

sPHENIX Detectors Material Scan

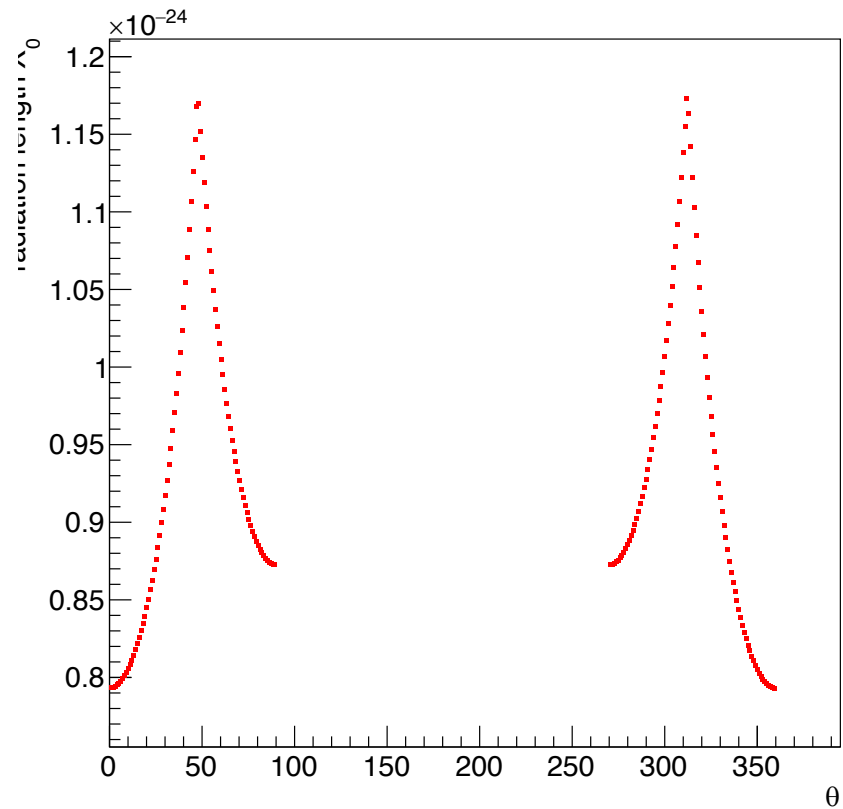
Ejiro Umaka (BNL)

01/15/2023

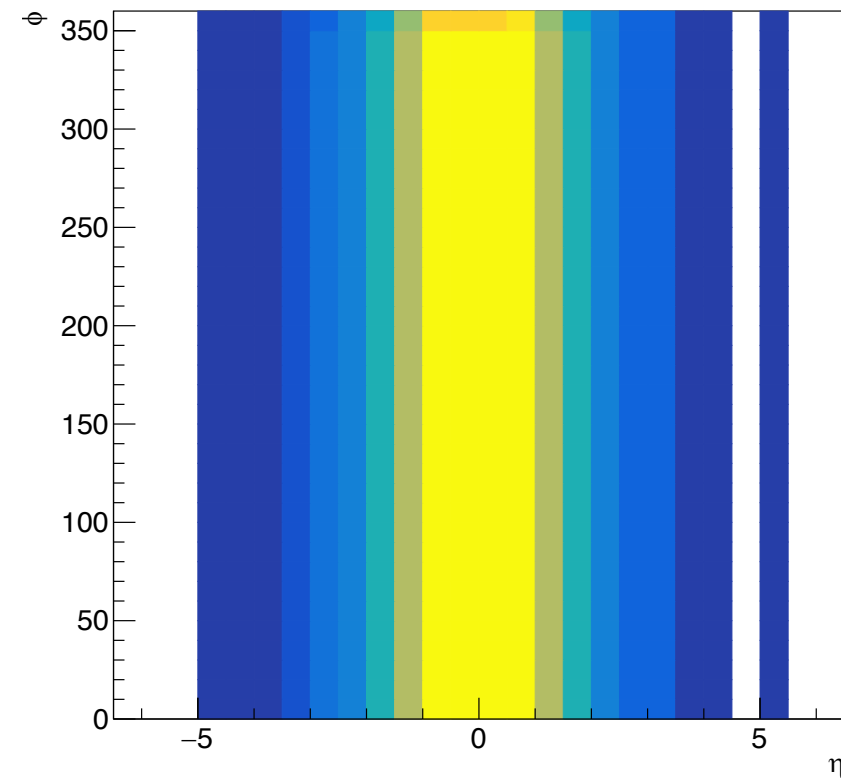
Note: this is θ as seen in GEANT
For reference $\theta = 0$ is \perp to the beam axis $\rightarrow \eta = 0$

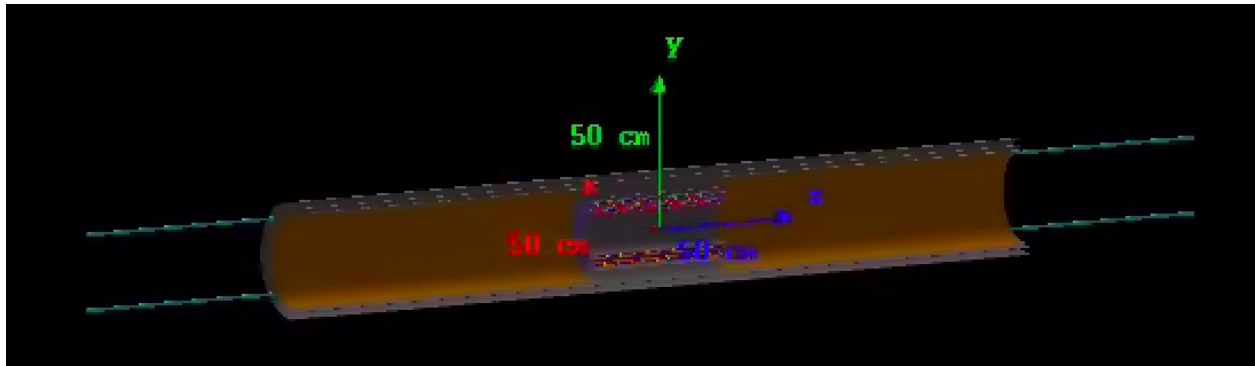
*Left plot: y-axis is radiation length
*Right plot: z-axis is radiation length

*applies for all slides



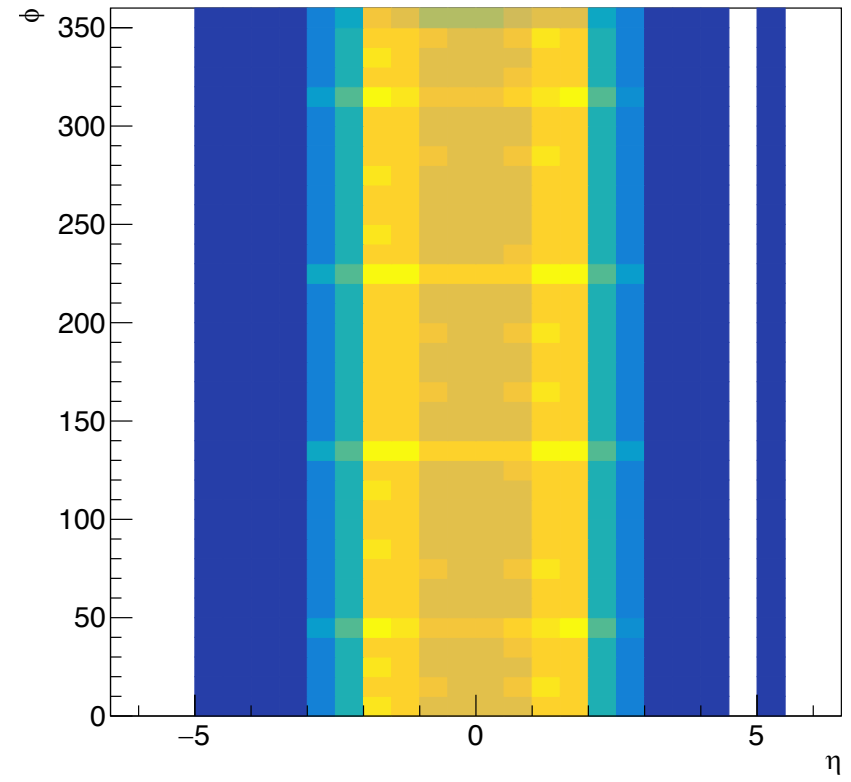
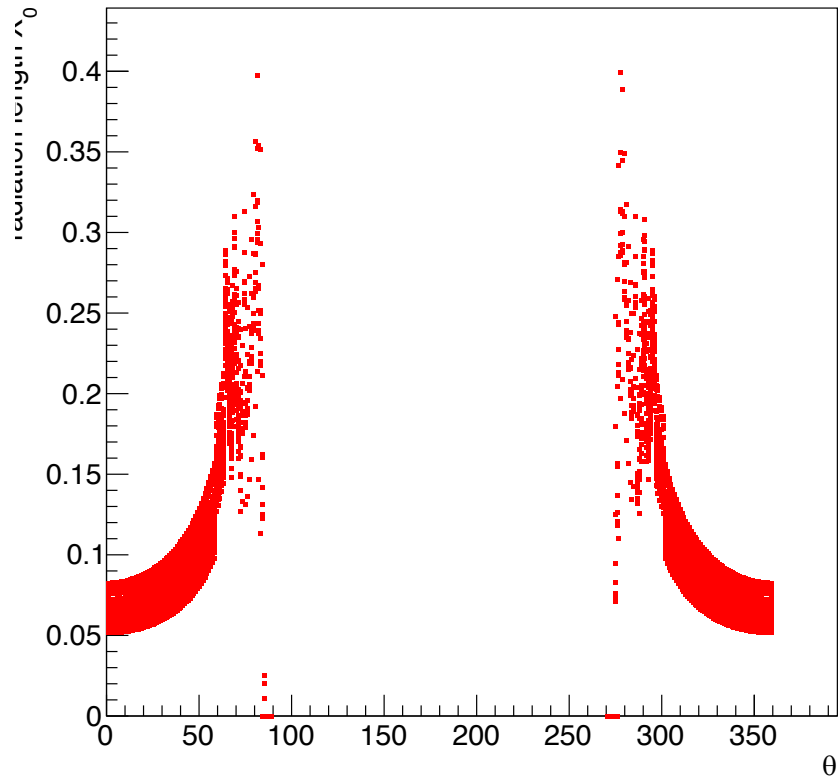
Default- material scan of sPHENIX with no detector on

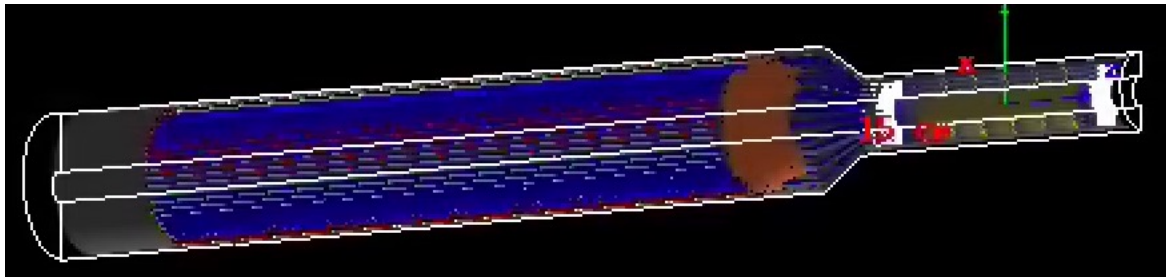




INTT

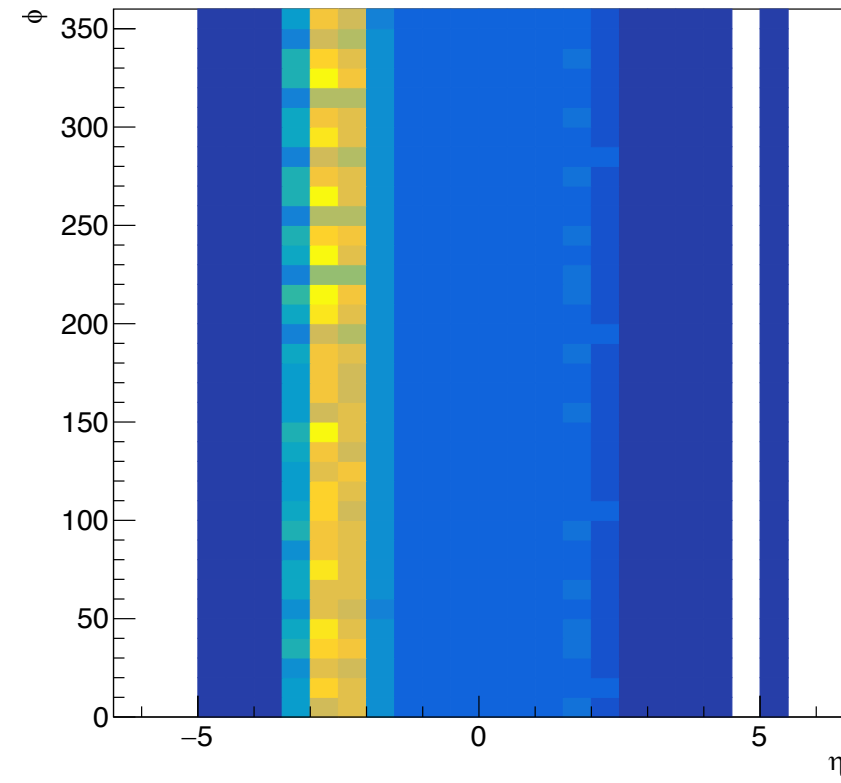
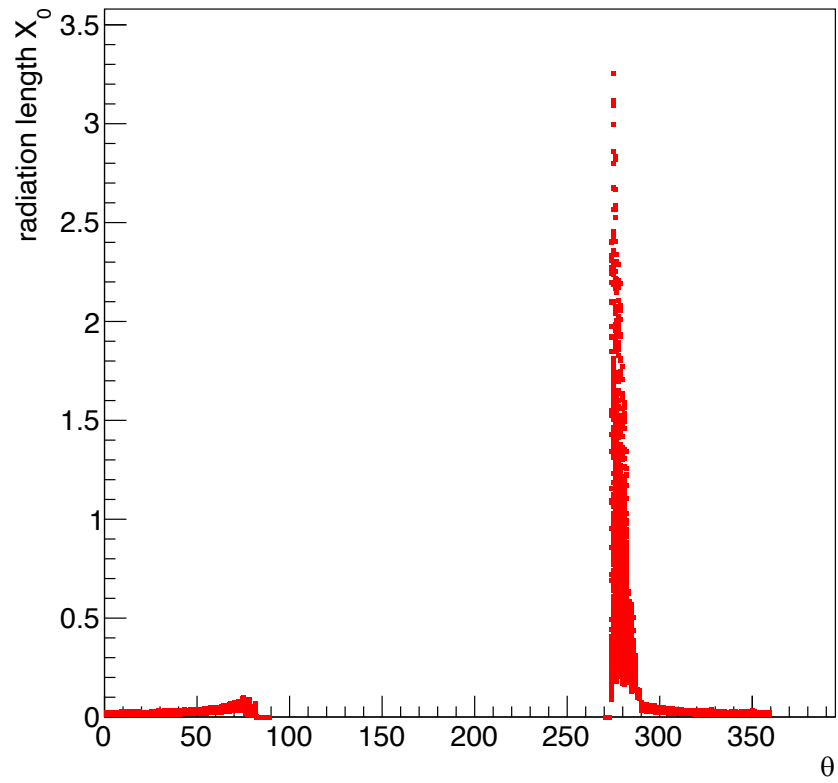
Support structure: TBD (waiting on Genki)
 4 bands in phi in plot below appears to be due to the support structure (more details dependent on Genki)





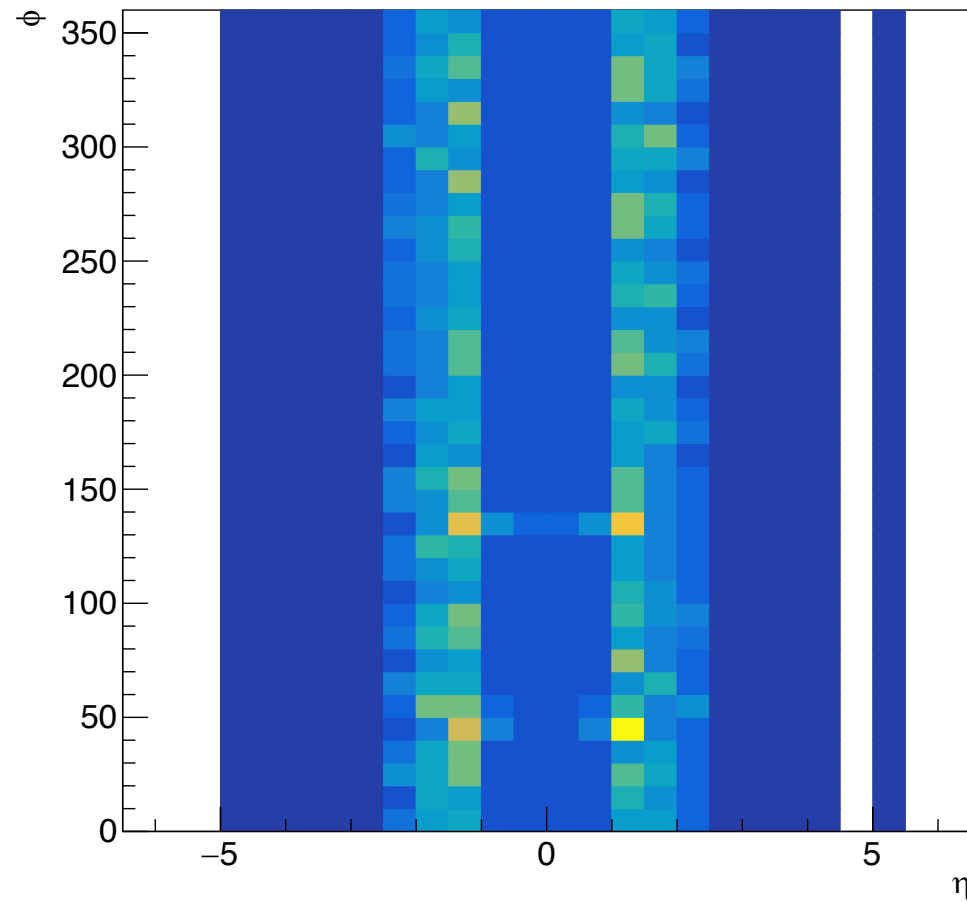
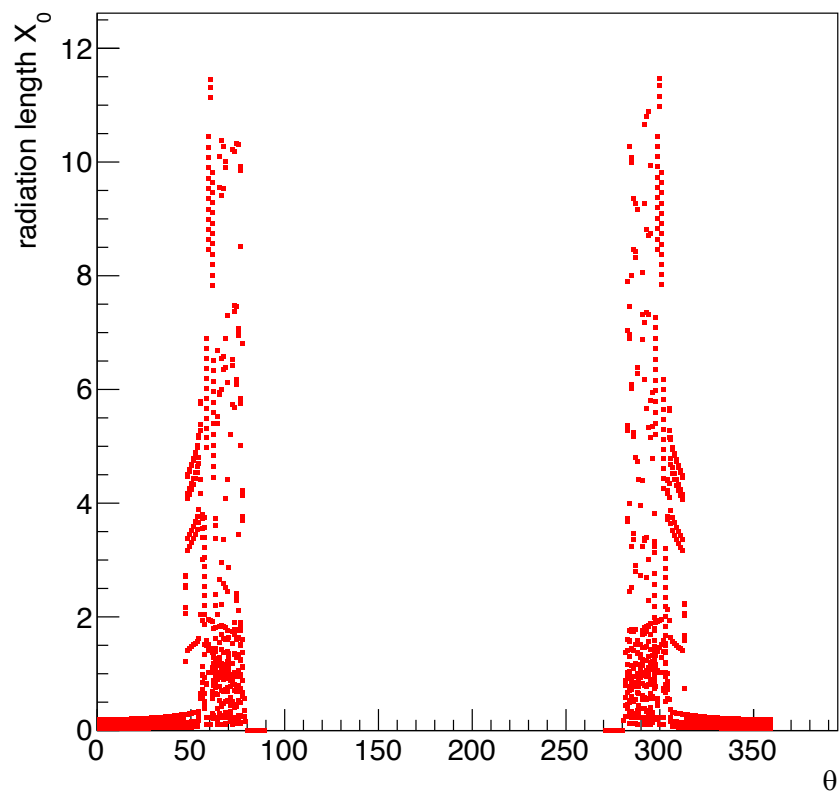
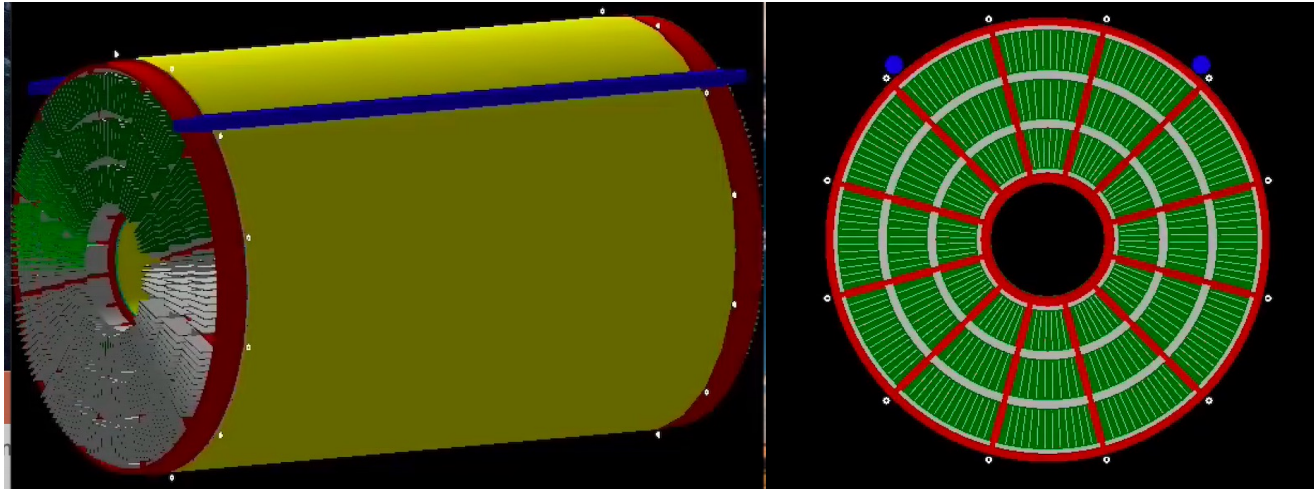
MVTX

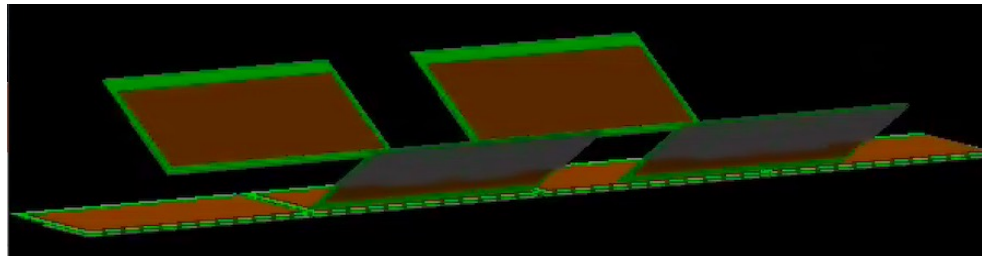
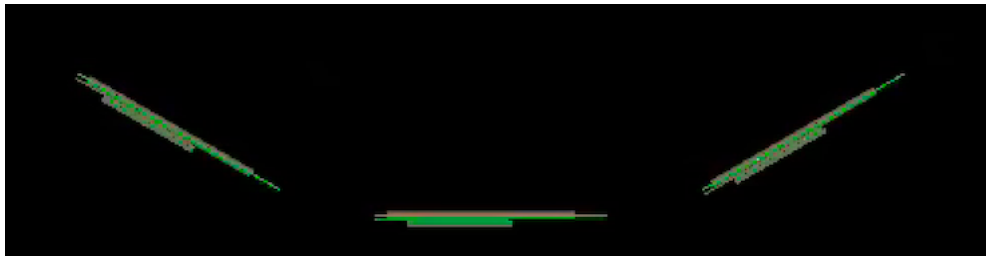
Al support at $z = \pm 15\text{cm}$ (in white)
 Carbon fibers support in dark grey
 Yasser/Cameron- spike at $\eta \sim -2.4$ due
 to cables/ cooling pipes inside the support structure



TPC

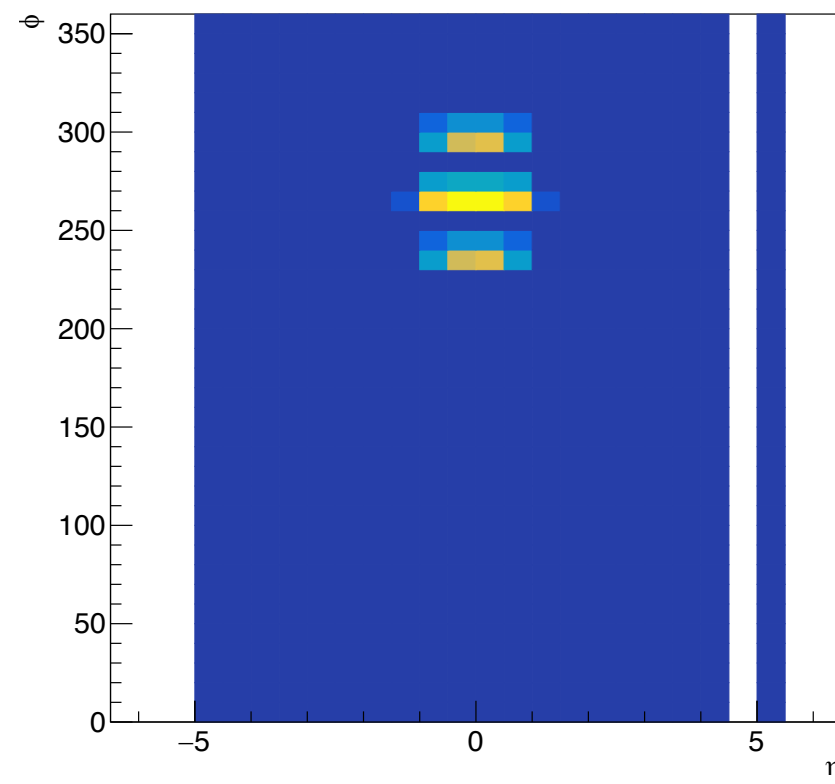
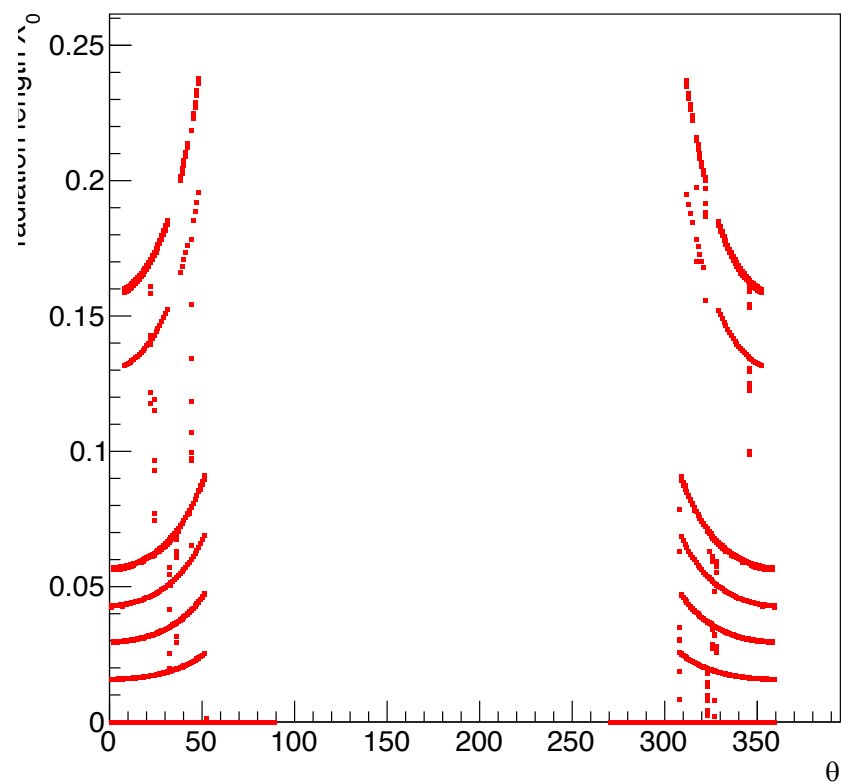
Carbon fibers support in blue
6 inches of stainless steel beams
inside the carbon fiber at either
sides of the TPC- Tim ascertained from TPC engineers

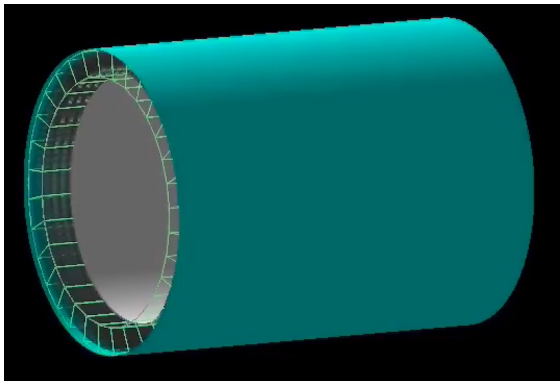




TPOT

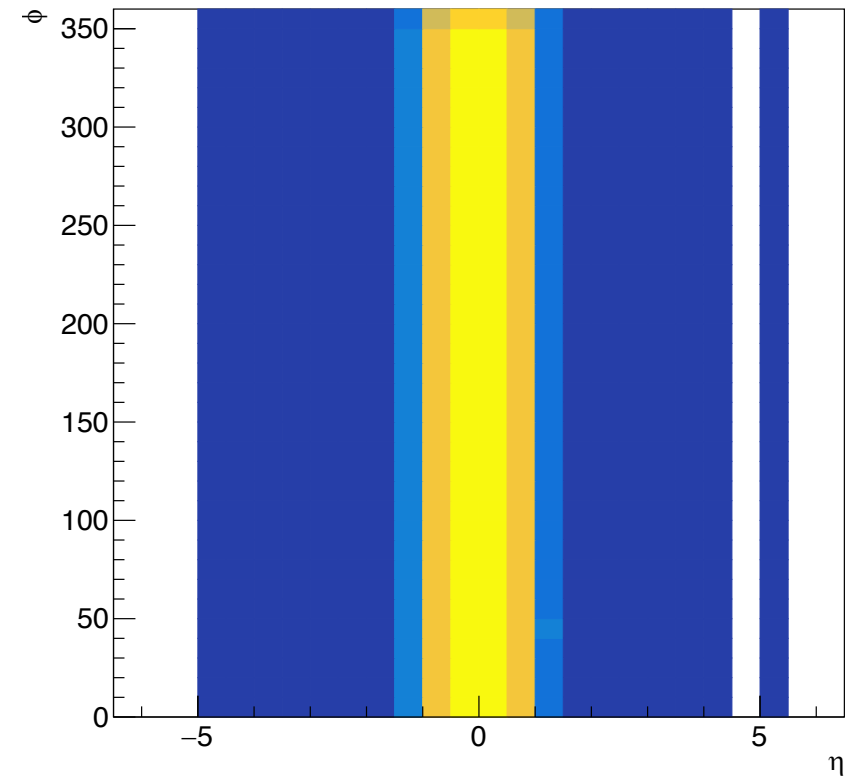
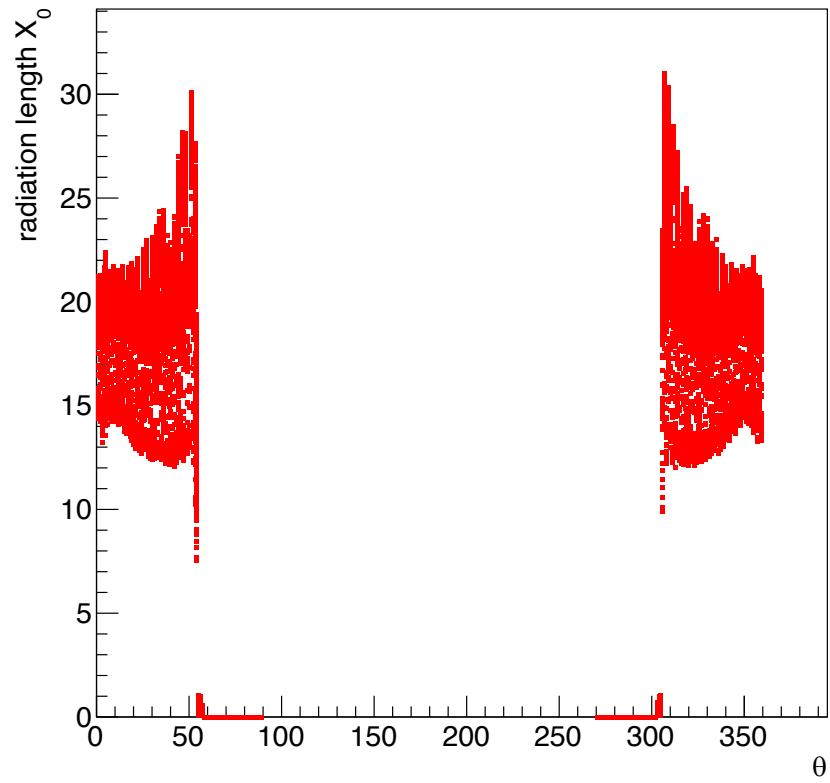
No support implemented
-Hugo P.

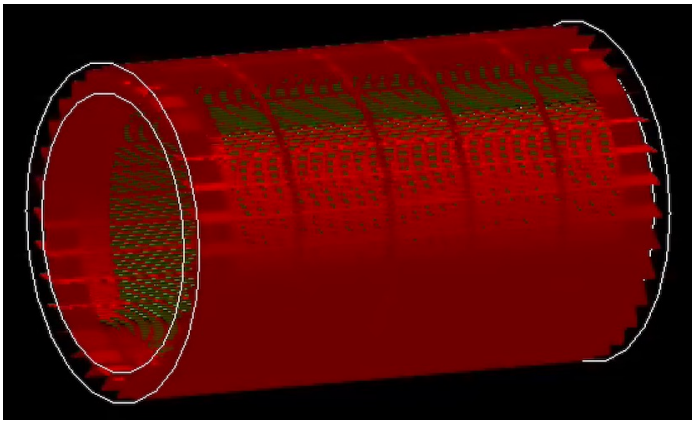




CEMC

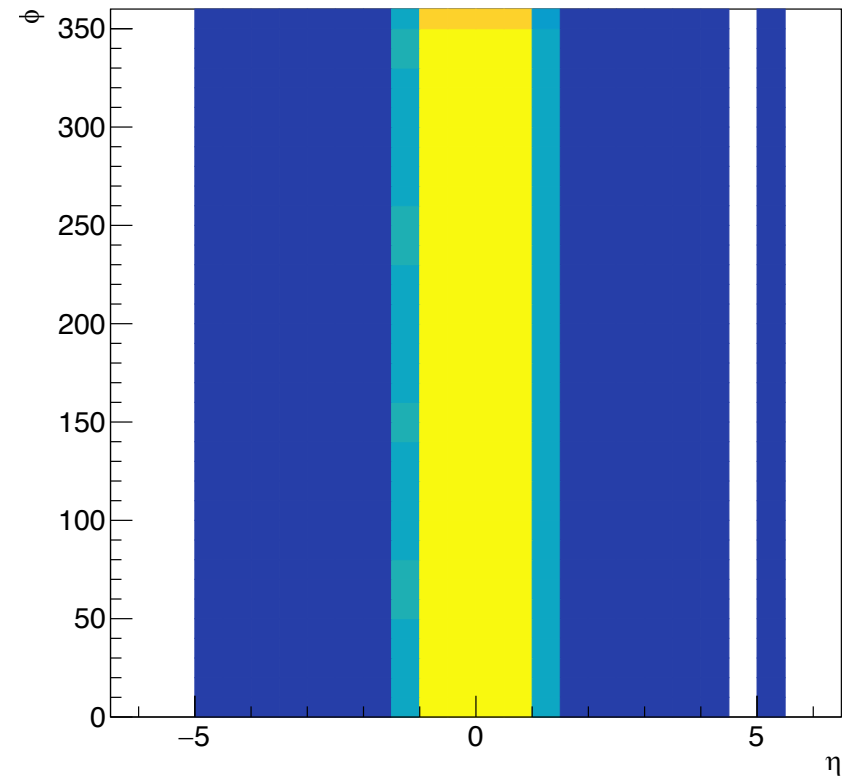
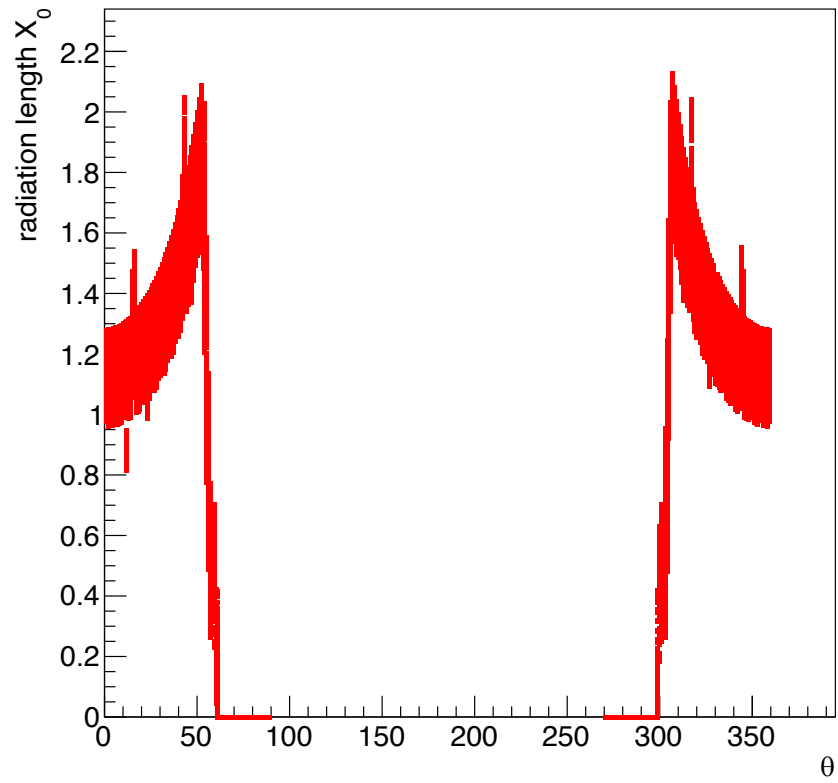
Support structure: TBD/unknown

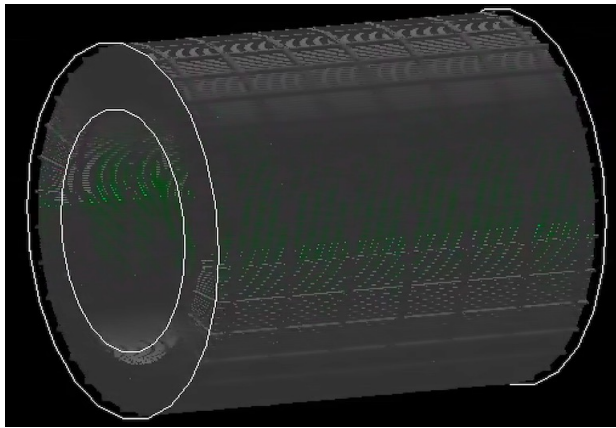




IHCAL

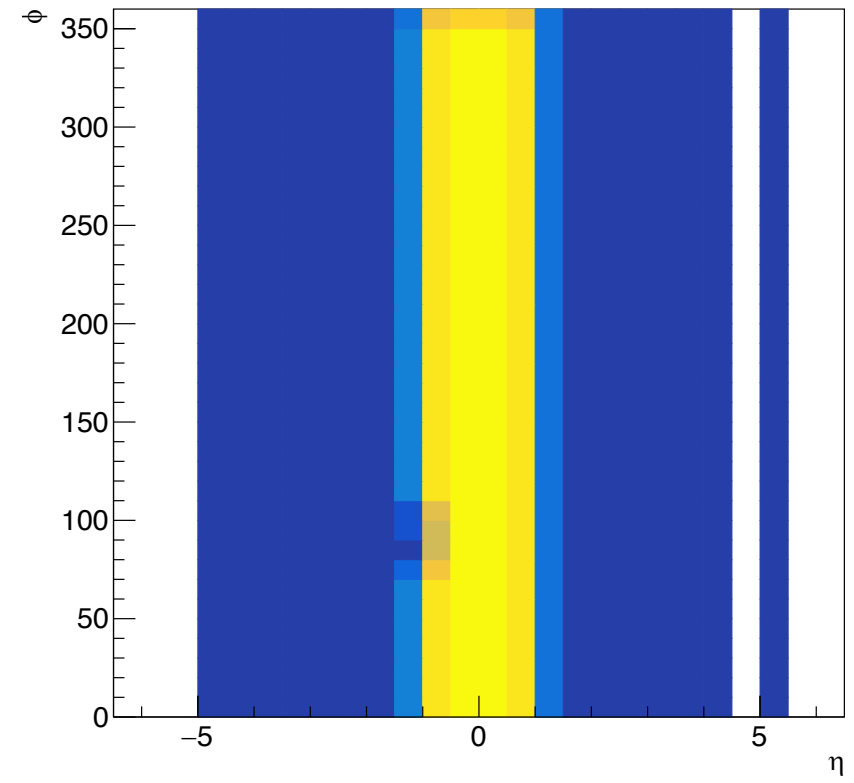
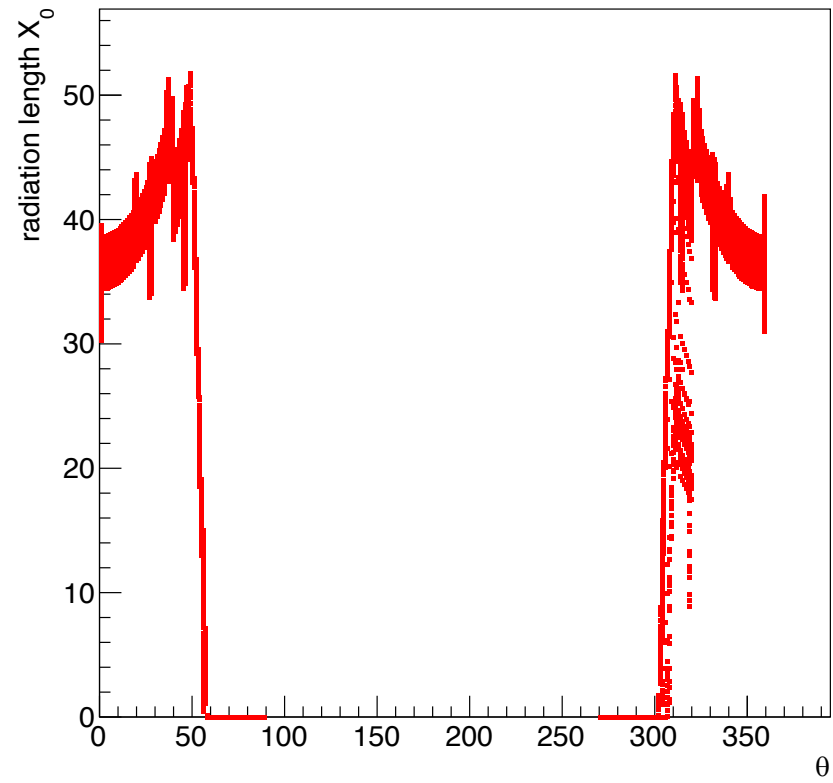
Support structure: TBD/unknown





OHCAL

Support structure: TBD/unknown





BBC

Support structure: Waiting on Mickey

