Subject: shape of a volume
Posted by Olaf Hartmann on Mon, 13 Dec 2010 10:49:38 GMT
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Hi all,

I see a somewhat strange behaviour from the following lines of code:

```
if (!gGeoManager) GetGeoManager();
TGeoVolume* actVolume = gGeoManager->GetCurrentVolume();
TGeoShape* actShape = actVolume->GetShape();
const char* fShapeName = actShape->GetName();

cout << "Volume is " << fShapeName << endl;
```

Instead of the shape name I get always the volume name in the output. Interactively, at the ROOT prompt, it works:

Quote:root [1] TGeoVolume* actVolume = gGeoManager->GetVolume("FscAbsorber")
root [2]  TGeoShape* actShape = actVolume->GetShape();
root [3] actShape->GetName();
root [4] actShape->GetName()
(const char* 0x2cfa898)"TGeoBBox"

I wonder how to get the shape name inside the code?

Cheers
Olaf.

Subject: Re: problem gone
Posted by Olaf Hartmann on Mon, 13 Dec 2010 14:44:06 GMT
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The problem is gone. I don't know why since I did not change the code ...

Subject: Re: shape of a volume - always TGeoBBox ?
Posted by Olaf Hartmann on Mon, 13 Dec 2010 15:39:09 GMT
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Dear all,

I just realized that asking the GeoManager about the shape of a volume he always answers TGeoBBox, which is a bounding box of each of the volumes, even if they're originally of type

e.g. TGeoTube.

Quote:root [2] gGeoManager->GetVolume(1211)->GetShape()->InspectShape()
*** Shape stt01wire1880: TGeoTube ***
Rmin = 0.00000
Rmax = 0.00100
dz = 31.80215
Bounding box:
*** Shape stt01wire1880: TGeoBBox ***
dX = 0.00100
dY = 0.00100
dZ = 31.80215
origin: x= 0.00000 y= 0.00000 z= 0.00000

As I wrote in the earlier mail, I tried to access the dimensions of the physical volumes:

TGeoVolume* actVolume = gGeoManager->GetVolume(fVolumeID);
TGeoShape* actShape = actVolume->GetShape();
const char* fShapeName = actShape->GetName();

fShapeName is always TGeoBBox. How can I arrive to the underlying shape (e.g. TGeoTube) ?

Cheers
Olaf.

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Subject: Re: shape of a volume - always TGeoBBox ?
Posted by Lia Lavezzi on Mon, 13 Dec 2010 15:53:39 GMT
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Hi Olaf,
in stt/PndSttMapCreator.cxx I retrieve the geometry of the TGeoTube, but the very starting point is the list of FairGeoNodes from the PndGeoSttPar...
The code does:
FairGeoNode *pnode = (FairGeoNode*) geoPassNodes->FindObject(tubename);
...
TGeoVolume* rootvol = pnode->getRootVolume();
TGeoTube *tube = (TGeoTube*) rootvol->GetShape();

...I don' t know if this may be helpful...
Lia.

---

Subject: Re: shape of a volume - always TGeoBBox ?

Posted by Olaf Hartmann on Mon, 13 Dec 2010 16:09:59 GMT
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Ciao Lia,

Lia Lavezzi wrote on Mon, 13 December 2010 16:53Hi Olaf,
in stt/PndSttMapCreator.cxx I retrieve the geometry of the TGeoTube, but the very starting point is the list of FairGeoNodes from the PndGeoSttPar...
The code does:
FairGeoNode *pnode = (FairGeoNode*) geoPassNodes->FindObject(tubename);
...
TGeoVolume* rootvol = pnode->getRootVolume();
TGeoTube *tube = (TGeoTube*) rootvol->GetShape();

...I don' t know if this may be helpful...
Lia.

As I read, this is specific for STT (I need something general) ... and in your example it seems that you already know that you're looking for a tube. So I wonder if

TGeoVolume* rootvol = pnode->getRootVolume();
TGeoShape* volshape = rootvol->GetShape();

would work in your case, giving TGeoTube as shape name?

Thanks
Olaf.

Subject: Re: shape of a volume - always TGeoBBox ?
Posted by Lia Lavezzi on Mon, 13 Dec 2010 16:34:26 GMT
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Quote:As I read, this is specific for STT (I need something general)
Yes, this was written for the tubes, but also the other detectors fill the passive/active node list... maybe it could be generalized.

Quote: ... and in your example it seems that you already know that you're looking for a tube. So I wonder if
TGeoVolume* rootvol = pnode->getRootVolume();
TGeoShape* volshape = rootvol->GetShape();
would work in your case, giving TGeoTube as shape name?
No, I just tried and it gives me "stt01tube", but InspectShape works and recognizes it as a TGeoTube.
Ciao,
Lia.