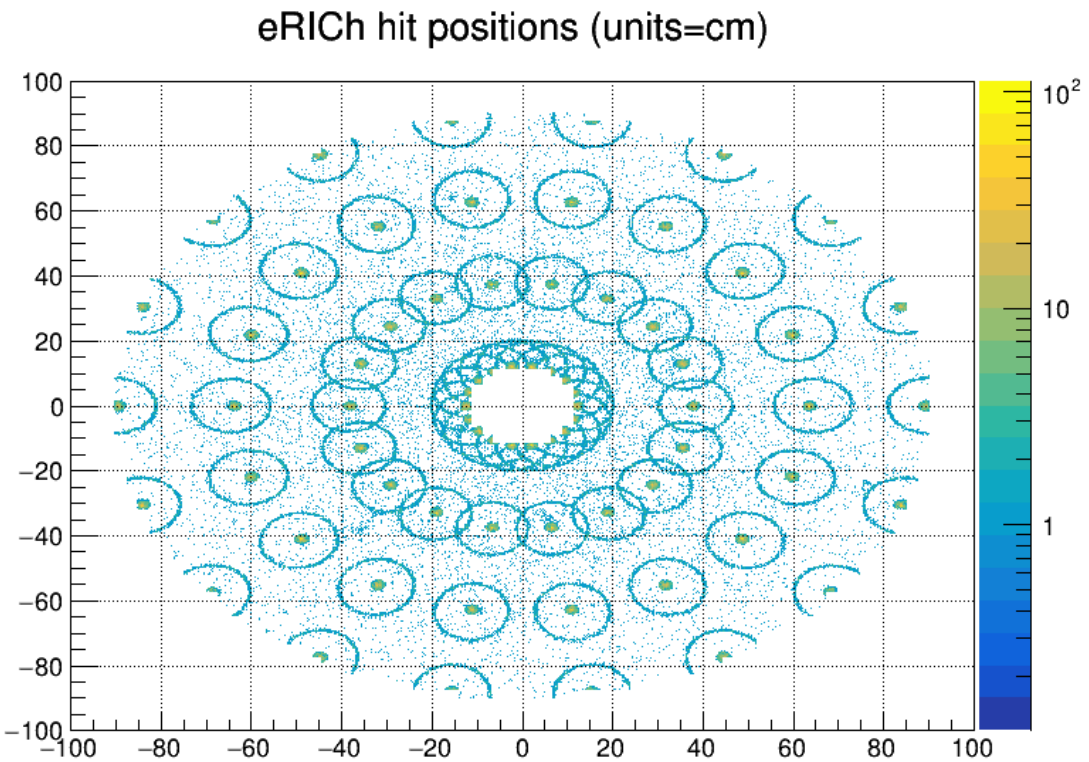
Materials copied from dRICh – **to be updated!**

– Need MPTs

40cm expansion length

Proximity Focusing RICH geometry

First Sanity check: 8 GeV pions within acceptance limits



To do

- Need proper material property tables (and surface properties)
- Detector name
- Test / debug readout mapping (ongoing)
- Connect with IRT code
- Plan to implement dual-mirror configuration for dRICh *this week*

Merge request: https://eicweb.phy.anl.gov/EIC/detectors/athena/-/merge_requests/254