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Subject: How to get step by step information with TGeant4.

Posted by [Lia Lavezzi](#) on Mon, 22 Mar 2010 12:37:12 GMT

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Hi,

is there a way to get all the info on a particle, step by step at simulation time, when using TGeant4? I need to follow the particle, with process, position, energy loss. I managed to get them with TGeant3 (with the function Gpcxyz()), and I got these lines:

```
**** GTRIGI: IEVENT= 1 IDEVT= 1 Random Seeds = 4357 0
=====> TRACK 1 STACK NR 0 NTMULT= 1 MUON - TOFG = 0.000
NS
  X      Y      Z      R  NAME NUMBER  SLENG  STEP  DESTEP  GEKIN
MECHANISMS
  0.0000  0.0000  0.0000  0.0000 cave  1  0.0000  0.0000  0.0 eV 899.908 MeV
NULL
  14.9764  0.7241  7.2417  14.9939 cave  1  16.6567  16.6567  35.7 keV 899.872
MeV FIEL LOSS STRA MULS
  14.9826  0.7247  7.2448  15.0001 cave  1  16.6636  0.0069  0.1 eV 899.872
MeV FIEL NEXT LOSS STRA MULS
  14.9826  0.7247  7.2448  15.0001 stt0  1  16.6636  0.0000  0.0 eV 899.872 MeV
NULL
  15.2118  0.7476  7.3560  15.2302 stt0  1  16.9195  0.2559  761.2 keV 897.373
MeV FIEL LOSS MULS DRAY
  15.9786  0.8267  7.7298  16.0000 stt0  1  17.7762  0.8567  2.7 MeV 894.707
MeV FIEL LOSS MULS
  15.9787  0.8268  7.7298  16.0001 stt0  1  17.7763  0.0001  167.6 eV 894.706
MeV FIEL NEXT LOSS STRA MULS
  15.9787  0.8268  7.7298  16.0001 cave  1  17.7763  0.0000  0.0 eV 894.706
MeV NULL
```

That' s what I need, but I don' t know how to do it with TGeant4. Maybe there is some function in VMC, but I couldn' t find it.

Does anyone know how can I do?

Thank you in advance!

Lia.

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Subject: Re: How to get step by step information with TGeant4.

Posted by [asanchez](#) on Mon, 22 Mar 2010 12:49:52 GMT

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Hi Lia,

yes it is, you should go to gconfig  
at gconfig.in  
and uncomment the line  
#/tracking/verbose 1

I hope it works.

I was checking my code with this flag  
some time ago.

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cheers ALicia.

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Subject: Re: How to get step by step information with TGeant4.

Posted by [Lia Lavezzi](#) on Mon, 22 Mar 2010 13:10:32 GMT

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Thank you very much! It works perfectly!

Ciao,  
Lia.

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Subject: Re: How to get step by step information with TGeant4.

Posted by [Dmitry Morozov](#) on Thu, 10 Jun 2010 15:15:35 GMT

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Hi Lia,

how did you manage to use Gpcxyz() from TGeant3 class? There is no such class in ROOT 5.26 which is now in current external packages.

As far as i know it was there up to version 5.14. Do you use the old externals? Or I don't understand something here?

Thanks in advance.

Dmitry

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Subject: Re: How to get step by step information with TGeant4.

Posted by [Lia Lavezzi](#) on Thu, 10 Jun 2010 16:19:13 GMT

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Hi Dmitry,

the function Gpcxyz() is in the geant3 package, the complete path to find it in the external packages is: transport/geant3/TGeant3.h

and in TGeant.cxx you see it just calls the corresponding fortran routine in geant3/gtrak/gpcxyz.F.

Cheers,  
Lia.

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