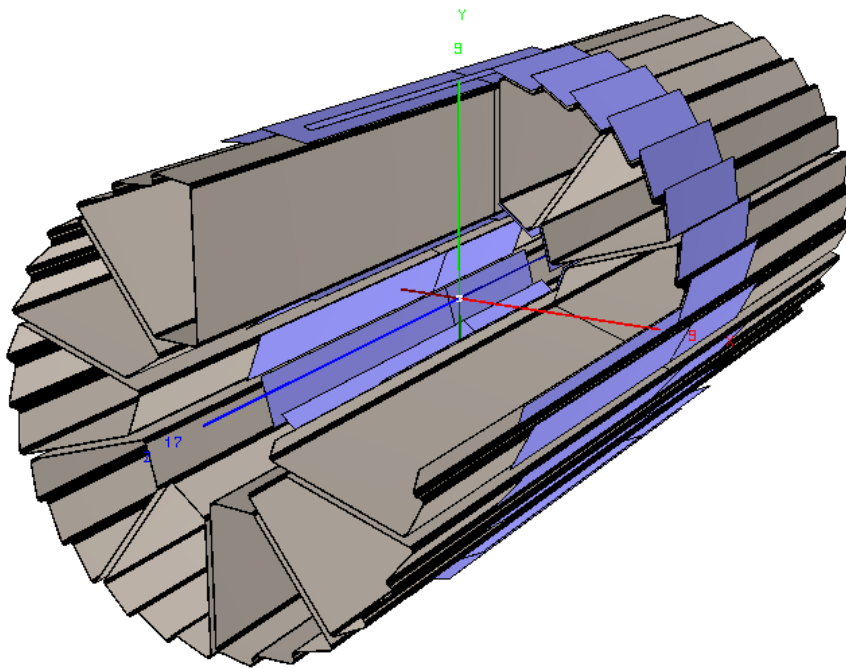
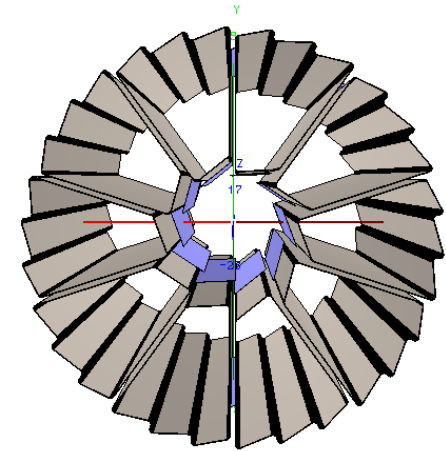
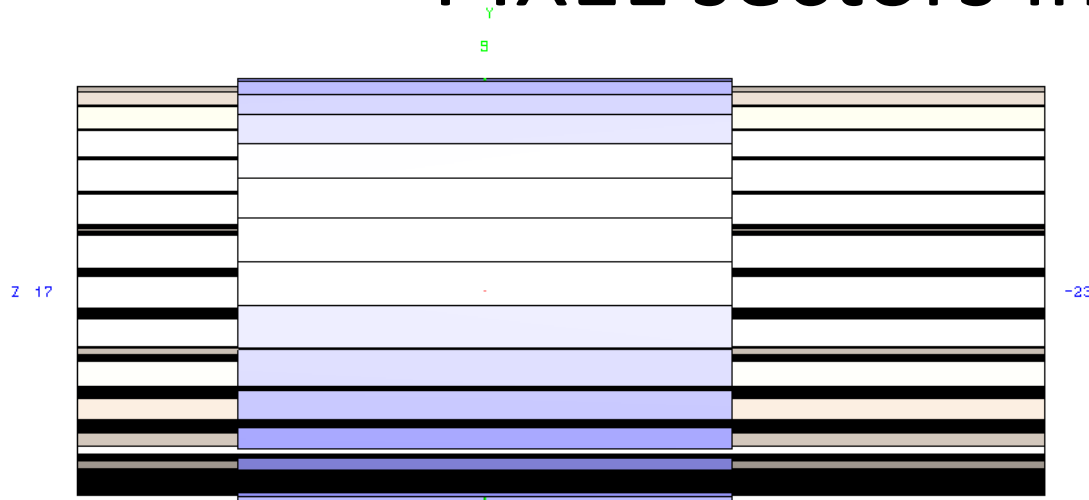


Geometry update

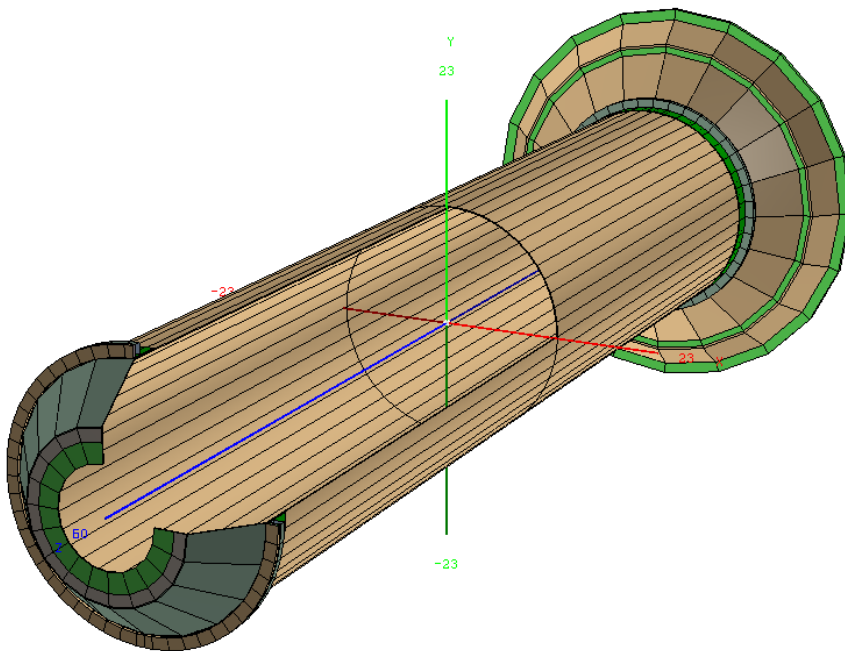
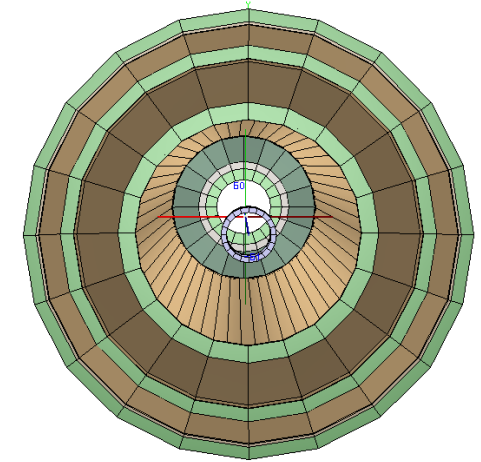
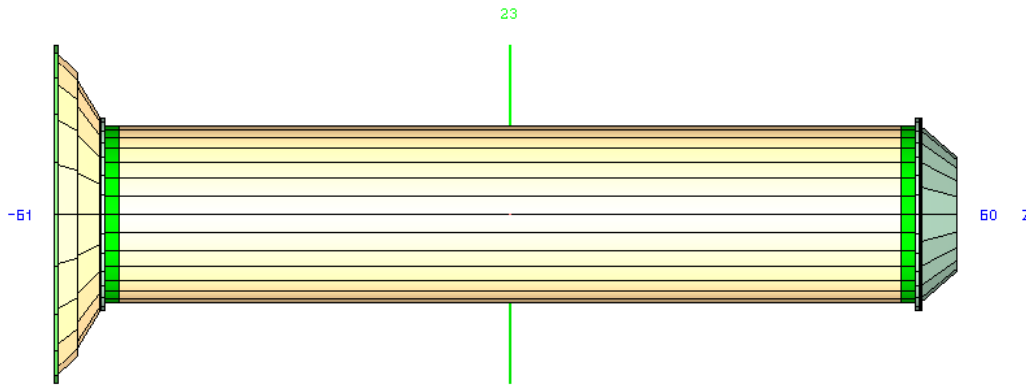
J. Bouchet, F. Videbeak

PIXEL sectors in AgML



- Distances/lengths of shapes come from Flemming's translation of SolidWorks model to TGeo
- Color indicates carbon Fiber material (brown) and silicon (purple)
- All gory details (naming of shapes, distances/lengths) is at : http://drupal.star.bnl.gov/STAR/system/files/pixel_agml_final.pdf

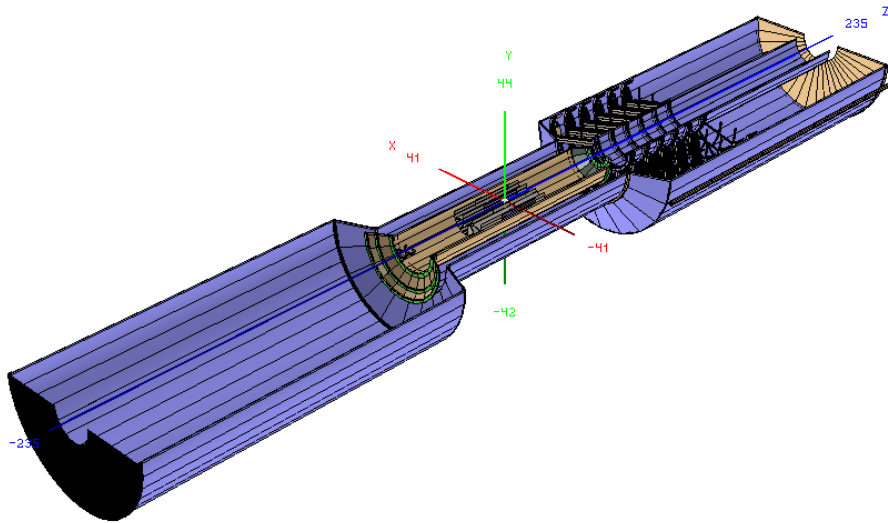
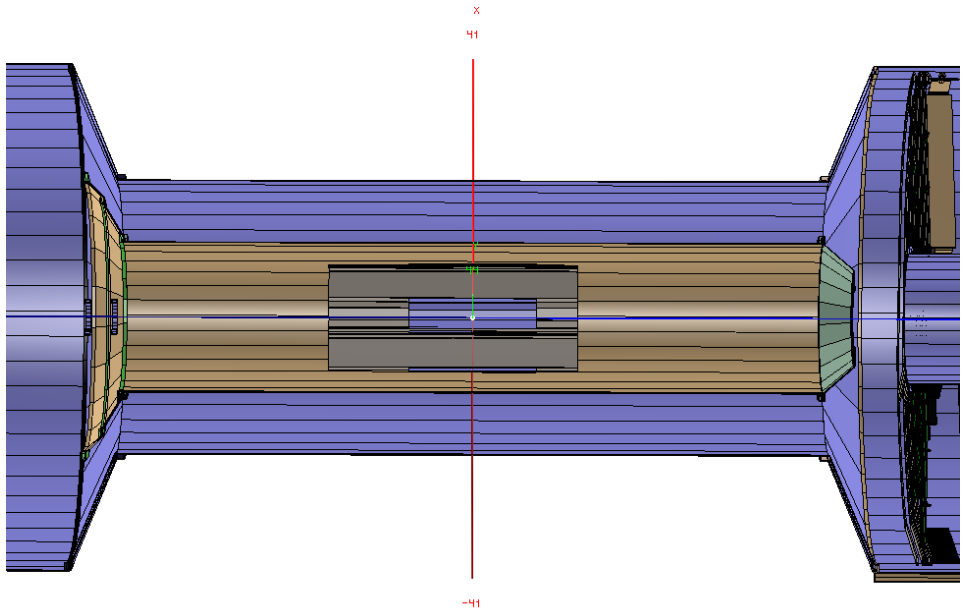
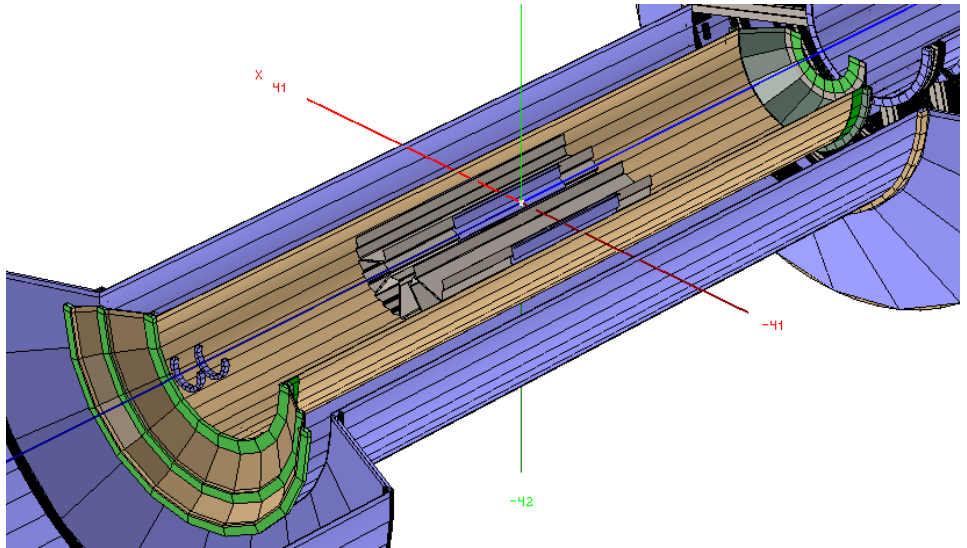
Pixel Support Tube in AgML



- The PIT model uses GEANT shapes which distances are taken from the SolidWorks model (no conversion to Tgeo)
- All details are here :
http://drupal.star.bnl.gov/STAR/system/files/PST_AGML_DETAILS.pdf

Pixl + PST in IDSM

- both Pixel and PIT have their center (origin, center of gravity) at (0,0,0) which also coincides with the (0,0,0) of the IDSM



software

A. For starsim :

1. geometry with AgML has to be built with the command : **gexe . \$STAR_HOST_SYS/lib/xgeometry.so**

B. Makers:

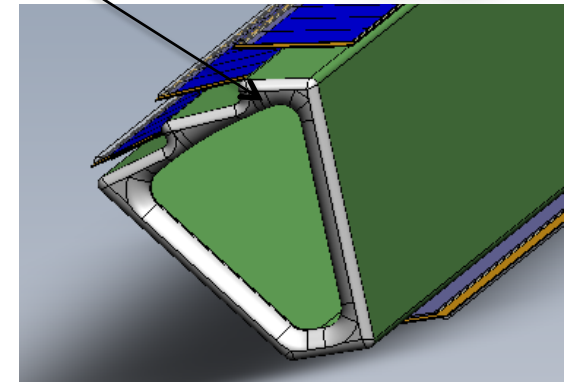
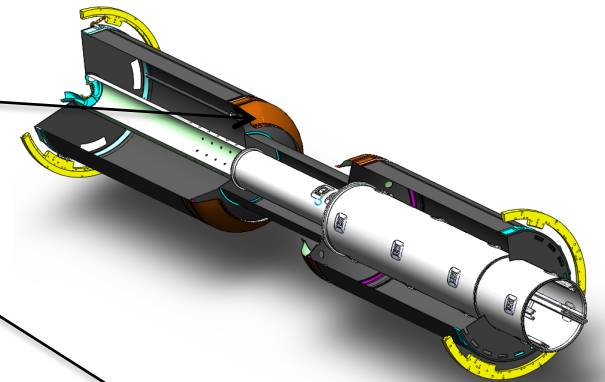
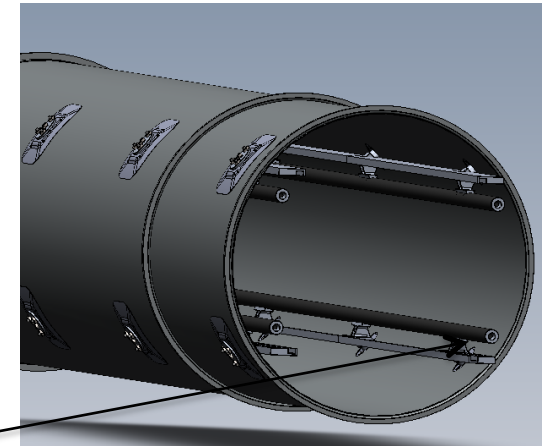
1. **StPixelFastSimMaker** and **StMcEvent** have been modified to use the new decoding of active ladders
2. **StiPixelDetectorBuilder** and **StiPixelHitLoader** have to be modified (my current work)

C. BFC chain :

1. An option has been created in BFC chain to run the new geometry 'dev13' : the timestamp is set to 2020
2. library used = eval
3. Code crashed when I used **trs** (aka old TPC code)
 1. Using new TPC reco (**TpcRs,TpcRaw,TpcClu**) works perfectly but 'perfect' tables have to be used (Yuri suggested me to use tables from year 2010 and rename them by dev13)

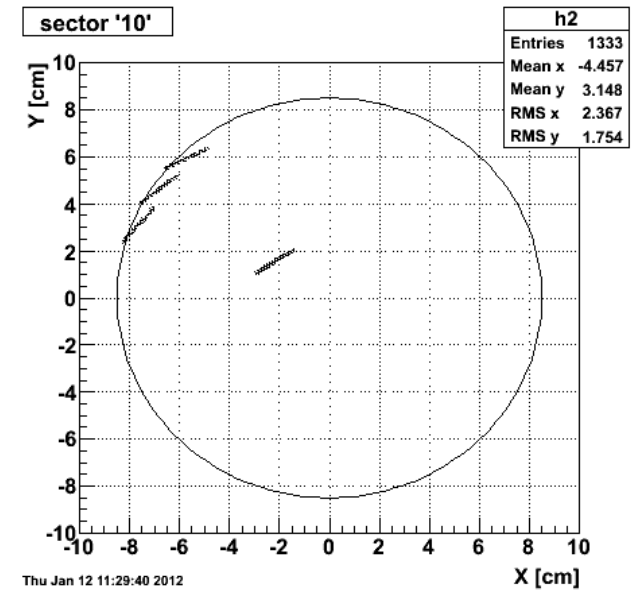
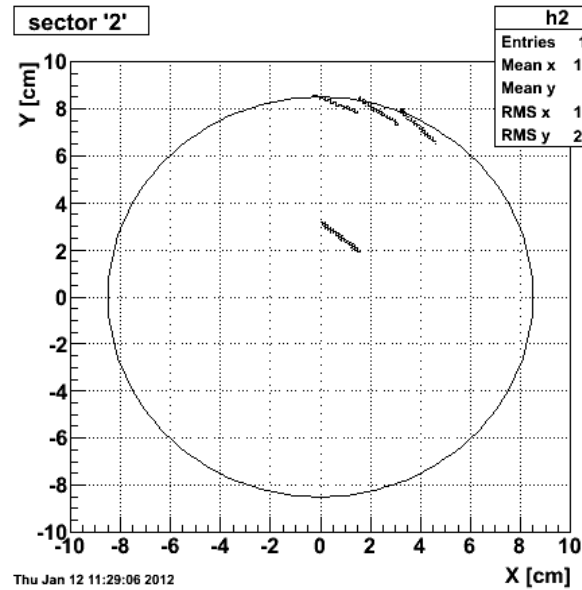
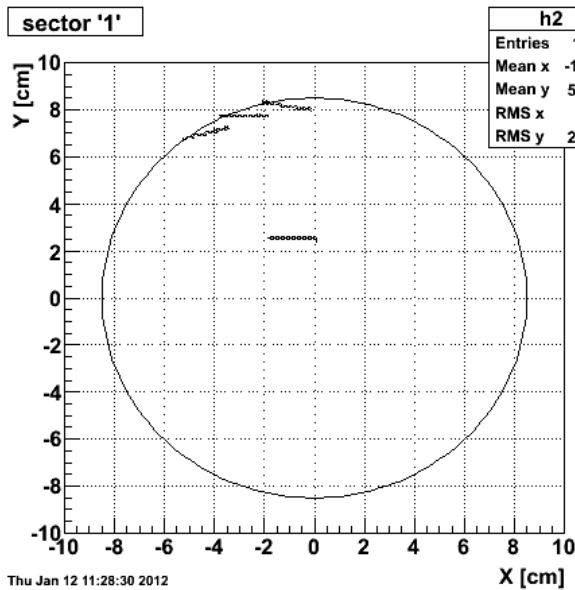
Next steps

- Geometry :
 - a) finish the PIT coding in AgML (next week)
 - b) Proper material definition :
 - 1) for now the PIT and pixel sectors are made of carbon fiber
 - 2) Add the electronic 'layers' for the pixel ladders
 - c) Add other 'big' pieces needed :
 - 1) rails inside the PIT
 - 2) Shrouds
 - 3) Pixel ladder : extremity
 - 4) Cables :
 - copper in 2013,
 - aluminium in 2014
- Software :
 - a) Fix the 'Sti' part of the BFC chain (next week)
 - b) Wait for final numbering
 - c) documentation
- Future :
 - a) Engineering run : 10 sectors support BUT 3 sets of active ladders
 - b) Think of a 'dev14' option tag with SSD and IST for next simulations

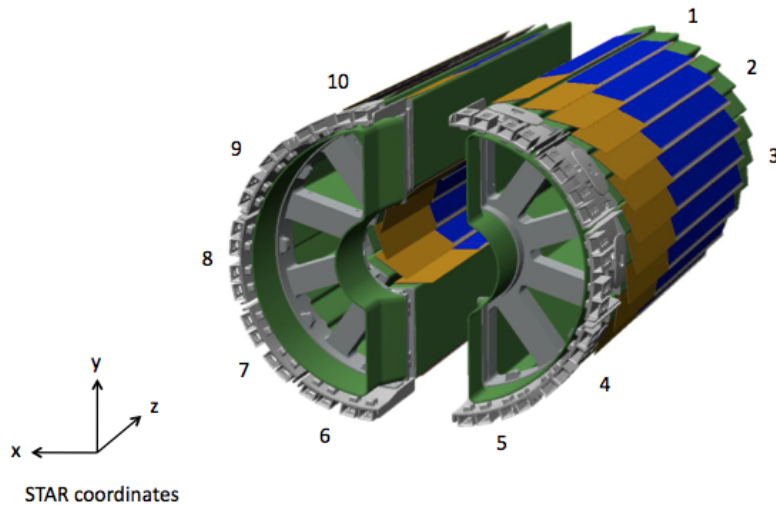


Actual pixel ladders numbering from GEANT to StPixelFastSimMaker

BACK-UP

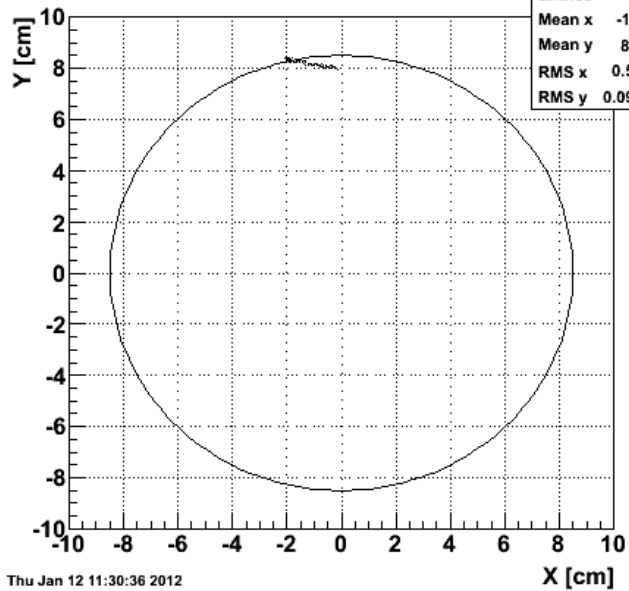


sector number

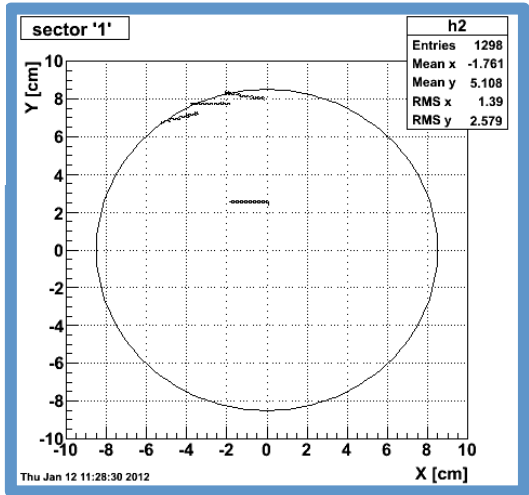
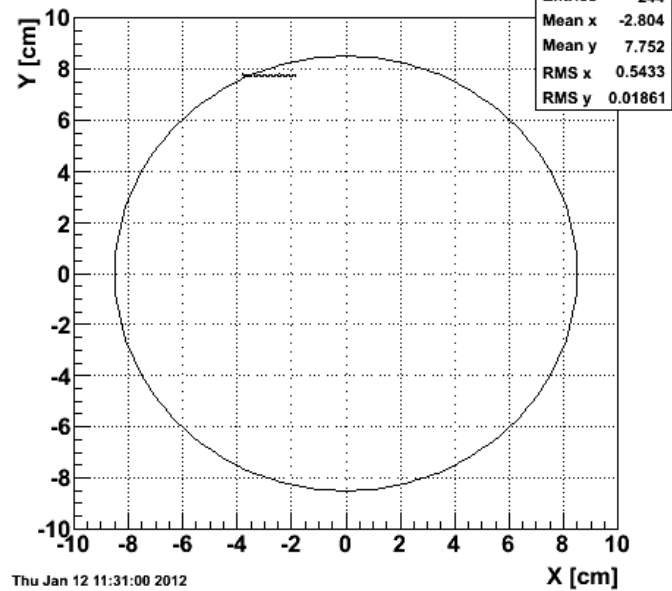


- Comparing with Howard Wieman's notation, GEANT has a sector numbering in the opposite sense

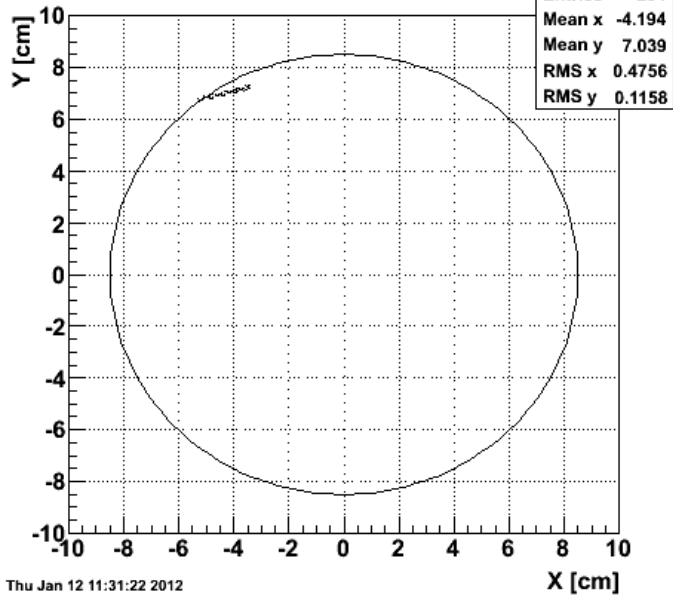
sector '1' ladder '1'



sector '1' ladder '2'



sector '1' ladder '3'



sector '1' ladder '4'

