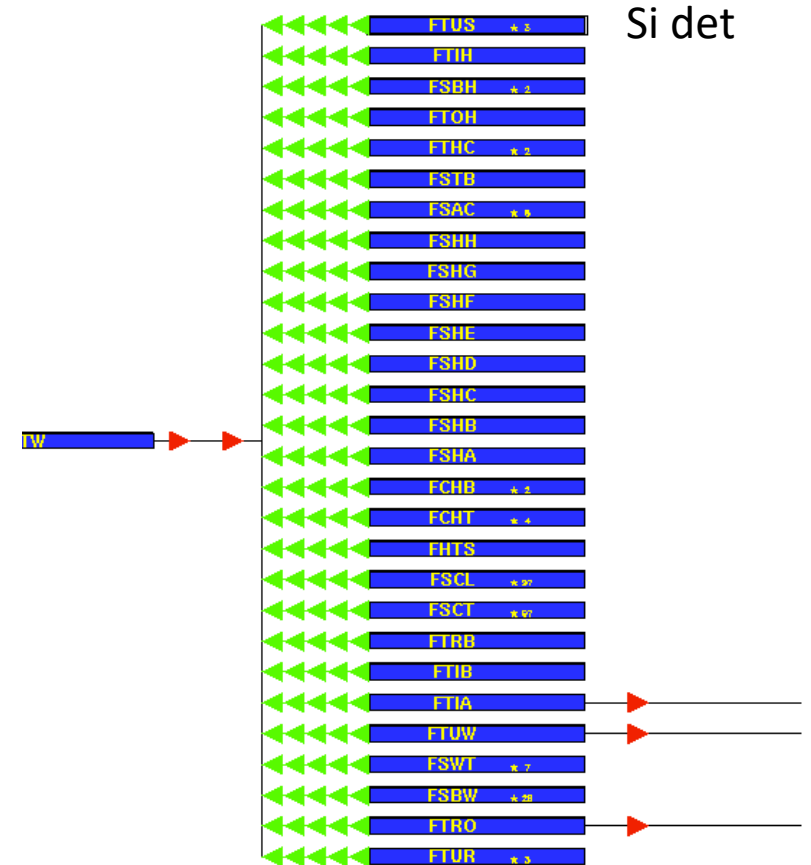


# Geant Geometry – check of AgML code

- Te-Chuan completed the transformation of root geometry to AgML.
  - Many hardwired numbers by my taste; ok but makes it hard to modify
  - The FSTM code takes a long time to generate the .cxx from agml xml file ~ 30 minutes Jason is aware of this –have not heard back on this
- Tree structure
- Key is FSTM FSTD (disks) FSTW (wedges)

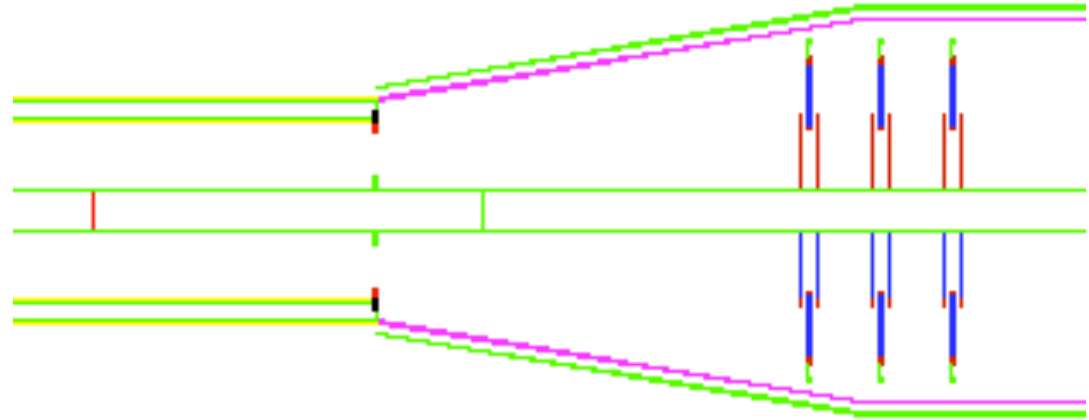


# Specific comments & action

1. FSTM is way to large extension in z
  1. Introduce *zcenter* and reduced *dz* aka Jason
2. FSTD is also too wide overlaps with adjacent FSTD
  1. Changed
3. FSTM is identified as *assembly*, as there are overlaps. Also have to be MANY as they overlap between wedges.

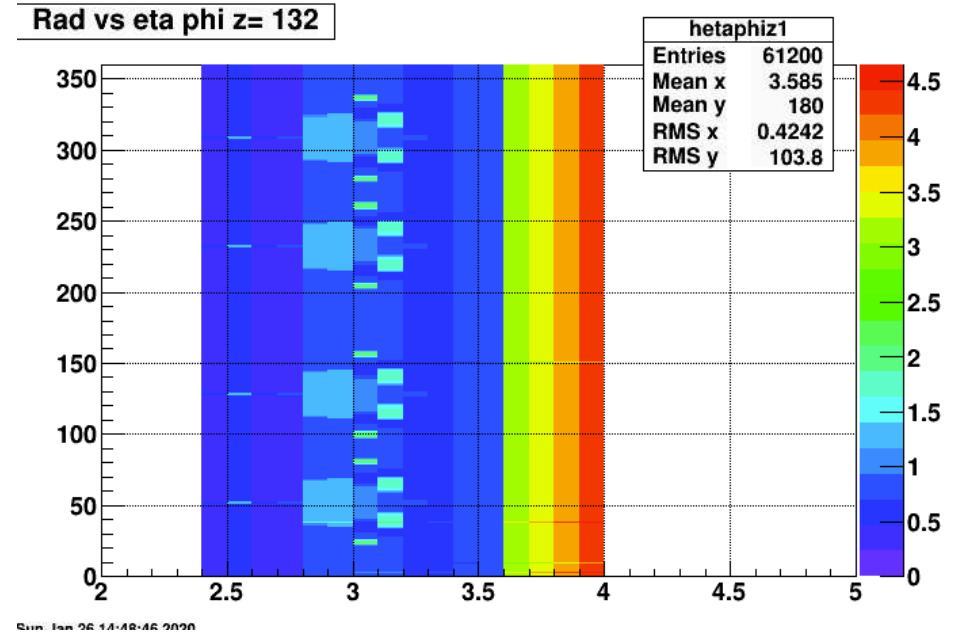
# Geometry layout

- Placed at 140, 154, 168 cm
- After the small corrections looks good
- Looked at some derivatives of setup
  - Radiation lengths
  - Weight



# Radiation length's

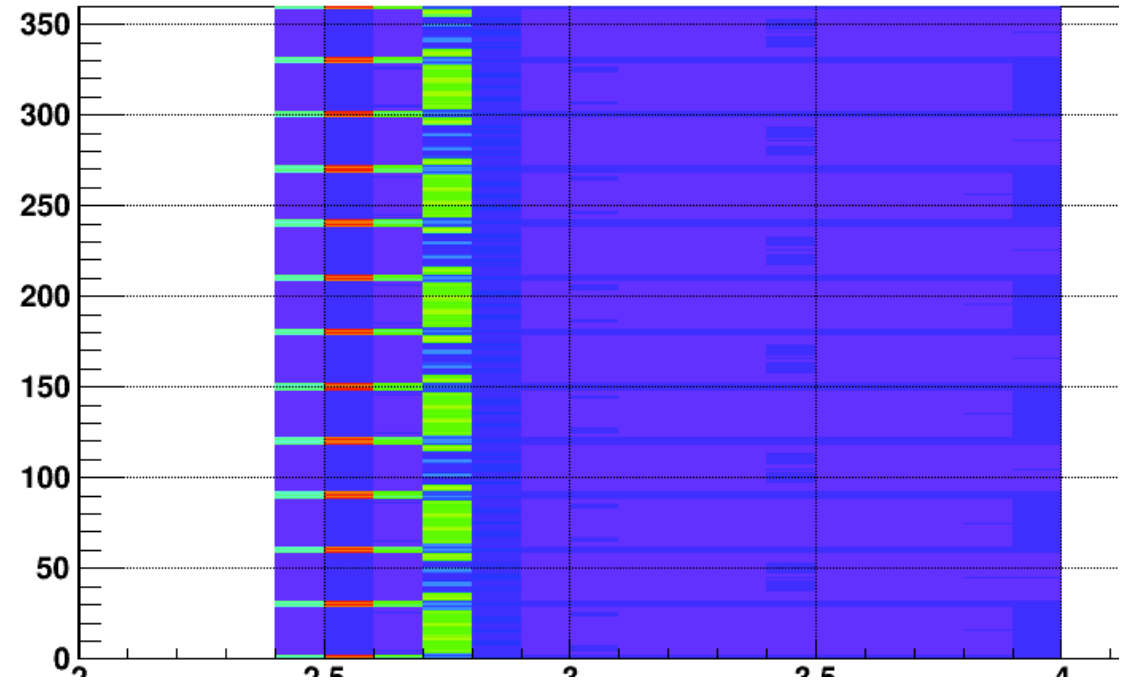
- Calculated radlen throwing ideal tracks in eta 2.4-4.0 and  $2\pi$ . (root geometry)
- Looked at radlen before first disks and after subsequent, looking at differences.
- Before the first disk the prominent features are
  - Spokes for beam pipe holder
  - Beam pipe transition for Be to Al.



# Radlen (II)

- Additional radlen by disk 1
  - Main feature is the cooling tubes (radial and across)
  - Otherwise fairly small
  - Overall 3% for  $\eta < 3$  otherwise  $< 1.2\%$
  - Lower plot is  $\eta$  averaged.
- Total weight of disk in Geant is 3.44 kg – Is that correct?

Rad vs eta phi z= 148



Rad vs eta phi z= 148

