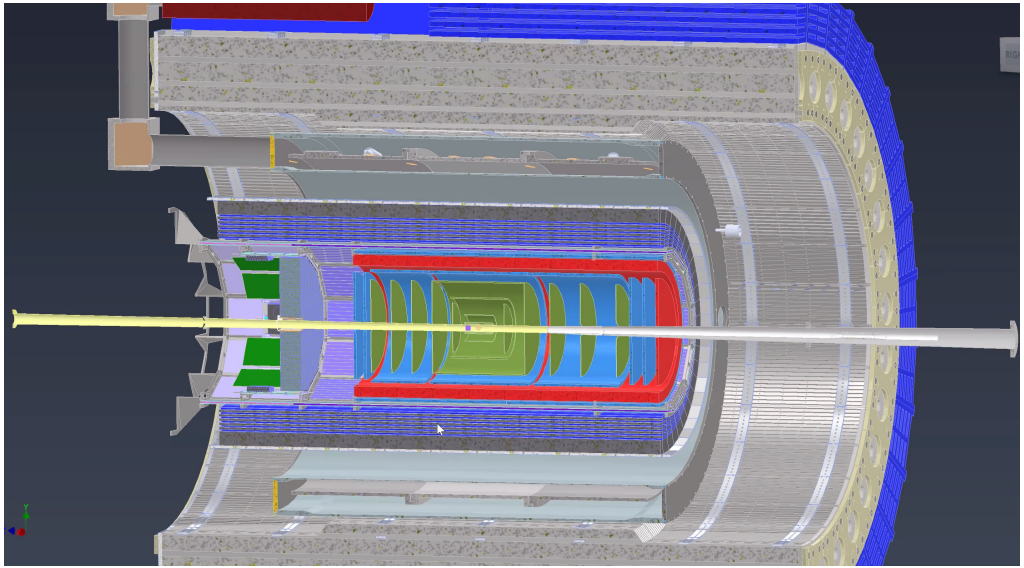

μ – Rwell detectors for the EPIC tracking at EIC

To Do List

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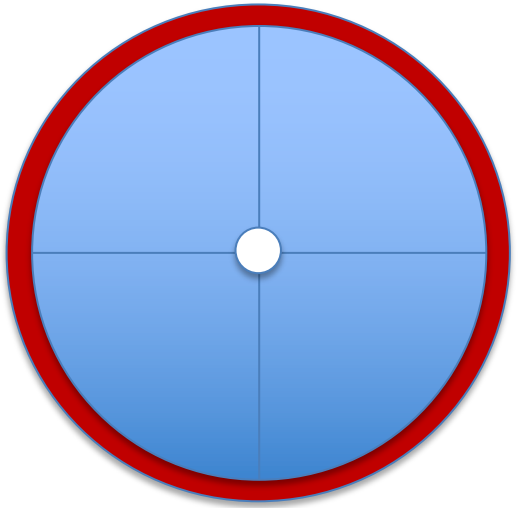
for the EIC Collaboration

Geometry Options

EIC GEOMETRY FRI, 26 APR 2024 17:51:16

Region	Component	Sub-Component	WBS	Length (cm)	Inner Radius (cm)	Outer Radius (cm)	Offset from Center (cm)	Physical Start (cm)	Physical End (cm)	Volume (m^3)	Weight (kg)	Technology	Notes
	HD MPGD 2			2.5	9	50	161	161	163.5	0.02	3.80412603		Weight: based on parametric estimate from SBS Gem Offset: measured from face nearest to interaction point
	HD MPGD 1			2.5	9	50	148	148	150.5	0.02	3.80412603		Weight: based on parametric estimate from SBS Gem Offset: measured from face nearest to interaction point
	LD MPGD 1			2.5	4.635	50	-110	-112.5	-110	0.02	3.89772228		Weight: based on parametric estimate from SBS Gem Offset: measured from face nearest to interaction point
	LD MPGD 2			2.5	4.635	50	-120	-122.5	-120	0.02	3.89772228		Weight: based on parametric estimate from SBS Gem Offset: measured from face nearest to interaction point

- Options for Endcap geometry:
  - 4 Quadrants vs **2 semi-circles**
  - **(X,Y) readout**



50 cm external radius includes services
-> the maximum active area needs to be re-assessed → 5/9.5 cm internal hole

500 μm strip read-out pitch -> 2000 per sector per quadrant -> 32 FEB/disc

To do List

- Update the endcap drawings using the Final Mechanical envelope available for uRwell endcaps, disks orientation and 500 μm pitch strip density → 32 FEBs/disk- Seung joon
- Define the detector active areas, frames, final segmentation and strips routing to the connectors– start with semi-circles, identify possible connectors – ask Irakli Damien
- Make a financial plan: ask Rui for disks uRwell and GEM foils costs, ask Irakly for FEB costs - ICRADA
- Define the steps for a production plan and sites: who does what, where?
- Servings & Cooling - Seung Joon
- Gap-size definition (3mm drift gap + 3 mm GEM foil gap)
- Material budget assessment (including GEM pre-amplifier)
- Detector geometry simulation Mariangela, Lucilla & Matt
- Detector response simulation Mariangela+ Roma group + Matt
- On-Line Calibration -> Alignment -> SVT/Tracking->TIC: survey/photogrammetry plans – targets to be installed?
- Stability against magnetic field forces (2 Tesla) (carbon fiber support)
- Mounting procedure and related constraints ?