

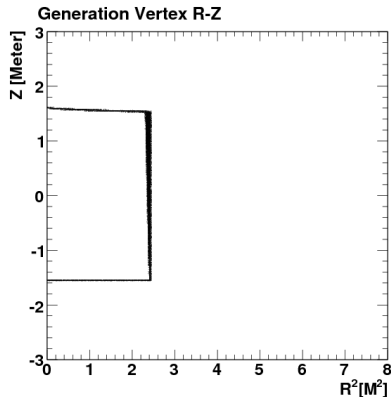
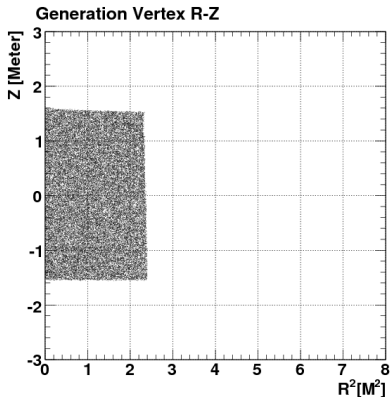
A problem in Detector Description

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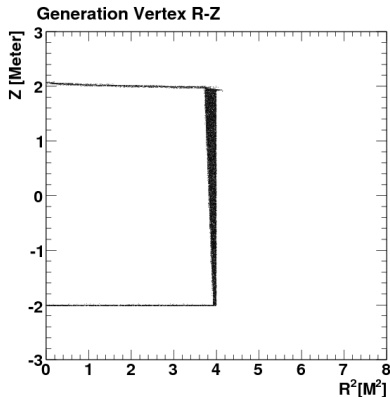
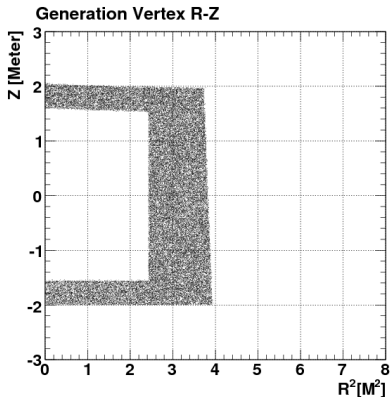
Dayabay Collaboration

gds/iav generation position



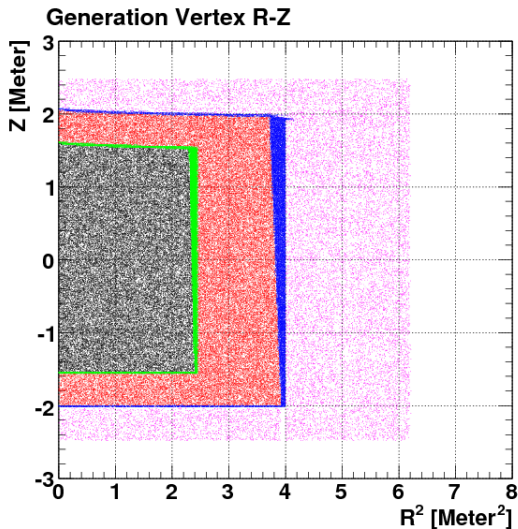
- volume = "/dd/Structure/AD/db-gds1"
- positioner.Strategy = "FullVolume"
- positioner.Mode = "Uniform"

Iso/oav generation position

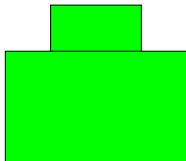
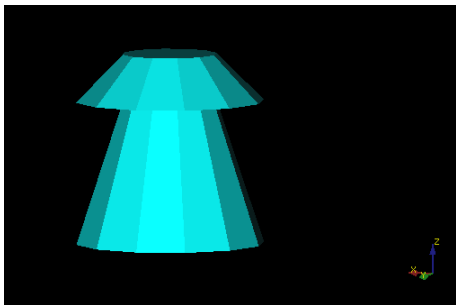


- volume = "/dd/Structure/AD/db-Iso1"
- positioner.Strategy = "AvoidDaughters"
- positioner.Mode = "Uniform"

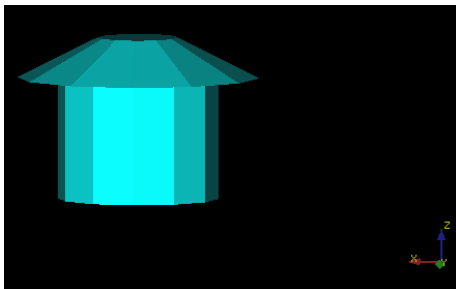
Generation position



Polycone



```
<polycone name="gds">  
  <zplane z="0*mm"  
    outerRadius="1000*mm" />  
  <zplane z="1500*mm"  
    outerRadius="1000*mm" />  
  <zplane z="1500*mm"  
    outerRadius="500*mm" />  
  <zplane z="2000*mm"  
    outerRadius="500*mm" />  
</polycone>
```



```
<polycone name="gds">  
  <zplane z="0*mm"  
    outerRadius="1000*mm" />  
  <zplane z="1500*mm"  
    outerRadius="1000*mm" />  
  <zplane z="1500*mm"  
    outerRadius="1500*mm" />  
  <zplane z="2000*mm"  
    outerRadius="500*mm" />  
</polycone>
```

- There is a bug in parsing Polycone:
For two planes with same "z" values, always choose the smaller radius first

Track down the problem

- The problem comes from the constructor of SolidPolyCone
NuWa-trunk/lhcb/Det/DetDesc/src/Lib/SolidPolycone.cpp:
`std::sort( m_triplets.begin() , m_triplets.end() );`
- It sorts the elements in case “z” values is not in right order, but it also sorts the radius when “z” equal.
- Workaround:
 - Comment out the sort line. Require all the “zplane”s written in right order.
 - Only sort “z” values. I have modified SolidPolycone.h & SolidPolycone.cpp a little bit.
- Both fixes don’t require any change in xml files, so that we don’t need to touch the current detector description.

Generation Vertex R-Z

