
Subject: simulation does not work with G4 for ROOT files with geometry

Posted by [Aleksandra Biegun](#) on Wed, 28 Nov 2007 14:26:01 GMT

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Hello,

today I downloaded last version of pandaroot.
I exported path to new external packages
which are at /misc/cbmsoft/Debian3.1/development

I compiled pandaroot software without any errors and then
I tried to run macra with geometry taken from the ROOT file,
i.e. /pandaroot/macro/

emc/sim_emc.C (geometry file: emc_module3.root)
dch/runMC.C (geometry file: dch.root)
mvd/runMvdSim.C (geometry file: MVD14.root)

None of this works for me with G4, I got such error message:

```
-----  
...  
Loading Geant4 granular libraries ...  
Loading VGM libraries ...  
dlopen error: /misc/cbmsoft/Debian3.1/development/transport/geant4_vmc/lib/tgt_linux/  
ibgeant4vmc.so: undefined symbol: _ZNK8TGWindow7GetNameEv  
Load Error: Failed to load Dynamic link library  
/misc/cbmsoft/Debian3.1/development/transport/geant4_vmc/lib/tgt_linux/ ibgeant4vmc.so  
(int)(-1)  
*** Interpreter error recovered ***  
Error: Symbol TG4RunConfiguration is not defined in current scope  
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:  
Error: Symbol TG4RunConfiguration is not defined in current scope  
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:  
Error: type TG4RunConfiguration not defined  
FILE:/d/panda02/abiegun/pandaroot/gconfig/g4Config.C LINE:29  
Warning: Automatic variable TG4RunConfiguration* runConfiguration is allocated  
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:  
Error: Undeclared variable TG4RunConfiguration* runConfiguration  
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:  
*** Interpreter error recovered ***  
  
*** Break *** segmentation violation  
Using host libthread_db library "/lib/libthread_db.so.1".  
Attaching to program: /proc/32678/exe, process 32678  
'system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.  
done.  
done.  
[Thread debugging using libthread_db enabled]  
[New Thread 16384 (LWP 32678)]  
done.  
...
```

With G3 those detectors works, but for 'emc' and 'dch'
I got 'segmentation violation' error after quitting root
like below:

...
RealTime=7.715130 seconds, CpuTime=6.270000 seconds
root [1] .q

*** Break *** segmentation violation
Using host libthread_db library "/lib/libthread_db.so.1".
Attaching to program: /proc/2100/exe, process 2100
'system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.
done.
done.
...

Maybe I have forgotten about some settings?

Do you have any idea about it?

Best regards,
Aleksandra.

Subject: Re: simulation does not work with G4 for ROOT files with geometry
Posted by [Mohammad Al-Turany](#) on Wed, 28 Nov 2007 14:39:23 GMT
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Hi,

Quote>Loading Geant4 granular libraries ...
Loading VGM libraries ...
dlopen error: /misc/cbmsoft/Debian3.1/development/transport/geant4_vmc/lib/tgt_linux/l
ibgeant4vmc.so: undefined symbol: _ZNK8TGWindow7GetNameEv
Load Error: Failed to load Dynamic link library
/misc/cbmsoft/Debian3.1/development/transport/geant4_vmc/lib/tgt_linux/l ibgeant4vmc.so
(int)(-1)

do you start root with -b option? if yes then this is the reason! either you add to your macro
gSystem->Load("libGui") or you use -l option instead.

Quote>Error: Symbol TG4RunConfiguration is not defined in current scope
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:
Error: Symbol TG4RunConfiguration is not defined in current scope
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:
Error: type TG4RunConfiguration not defined

```
FILE:/d/panda02/abiegun/pandaroot/gconfig/g4Config.C LINE:29
Warning: Automatic variable TG4RunConfiguration* runConfiguration is allocated
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:
Error: Undeclared variable TG4RunConfiguration* runConfiguration
/d/panda02/abiegun/pandaroot/gconfig/g4Config.C:29:
*** Interpreter error recovered ***
```

this related to the above error, the vmc library is not loaded so he cannot find these objects.

Quote:With G3 those detectors works, but for 'emc' and 'dch'
I got 'segmentation violation' error after quitting root
like below:

maybe it is the same problem which was in the MVD, I have to check.

regards

Mohammad

Subject: Re: simulation does not work with G4 for ROOT files with geometry
Posted by [Aleksandra Biegun](#) on Wed, 28 Nov 2007 16:02:44 GMT
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Hi Mohammad,

yes, I start with options "-l" and "-b",
but adding gSystem->Load("libGui") library helped G4 for
'mvd' almost completely (now, I have only warnings when I'm
leaving root:

```
WARNING - Attempt to delete the physical volume store while geometry closed !
WARNING - Attempt to delete the logical volume store while geometry closed !
WARNING - Attempt to delete the solid store while geometry closed !
WARNING - Attempt to delete the region store while geometry closed !;
```

'dch' also works with G4, but still I have the same warnings and

```
*** Break *** segmentation violation
Using host libthread_db library "/lib/libthread_db.so.1".
Attaching to program: /proc/7855/exe, process 7855
`system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.
...
```

and for 'emc', when I run with G4 I got an error:

```
Running TVirtualMCApplication::ConstructGeometry
*****
Geant4 version Name: geant4-09-00 (29-June-2007)
```

Info in <TG4RootNavMgr::Initialize>: Creating G4 hierarchy ...
Info in <TGeoManager::ConvertReflections>: Converting reflections in: CBMGeom - CBM geometry ...
Info in <TGeoManager::ConvertReflections>: Done
==> GEANT4 materials created and mapped to TGeo ones...
Cannot make material for volume: top
Aborting in CreateLogicalVolume()

*** G4Exception: Aborting execution ***

The material for 'top' volume of emc is set to air (when the root file is created) but it's not registered to TGeoManager into pandaroot software, so maybe this is the problem?
How do you think?

Regards,
Ola.

Subject: Re: simulation does not work with G4 for ROOT files with geometry
Posted by [Mohammad Al-Turany](#) on Wed, 28 Nov 2007 16:17:40 GMT
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Hi,

Quote:'dch' also works with G4, but still I have the same warnings and

*** Break *** segmentation violation
Using host libthread_db library "/lib/libthread_db.so.1".
Attaching to program: /proc/7855/exe, process 7855
'system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.
...

This was a problem with the mvd also, when you exit root the GeoManager try to delete a list of marticies which is already deleted, as far as I remmember dch has also his own ConstructRootGeometry which is similar to mvd, so one have to correct this method like MVD.

Quote:Info in <TG4RootNavMgr::Initialize>: Creating G4 hierarchy ...
Info in <TGeoManager::ConvertReflections>: Converting reflections in: CBMGeom - CBM

geometry ...

Info in <TGeoManager::ConvertReflections>: Done

==> GEANT4 materials created and mapped to TGeo ones...

Cannot make material for volume: top

Aborting in CreateLogicalVolume()

*** G4Exception: Aborting execution ***

it looks like a problem in the ExpandNode I will have to look into the code, maybe tomorrow I can tell you more.

regards

Mohammad