

# Status of INTT Event Display

2023/03/10 INTT MT

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# Role of INTT Event Display

- Confirm hit points on INTT at a glance
- Check the alignments of ladders
- Check if INTT is assembled correctly and working properly if the cable connection was wrong, the hits on the ladders is appeared on uncorrelated ladders

# Functions Implemented on Event Display

The event display is implemented based on ROOT EVE framework.

- Show hit positions with INTT ladders
- Two difference style of the view : 3D and R-phi projection

# How to use Event Display

The event display is developed using sPHENIX simulation. You need to prepare the simulated DST before running the display.

Enter commands on terminal in order.

1. `root Loadfile.C`

Open DST file and give the data to the program that shows event display. First event data is imported.

2. `anaTutorial->DrawHits()` or `DrawHit_rphi()`

Entering `DrawHits()`, 3D display is shown. Also, entering you enter `DrawHit_rphi()`, R-phi projection is shown.

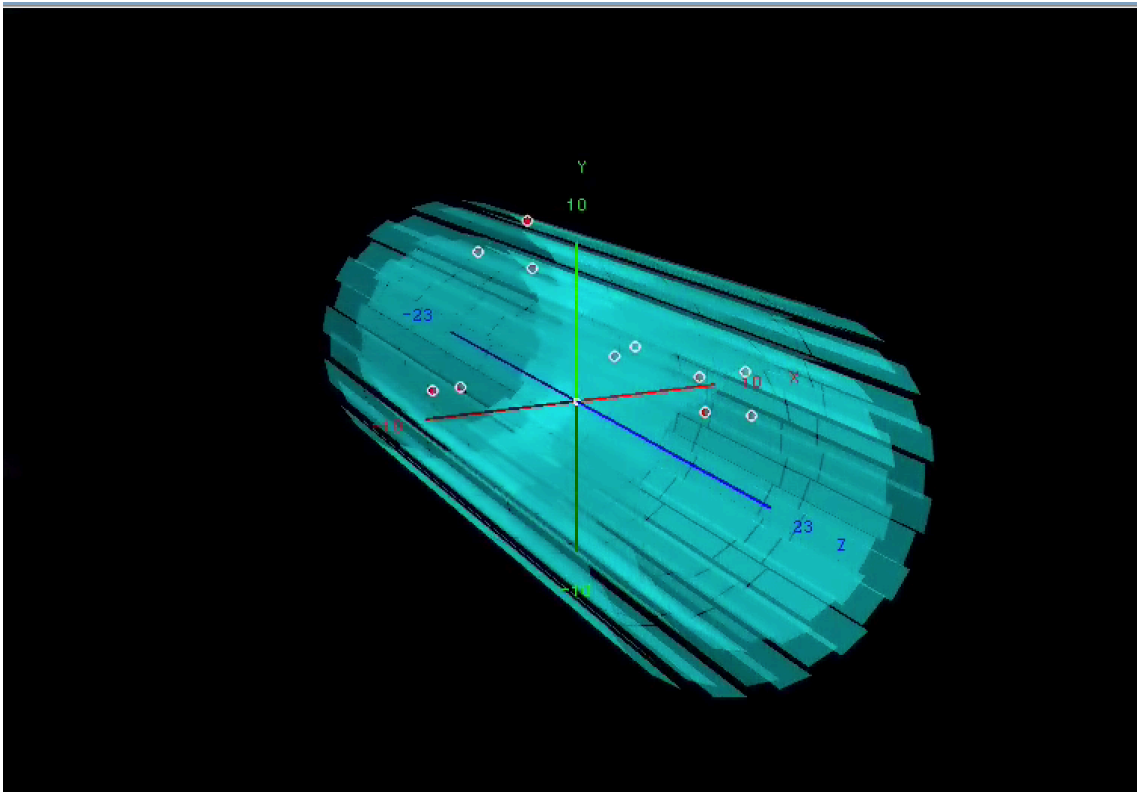
3. When you want to see next event, you enter `se->run(1)` then do the process 2 again.

The next event is loaded with the command `se->run(1)`.

NOTE: Can't get back and display previous event.

# Event Display of simple event generator

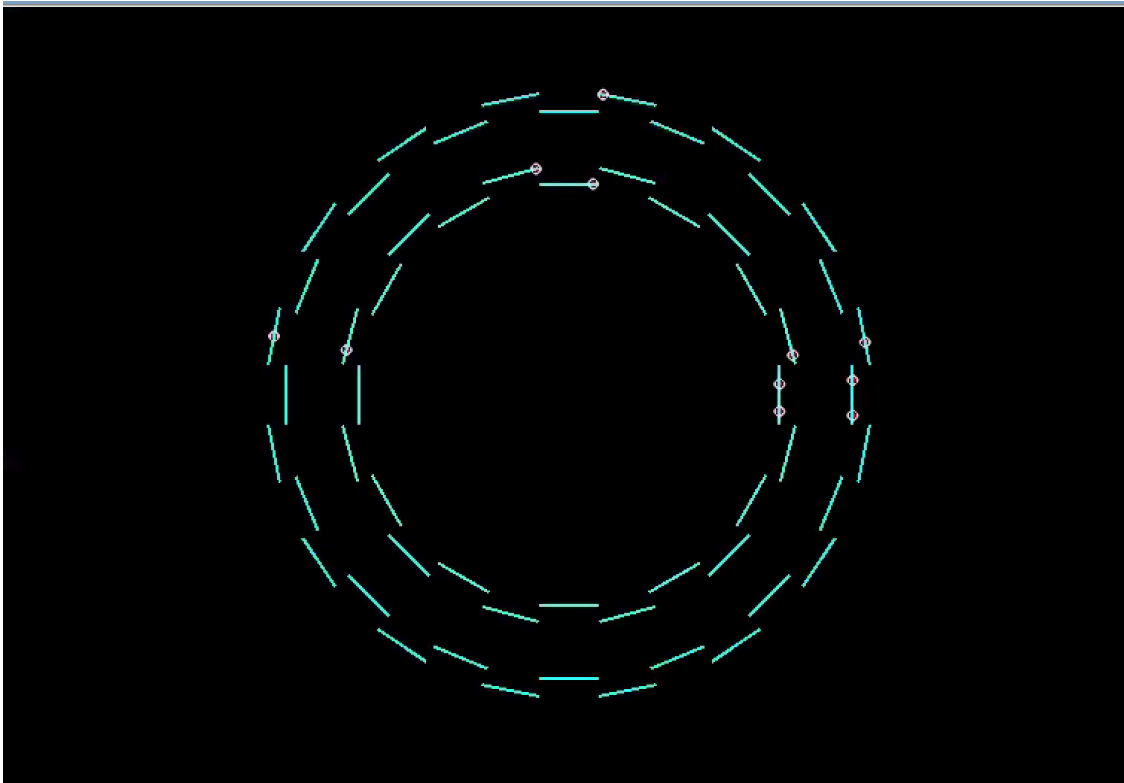
## 3D



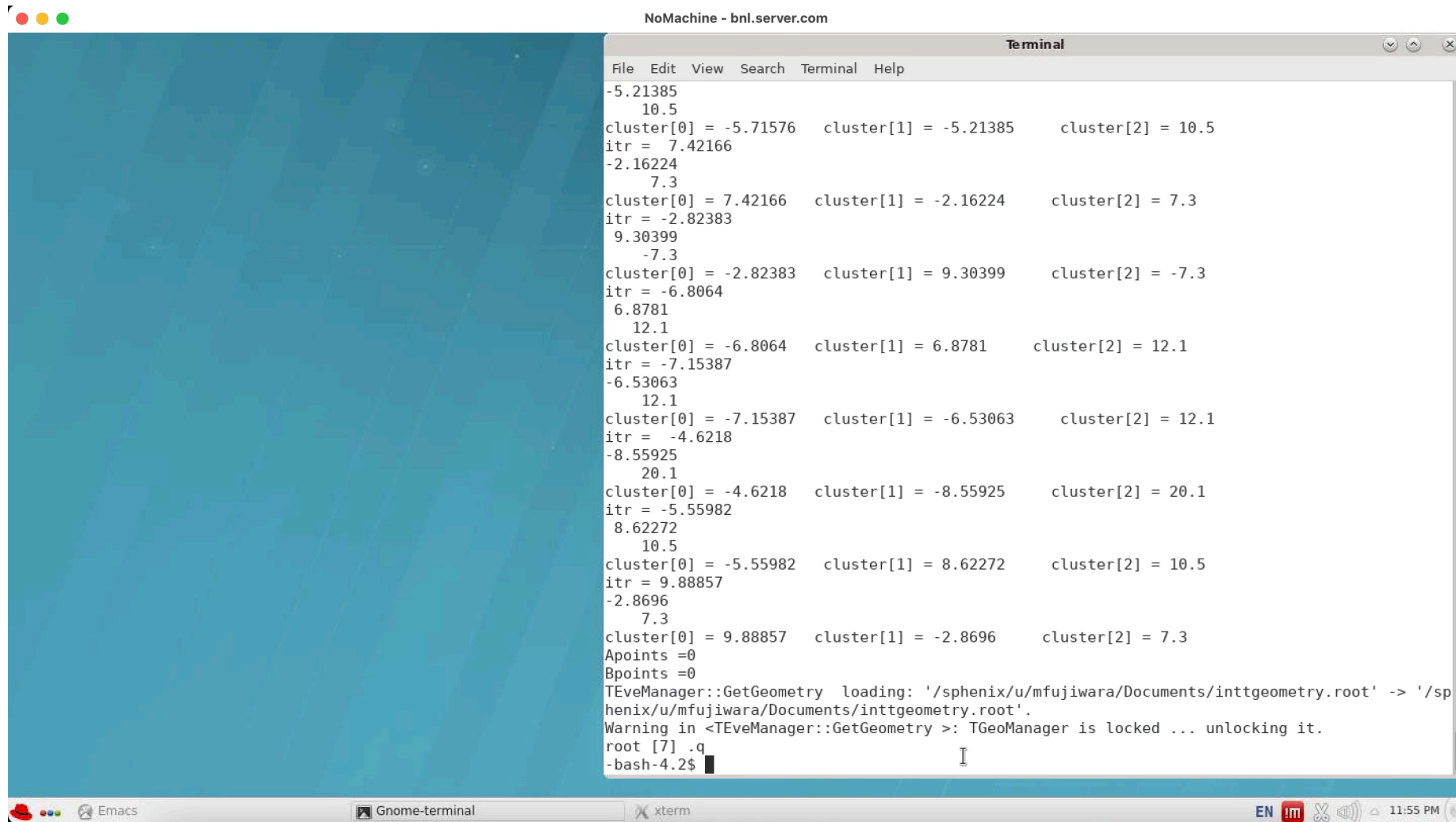
- Blue geometry is INTT.
- Red points are INTT hits.

# Event Display of simple event generator

## r-phi projection

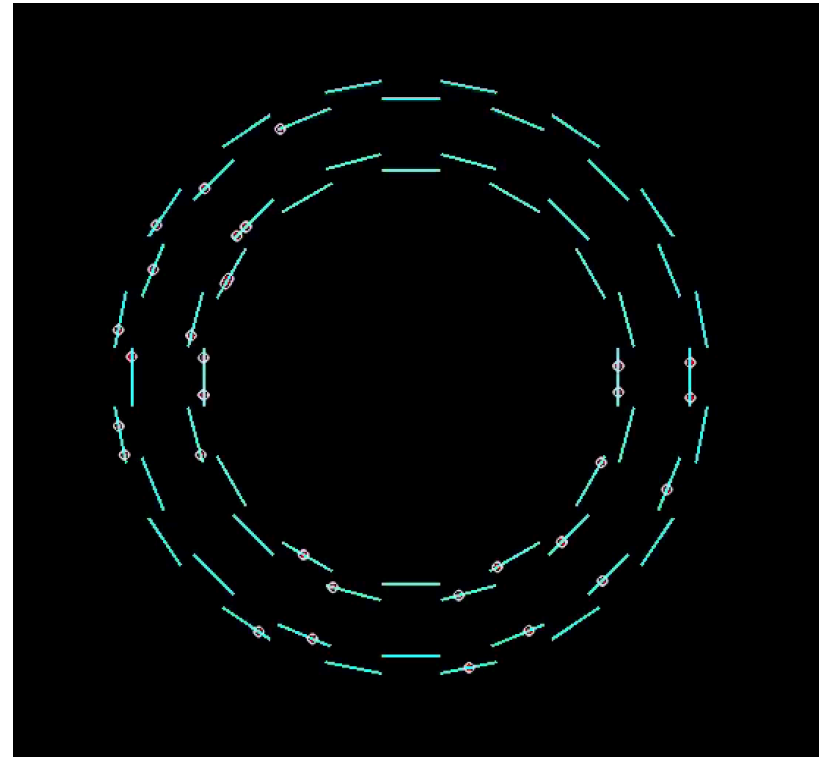
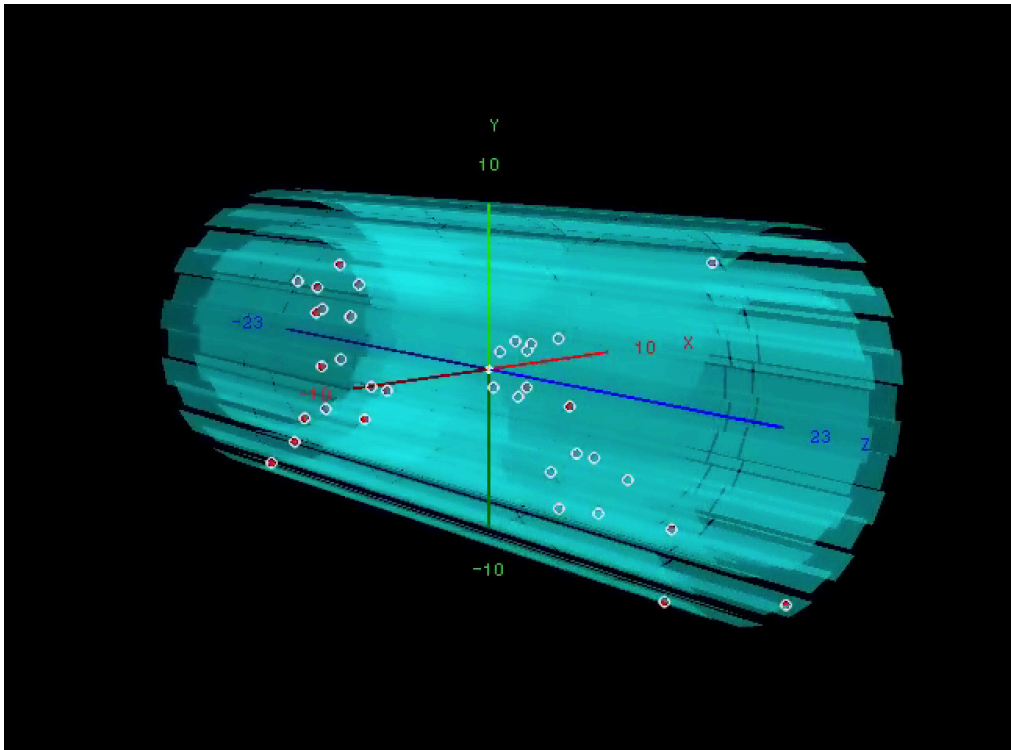


# Event Display of simple event generator



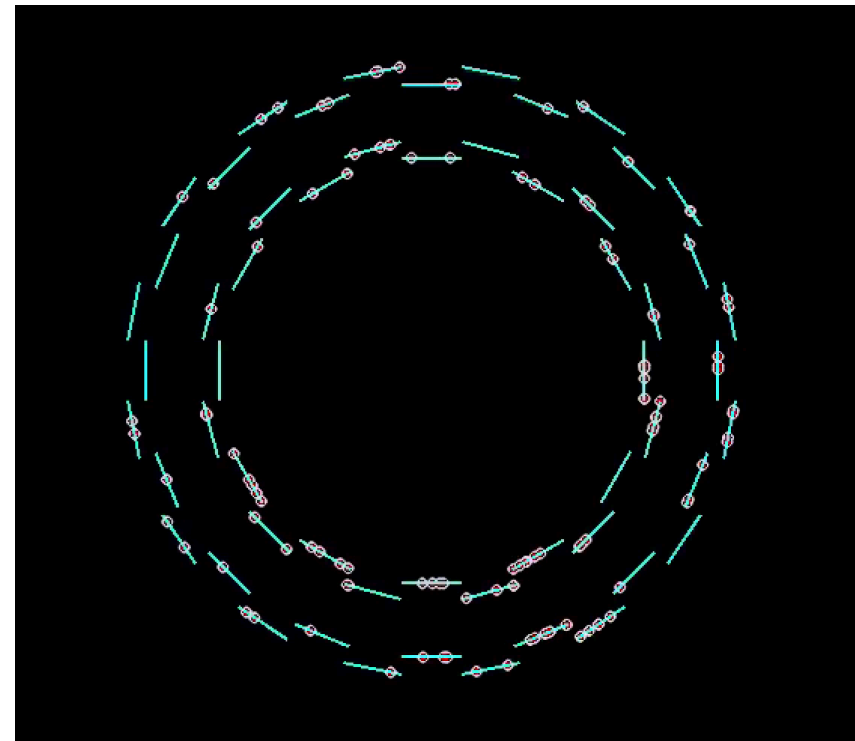
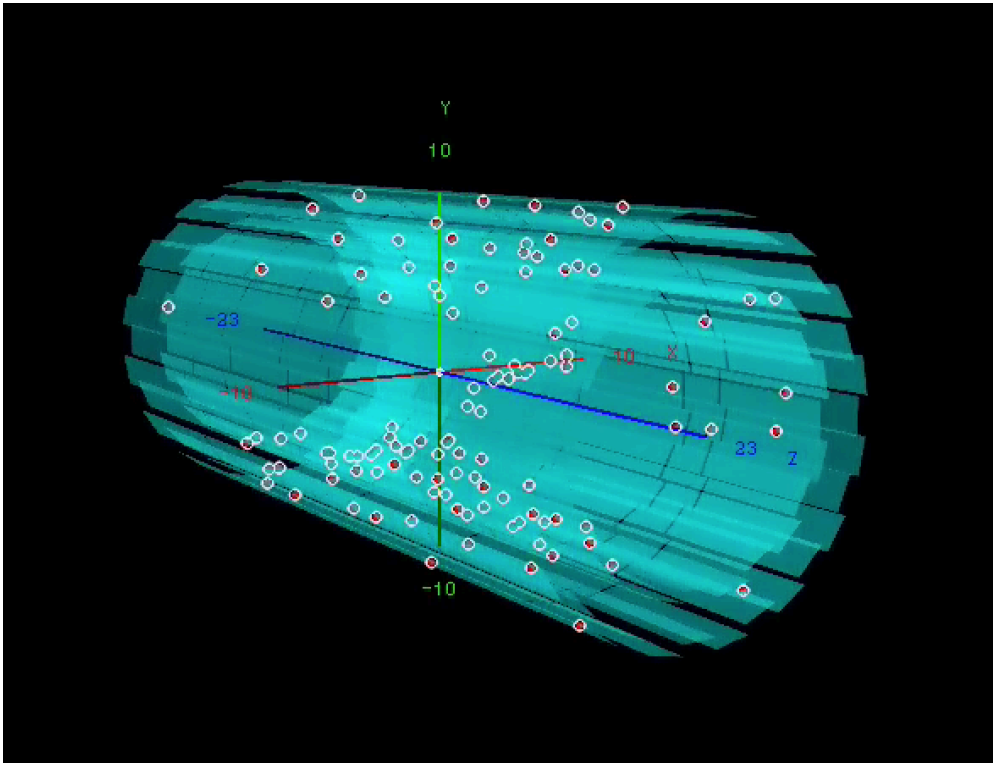
```
NoMachine - bnl.server.com
Terminal
File Edit View Search Terminal Help
-5.21385
10.5
cluster[0] = -5.71576 cluster[1] = -5.21385 cluster[2] = 10.5
itr = 7.42166
-2.16224
7.3
cluster[0] = 7.42166 cluster[1] = -2.16224 cluster[2] = 7.3
itr = -2.82383
9.30399
-7.3
cluster[0] = -2.82383 cluster[1] = 9.30399 cluster[2] = -7.3
itr = -6.8064
6.8781
12.1
cluster[0] = -6.8064 cluster[1] = 6.8781 cluster[2] = 12.1
itr = -7.15387
-6.53063
12.1
cluster[0] = -7.15387 cluster[1] = -6.53063 cluster[2] = 12.1
itr = -4.6218
-8.55925
20.1
cluster[0] = -4.6218 cluster[1] = -8.55925 cluster[2] = 20.1
itr = -5.55982
8.62272
10.5
cluster[0] = -5.55982 cluster[1] = 8.62272 cluster[2] = 10.5
itr = 9.88857
-2.8696
7.3
cluster[0] = 9.88857 cluster[1] = -2.8696 cluster[2] = 7.3
Apoints =0
Bpoints =0
TEveManager::GetGeometry loading: '/sphenix/u/mfujiwara/Documents/inttgeometry.root' -> '/sp
henix/u/mfujiwara/Documents/inttgeometry.root'.
Warning in <TEveManager::GetGeometry >: TGeoManager is locked ... unlocking it.
root [7] .q
-bash-4.2$
```

# Event Display of Phythia8

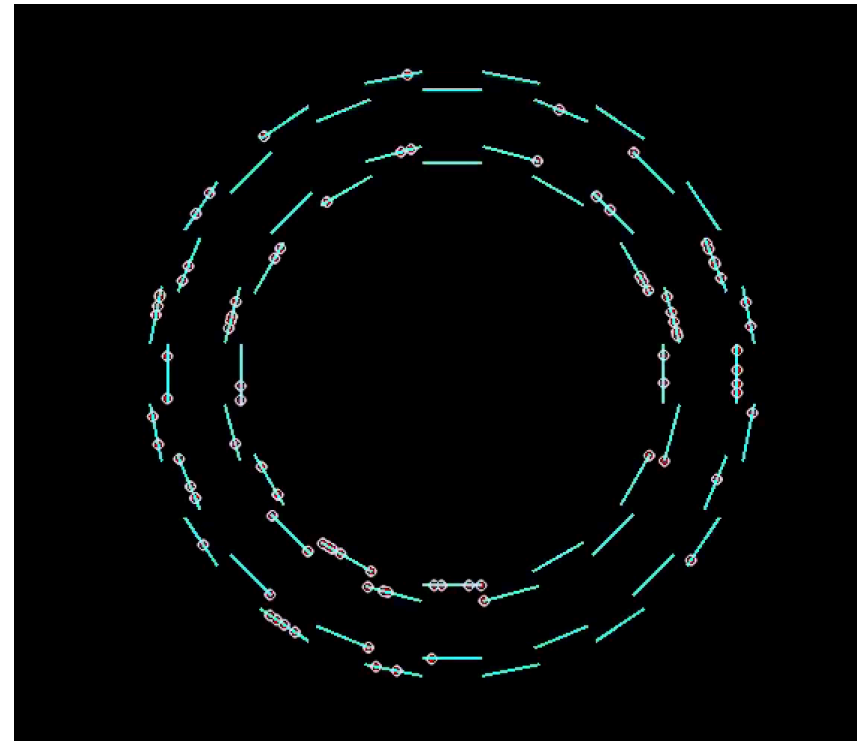
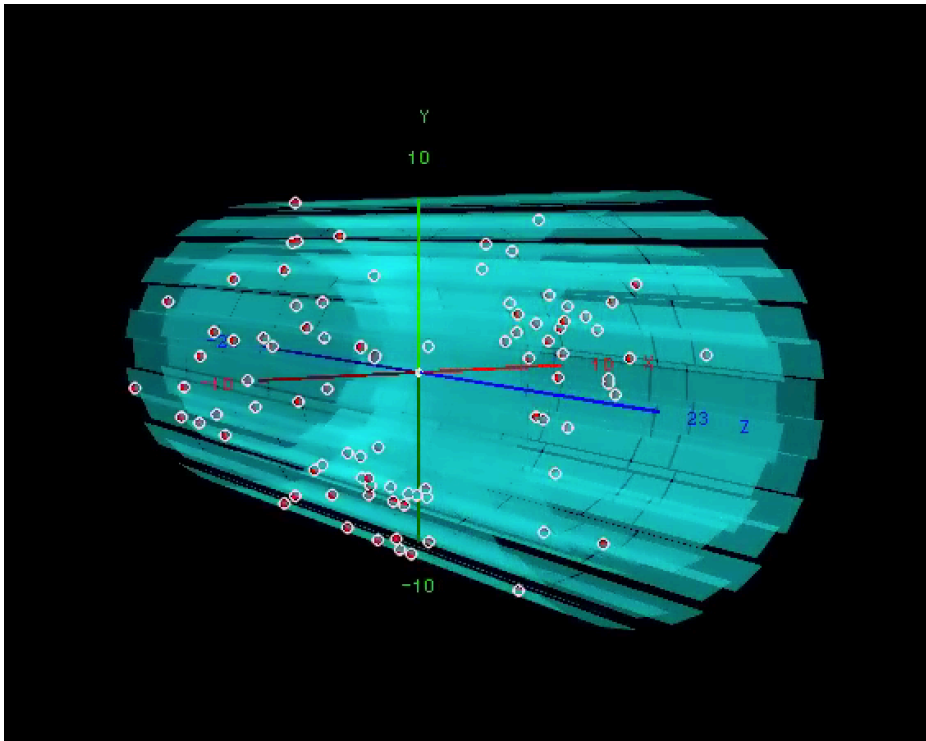




# Event Display of Phythia8



# Event Display of Phythia8



# Summery and to do next

## Summery

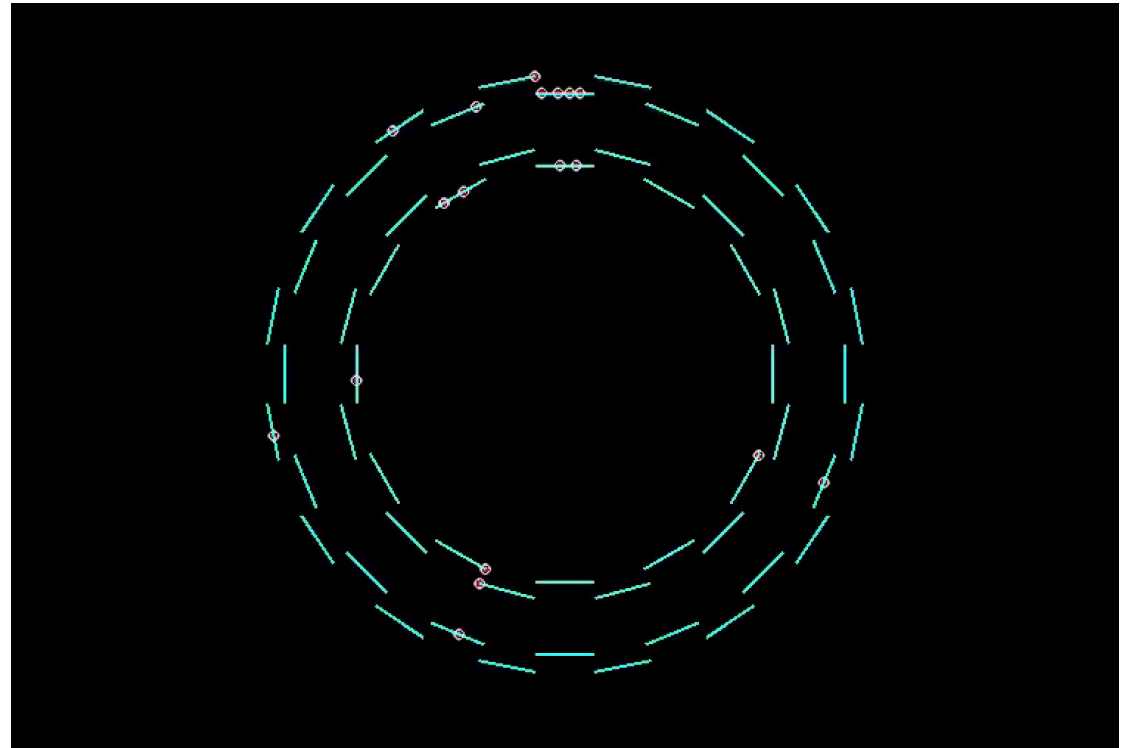
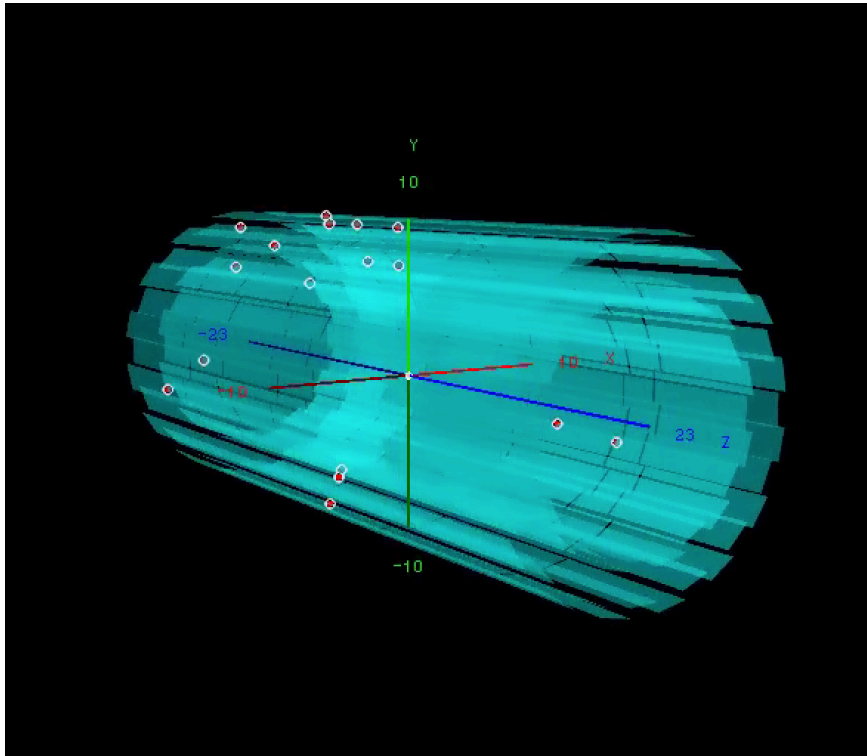
- INTT event display developed and 1st version is ready to use.
- 3D and R-phi projection is viewable.

## To do next

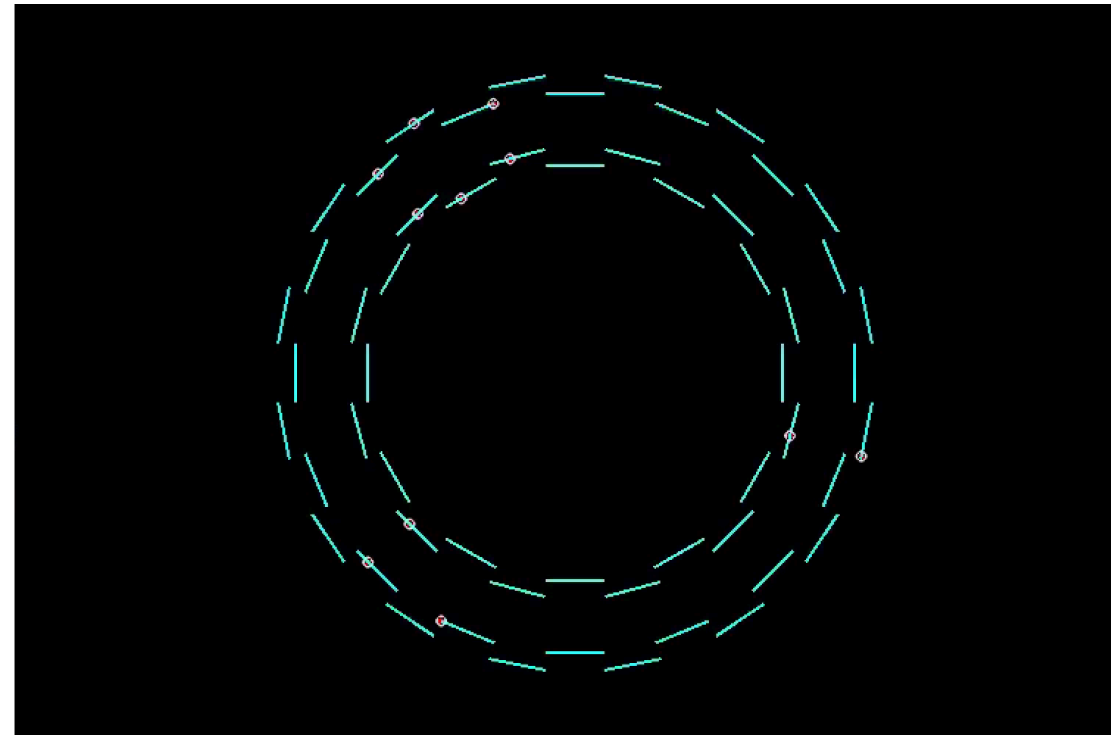
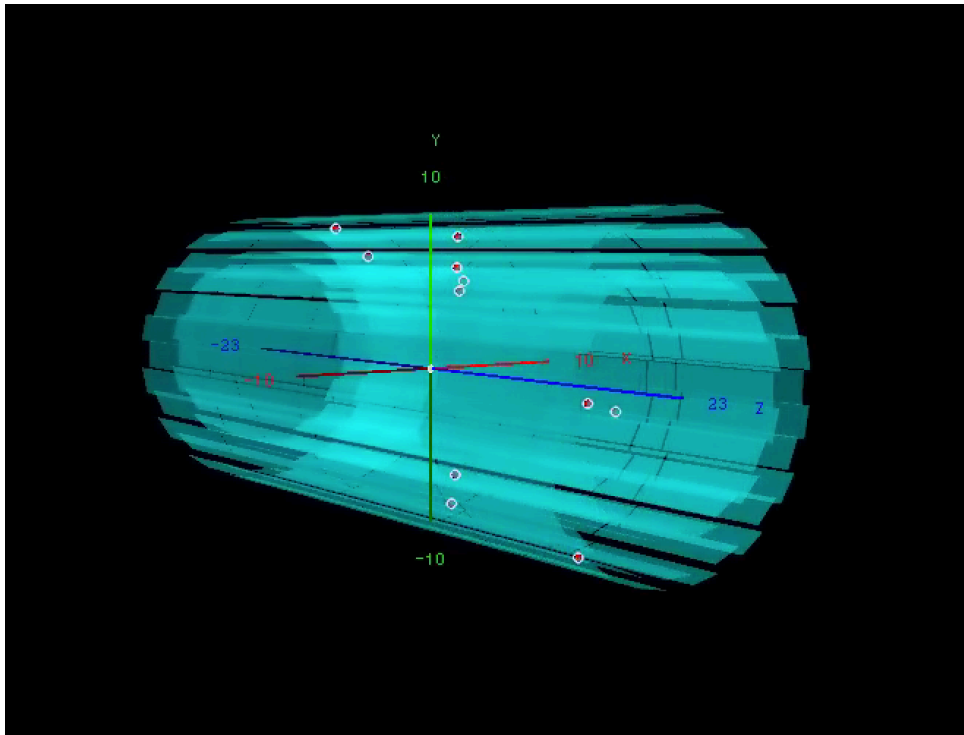
- Implement rho-z projection
- Implement tracking
- Improve visibility of r-phi projection

Back Up

# INPUT :: Simple



# INPUT :: Simple



# INPUT :: Simple

