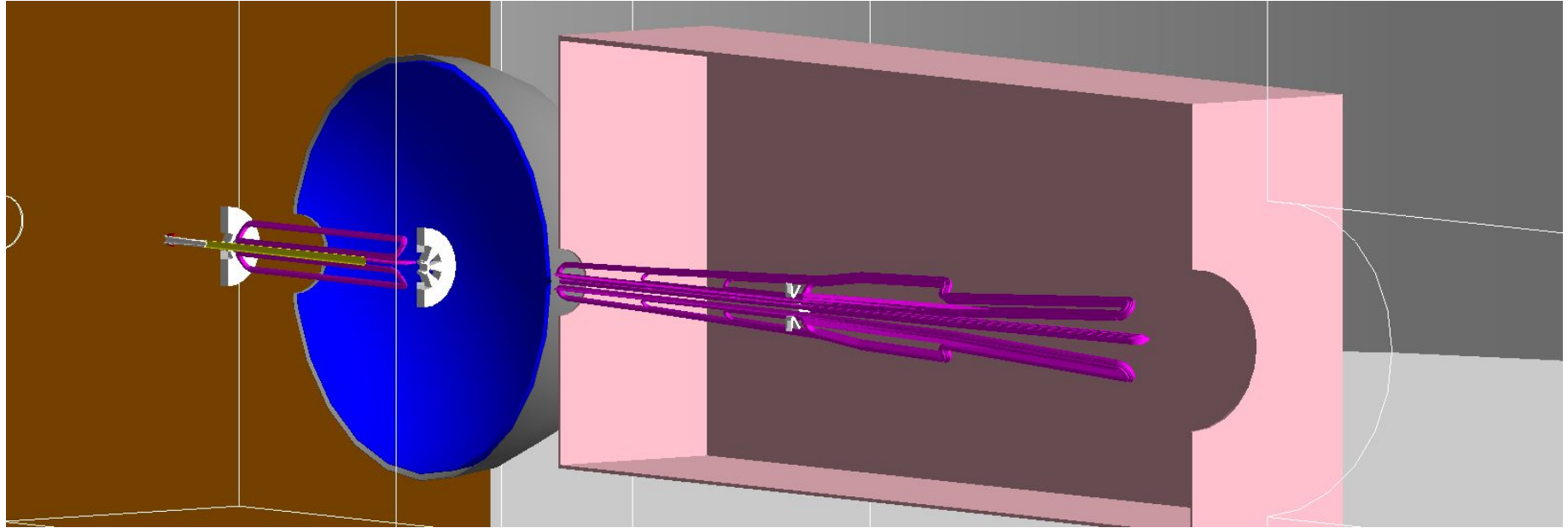


MOLLER Simulation: Collimator 4

Chandan Ghosh

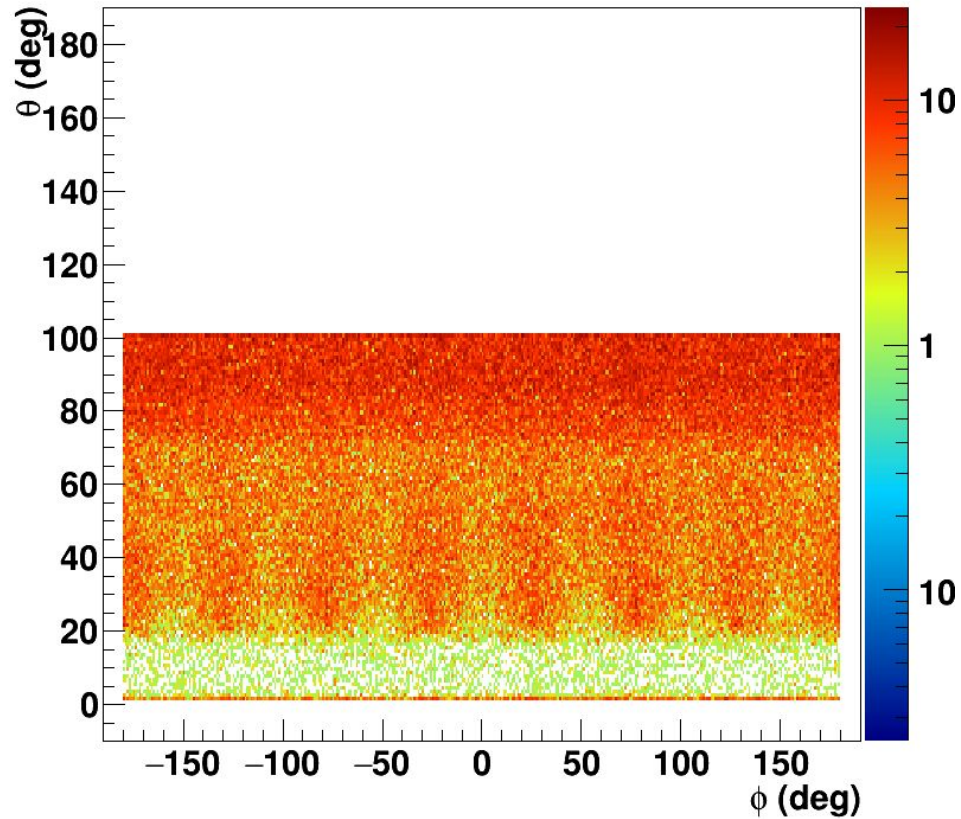
Oct 25 2018

Setup pictures



Θ - ϕ distribution on the vacuum detector

Theta Vs Phi on the Detector

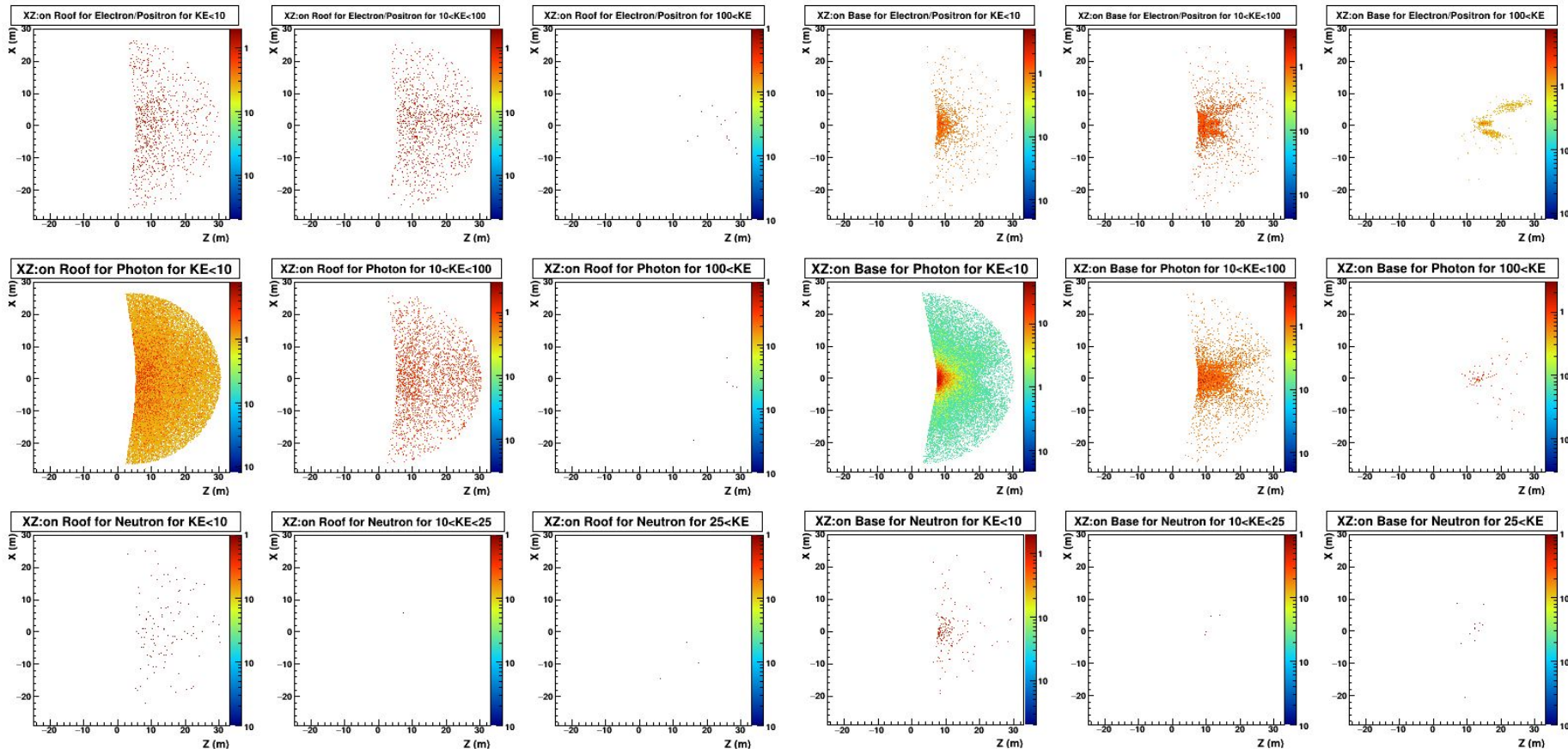


Some cut in theta!!

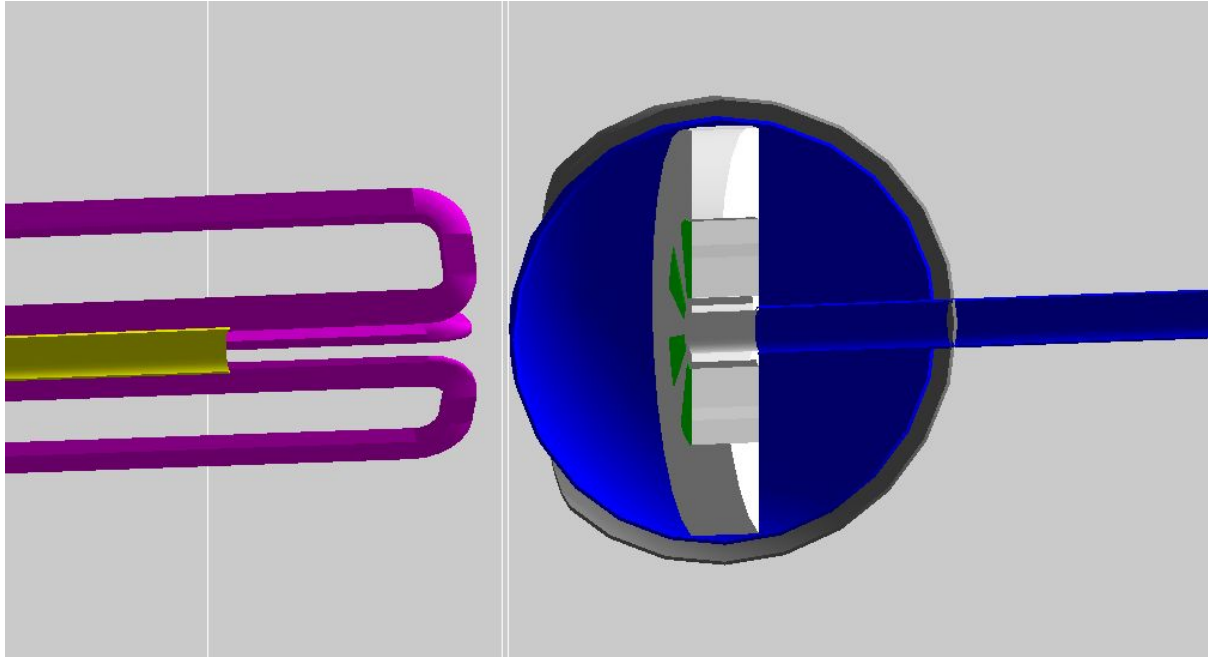
XZ distribution on ROOF and floor

Roof

Floor



New vacuum detector

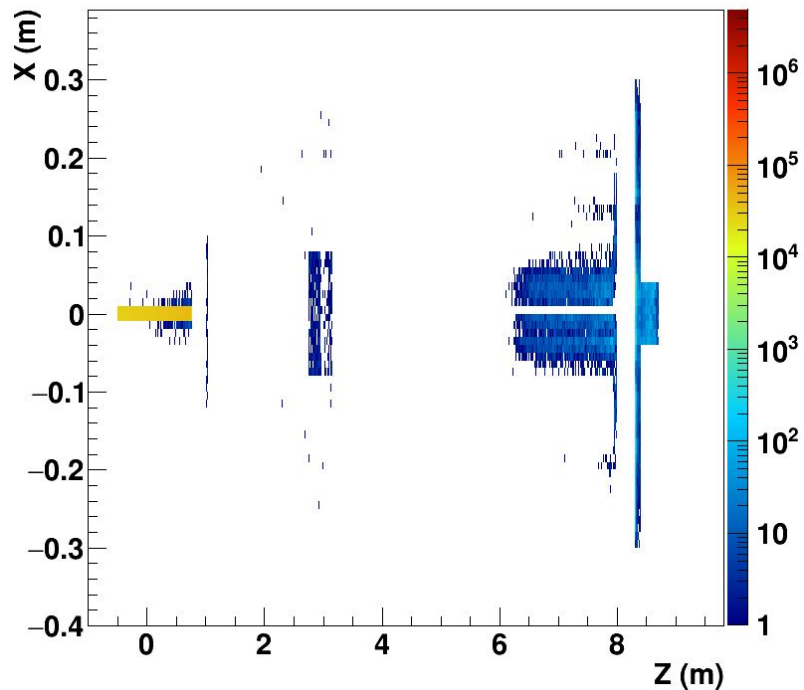


- The collimator 4 is moved 30 mm downstream to place the vacuum detector and to avoid overlap with upstream region.
- The material of collimator 1 & 2 is changed to 'Kryptonite'.
- The 'acceptance holes' of coll. #4 is blocked by 'Kryptonite' material.

Θ - ϕ distribution on the vacuum detector - not clear!!

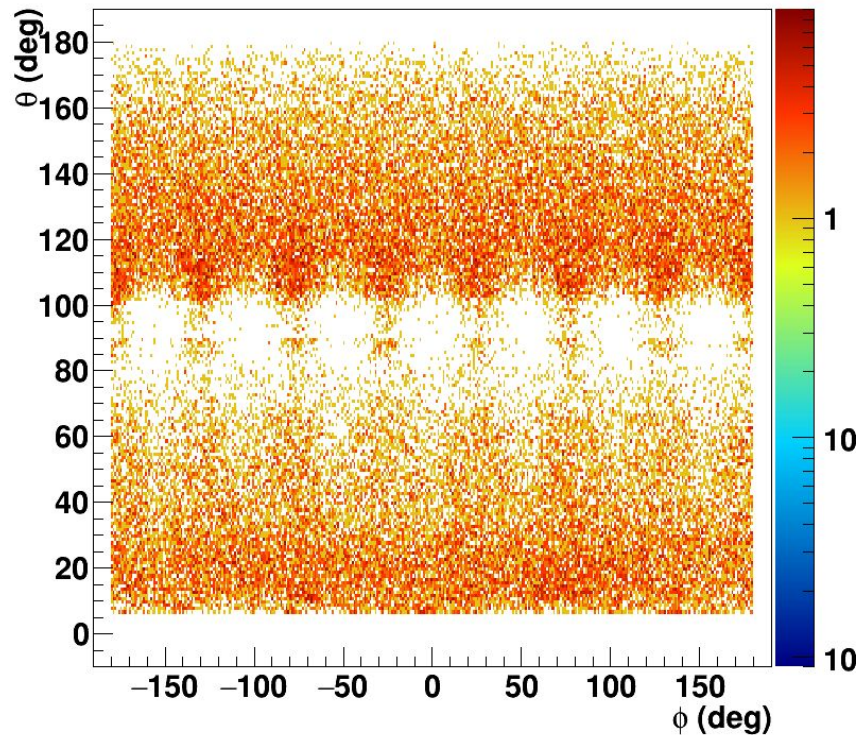
Vertices of the hit are on the vacuum detector

vertex



Condition: (hit.det == 5556 && hit.vz == 'coll 4' && !($\Theta > 90$ && hit.pz > 0))

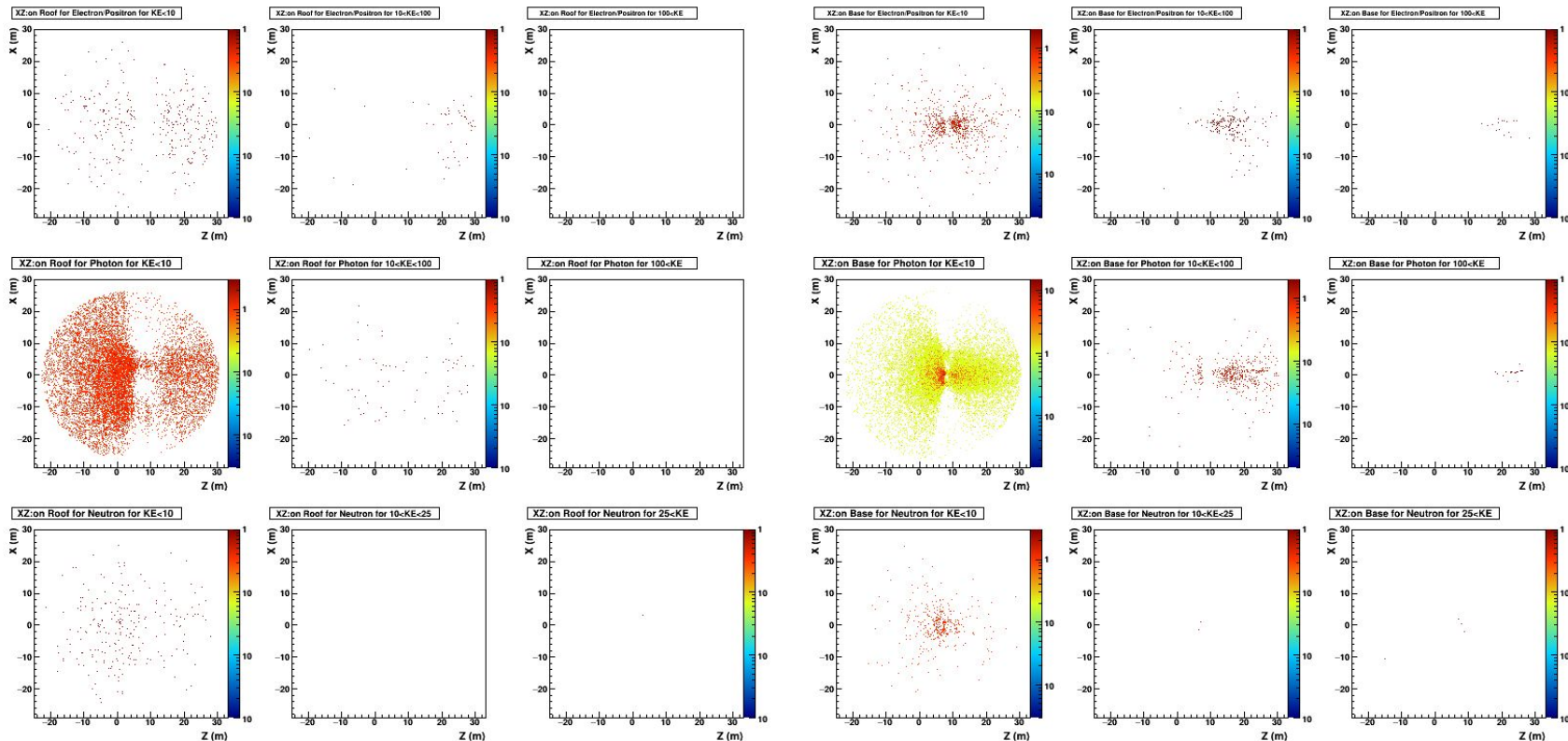
Theta Vs Phi on the Detector



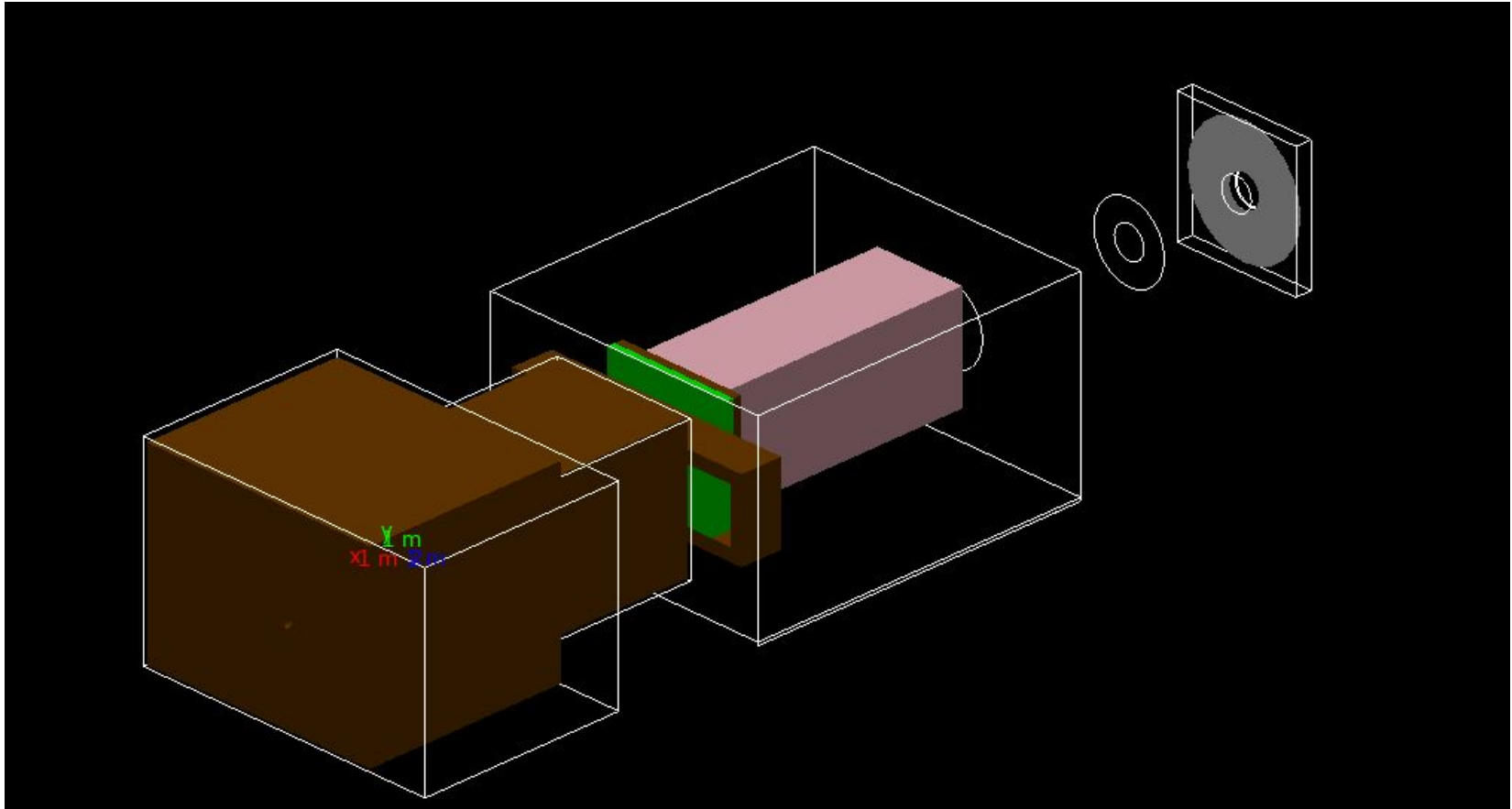
Particles (/5 M beam particles) going towards

Roof

Floor



Asymmetric placement of the target shield - any reason??



Next task..

- Ciprian has simulated transmission of high energy neutrons through shielding materials.
- Convolute the transmission spectra with the neutron energy spectra from coll 1 & 2 region to estimate thickness of the shielding material to minimize shine
- Simulate the particle spectra from the collimator 5 region
- Upgrading the CAD drawing for the target region
- Calculate power deposition for all the collimators