Subject: dipole field in Geant4
Posted by Mathias Michel on Fri, 08 Jul 2011 10:22:42 GMT
View Forum Message <> Reply to Message

Hi all,

it seems that somehow, if i switch in a simulation from Geant3 to Geant4, its ignoring the dipole field. Attached you can find two event displays created with the same macro, once with Geant3 and once with Geant4. You can see that with Geant4 the "kink" of the dipole field is missing. I attached the macro as well so you can have a look at the parameters.

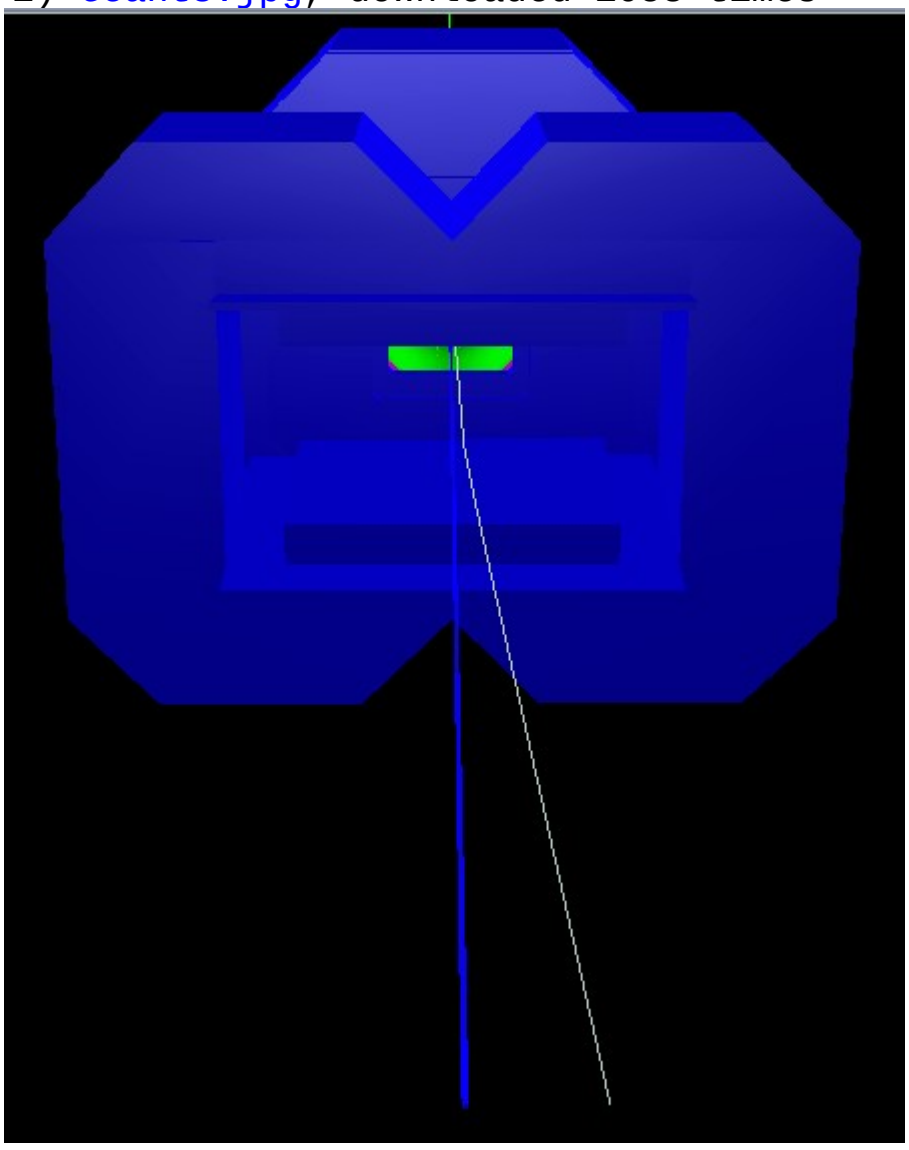
I tried both external package release's from this year and pandaroot revision 12630 was the latest i tried. My machine is a FedoraCore15 32bit.

Is there something wrong with the macro, a.e. the way the fieldmaps are read, or does anybody else see see a similar behaviour?

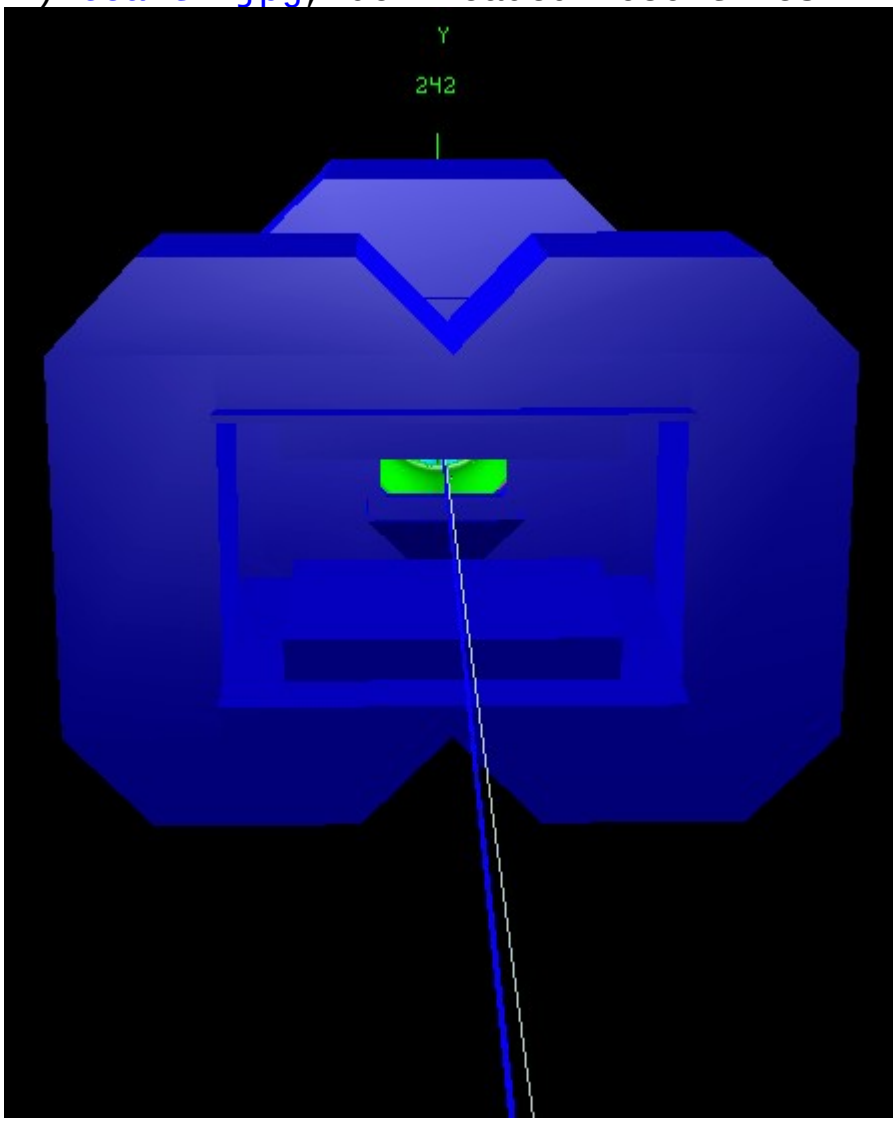
Cheers,
Mathias

File Attachments

1) Geant3.jpg, downloaded 1058 times



2) Geant4.jpg, downloaded 1050 times



3) runMvdSim.C, downloaded 570 times

Subject: Re: dipole field in Geant4
Posted by StefanoSpataro on Tue, 12 Jul 2011 08:31:41 GMT
View Forum Message <> Reply to Message

Hi,
I think I was able to reproduce your problem.. or at least it seems that I have signal in the forward emc with g3, and no signal with g4.

First I would like to know which external packages and trunk versions you are using.
Second, I would like to understand if this is the first time you are trying with g4, or if maybe before it was working and now it does not (trying to find which is the change that is creating the mess, or of this problem exists since some time).
Third, could you please put the macro you are using as event display?
Fourth... I think we have to wait that Mohammad comes back from vacation...

Subject: Re: dipole field in Geant4
Posted by Mathias Michel on Tue, 12 Jul 2011 08:55:51 GMT
View Forum Message <> Reply to Message

Hi,

thanks for having a look into this.

I'm using panda-trunk 12630 with may11 external package release. I also tried the feb11 release with same results, but no other up to now.

I used the Mvd-macro because i thought its easier to check. But for the lmd-macros i can say that they worked with both Geant3 and Geant4 up to a few months ago at least. Now in my setup the lmd-macros ignore the dipole-field with both G3 and G4. With Mvd it works with G3 but not with G4 as shown in my first post.
Maybe this is a problem with my local machine since i upgraded to fedora15 recently, but its so strange that i'd like to find out whats happening and found it worth mentioning.

You can find the eventdisplay attached.

Until Mohammad is back i will run the same macros in the same setup on a different machine to check if this is just a problem of my local machine.

File Attachments
1) eventDisplay.C, downloaded 350 times

Subject: Re: dipole field in Geant4
Posted by Mohammad Al-Turany on Tue, 12 Jul 2011 12:07:26 GMT
View Forum Message <> Reply to Message

Hi,

There was a problem in the initialization of the field when using G4. now it is corrected in r12662, please check it.

regards,

Mohammad

Subject: Re: dipole field in Geant4
Posted by Mathias Michel on Tue, 12 Jul 2011 12:40:28 GMT
View Forum Message <> Reply to Message

Hi,

with G4 it is now working again (lmd & mvd), thanks!

Unfortunately i now have some trouble with G3. In case of lmd the antiprotons are still unbended by the dipole. And with the mvd-macro from above the eventdisplay now is empty

and i get the following message for each track during simulation:

*** GTRACK *** More than 10000 steps, tracking abandoned!

Subject: Re: dipole field in Geant4
Posted by Mohammad Al-Turany on Wed, 13 Jul 2011 17:26:36 GMT
View Forum Message <> Reply to Message

Hi,

I will check this when I get back to the GSI.

Mohammad
