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Subject: Definiton of Glad center of Glad magnetic field map center

Posted by [sunny](#) on Wed, 31 Aug 2016 15:46:18 GMT

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Hello,

I have two questions on the Glad geometry definition and field map definition:

1)

From the create\_glad\_geo.C,

```
>>>Double_t DistanceToTarget = 350.0; //cm
```

```
>>>Double_t Correction = -119.94; //cm
```

```
>>>...
```

```
>>>t0->RotateY(+7.3);
```

Therefore, I think the distance of glad to the target-center will be  $350 - 119.94 = 230.06\text{cm}$ , with an angle of  $7.3\text{deg}$ .

But I'm not sure this distance is relative to which point of Glad. To be specific, what is the coordinate definition in the create\_glad\_geo.C macro ?

2) There is one magnetic field map under R3BROOT/field/magField/R3B/R3BGladMap.dat, the format is x/y/z/Bx/By/Bz. The x/y/z definition is relative to which frame ? Is it the same as the geometry definition in question 1 ?

In the R3BGladFieldMap.cxx, the translation from lab to local frame of the magnet is done using  $14^\circ$  rotation and the transposition gTrans is (0,0,-113.4), which seems not consistent with the values in the geometry defition. I'm confused.

Best regards,

Yelei

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Subject: Re: Definiton of Glad center of Glad magnetic field map center

Posted by [Dmytro Kresan](#) on Wed, 14 Sep 2016 12:53:29 GMT

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Hello Yelei,

1) These coordinates are global with respect to the target. It is the center of keeping volume for GLAD, which actually defines the rotation point. The coordinates of daughter volumes are then defined relative to the keeping box.

2) Part of this question is answered here

Concerning the rotation angle, the mismatch has been fixed, now it is  $14^\circ$  in both cases. Consult <https://www.r3broot.gsi.de/r3broot-update> on how to obtain the changes.

Best regards,

Dima