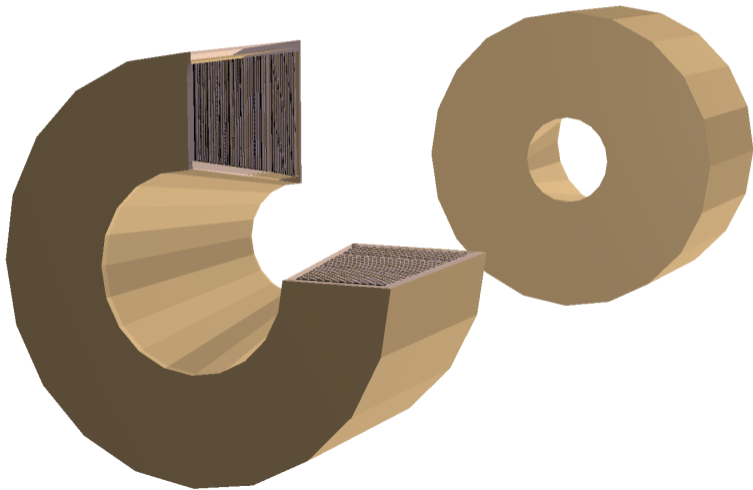# Calorimeter endcaps - first design

Calorimeter endcaps: tracker tkLayout
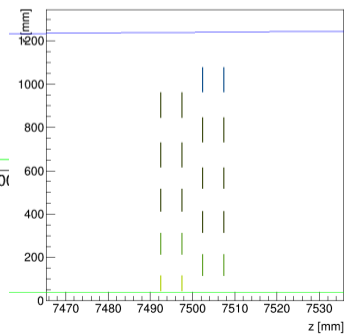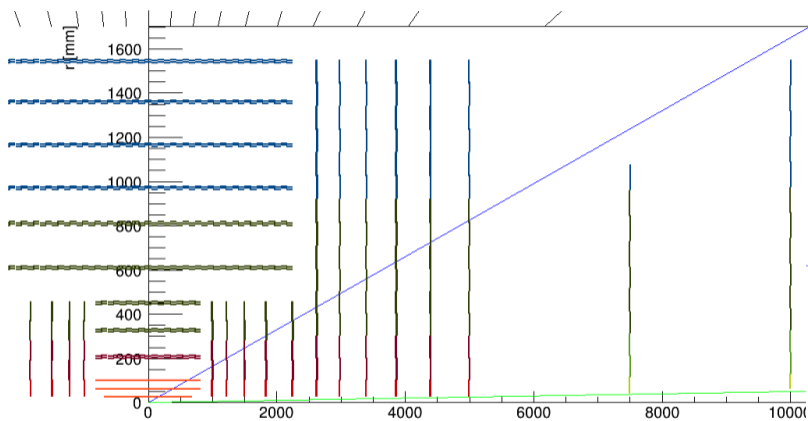
▶ cryostat shape? there is tracker disc!
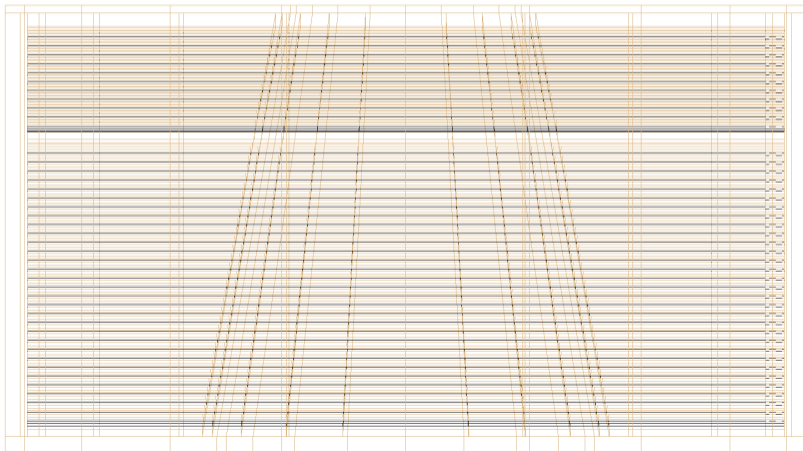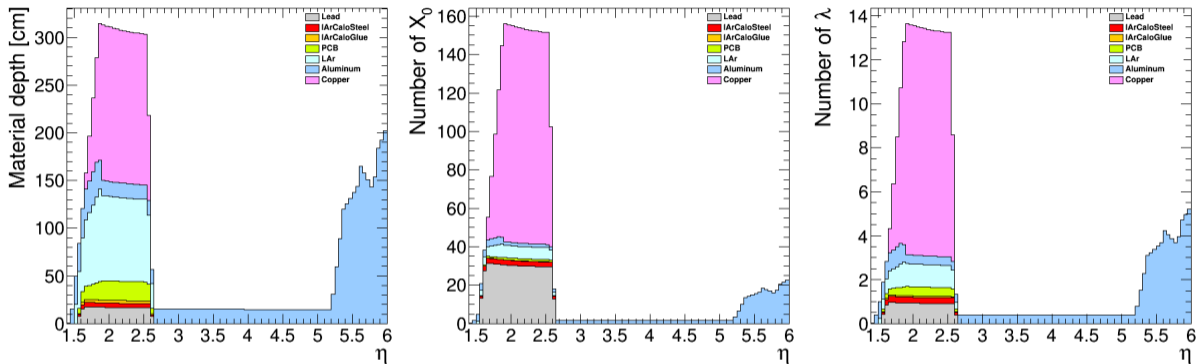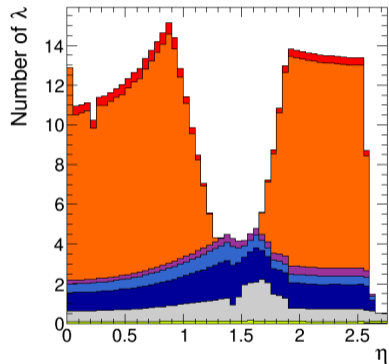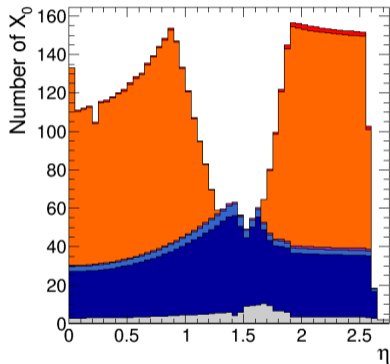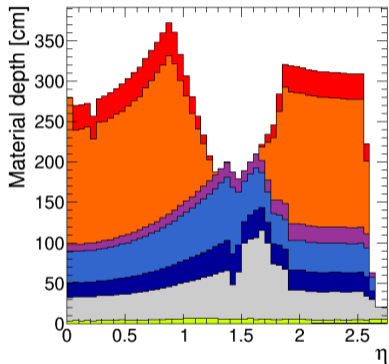
Calorimeter endcaps

Calorimeter endcaps: material scan of endcap

- ▶ cryostat that does not go along $\eta = 2.5$ direction (currently overlap with tracker)
- ▶ EMEC: 3mm lAr / 2mm absorber (lead, steal, glue)
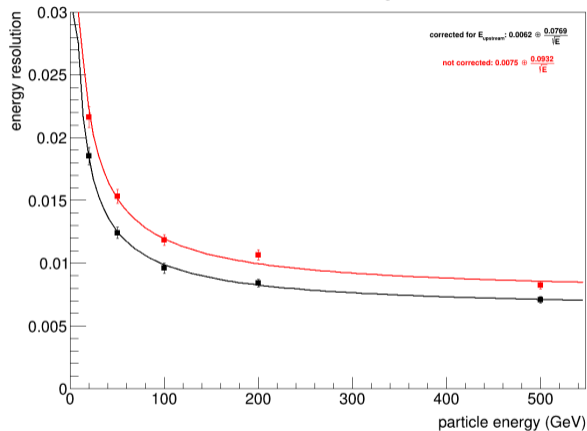- ▶ HEC: 3mm lAr / 2cm Copper

Electromagnetic calorimeter: material scan

Energy resolution: (no) correction for $E_{upstream}$

e^-, B = 4T, 1.5 X_0, η=0

corrected for $E_{upstream}$: 0.0062 $\oplus$ $\frac{0.0769}{\sqrt{E}}$

not corrected: 0.0075 $\oplus$ $\frac{0.0932}{\sqrt{E}}$

▶ only difference: correction for $E_{upstream}$

Energy resolution: comparison with positrons

$B = 4T$, $1.5\,X_0$, $\eta = 0$

electron: $0.0062 \oplus \dfrac{0.0769}{\sqrt{E}}$

positron: $0.0049 \oplus \dfrac{0.0906}{\sqrt{E}}$
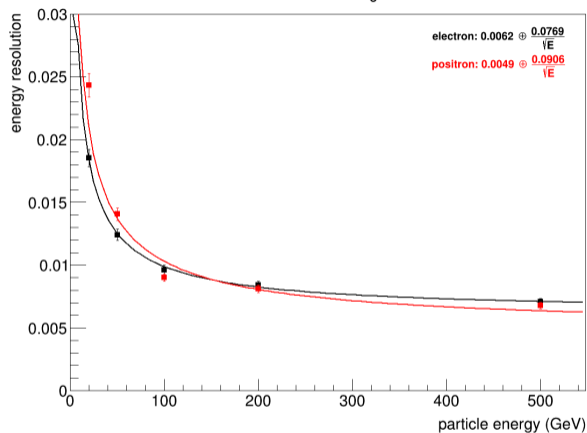
▶ using same parameters (sampling fractions, parameters for $E_{upstream}$ correction)

Calorimeter endcaps: material scan of endcaps (old)
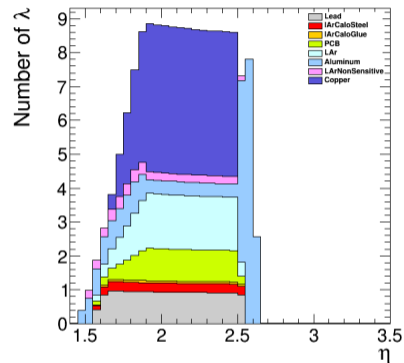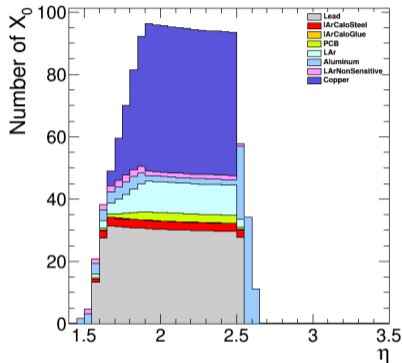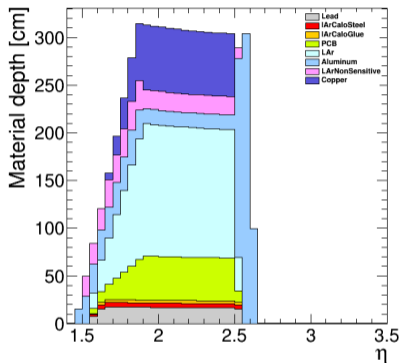
- ▶ cryostat that goes along $\eta = 2.5$ direction (no overlap with current tracker)
- ▶ EMEC & HEC: 3mm lAr / 2mm absorber