
Subject: crash in recotasks/demo/runDemo.C

Posted by [Jens Sören Lange](#) on Sat, 14 Jun 2008 09:39:34 GMT

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Hi all, I need help with geane.

recotasks/demo/runMC.C was running fine.
(generates 100 muons with $p=0.5$ GeV/c)

but recotasks/demo/runDemo.C
(which was running in Groningen)
crashes (see error output below)
immediately in the first event.

I tried the following 3 solutions to decrease the stepsize, but neither worked.

a.) in gconfig/Geane.C

```
void Config()
{
    TGeoMedium *m=gGeoManager->GetMedium("TPCmixture");
    m->SetParam(4, 0.0001); // stemax=0.0001 cm
```

b.) in geometry/media_pnd.geo

```
TPCmixture 3 20.1797 12.01 15.9994 10. 6. 8. 0.001 0.9 0.033 0.067
1 1 20. 0.0001 <- HERE!
```

c.) I tried both `gMC3->SetAUTO(0)` and `gMC3->SetAUTO(1)`

Nothing helps. See error output below (is the same in either case). Any idea?

This is stable pre-release, rev. 2961.

thanks in advance, -- Soeren

(from here: error output)

[...]

```
PndFieldCreator::SetParm()
create PndFieldPar container PndFieldPar
create PndFieldPar container PndSolenoidPar
create PndFieldPar container PndDipolePar
create PndFieldPar container PndTransPar
create PndFieldPar container PndConstPar
create PndFieldPar container PndMultiFieldPar
```

```
*****
```

```
initialisation for run id 1097253067
```

```
*****
```

```
Container CbmBaseParSet initialized from ROOT file.
Error in <PndFieldPar::init()>: PndFieldPar not initialized
```

Error in <PndSolenoidPar::init():>: PndSolenoidPar not initialized
 Error in <PndDipolePar::init():>: PndDipolePar not initialized
 Error in <PndTransPar::init():>: PndTransPar not initialized
 Container PndConstPar initialized from ROOT file.
 Error in <PndMultiFieldPar::init():>: PndMultiFieldPar not initialized
 Error in <CbmRuntimeDb::initContainers():>: Error occured during initialization
 PndFieldCreator::createCbmField()

```
-----
----- actual containers in runtime database -----
CbmBaseParSet          Test class for parameter io
PndFieldPar            Field parameter container
PndSolenoidPar         Solenoid Field parameter container
PndDipolePar           Dipole Field parameter container
PndTransPar            Trans. Field parameter container
PndConstPar            Const Field parameter container
PndMultiFieldPar       Multiple Field parameter container
```

```
----- runs, versions -----
run id
  container          1st-inp  2nd-inp  output
run: 1097253067
  CbmBaseParSet          -1     -1     0
  PndFieldPar            -1     -1     0
  PndSolenoidPar         -1     -1     0
  PndDipolePar           -1     -1     0
  PndTransPar            -1     -1     0
  PndConstPar            -1     -1     0
  PndMultiFieldPar       -1     -1     0
```

```
----- input/output -----
```

first Input:
 OBJ: CbmParRootFile demo.param.root : 0 at: 0x9bc0cf0
 Root file I/O demo.param.root is open
 detector I/Os: CbmGenericParlo
 second input: none
 output: none
 -I- Geane: Magnetic Field is Set and will be used

```
=====
---- CBM Magnetic Field :
```

```
---- Field type   : constant
```

```
---- Field regions :
```

```
----   x = -500 to 500 cm
```

```
----   y = -500 to 500 cm
```

```
----   z = -200 to 200 cm
```

```
---- B = ( 0, 0, 20 ) kG
=====
```

```
DemoPatternRecoTask::Exec
```

```
Creating new track candidate with id=0
```

```
TVector3 A 3D physics vector (x,y,z)=(0.315168,0.089619,0.393012)
```

```
(rho,theta,phi)=(0.511684,39.818713,15.873216)
```

```
+++++
```

```
AbsTrackRep::Parameters at reference plane DetPlane: O(0.001,0.001,0.001) u(1,0,0) v(0,1,0)
```

n(0,0,1)
AbsTrackRep::State

5x1 matrix is as follows

	0
0	-1.954
1	0.8019
2	0.228
3	0
4	0

AbsTrackRep::Covariances

5x5 matrix is as follows

	0	1	2	3	4
0	0.6253	-0.05766	-0.05342	0	0
1	-0.05766	0.4427	0.05621	0	0
2	-0.05342	0.05621	0.1202	0	0
3	0	0	0	1	0
4	0	0	0	0	1

AbsTrackRep::chi^2

0
+++++

1 tracks created
 DemoKalmanTask::Exec Event 0
 85 hits in track 0
 Position : (0.0011, 0.0011, 0.001)
 Slopes : dx/dz = 0.8, dy/dz = 0.23
 q/p = -2
 Propagate in flight direction
 CbmGeanePro::Propagate ----- 0.0011 0.0011 0.001

*** Break *** segmentation violation
 Using host libthread_db library "/lib/libthread_db.so.1".
 Attaching to program: /proc/5274/exe, process 5274
 [Thread debugging using libthread_db enabled]
 [New Thread 0xb71196d0 (LWP 5274)]
 0xffffe410 in __kernel_vsyscall ()
 #1 0xb71db123 in waitpid () from /lib/libc.so.6
 #2 0xb7183b5b in ?? () from /lib/libc.so.6
 #3 0xb728d50d in system () from /lib/libpthread.so.0
 #4 0xb7a063bd in TUnixSystem::Exec () from
 /home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
 #5 0xb7a0b421 in TUnixSystem::StackTrace () from
 /home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
 #6 0xb7a0a3d6 in TUnixSystem::DispatchSignals () from
 /home/soeren/fairsoft/tools/root/lib/libCore.so.5.18

```

#7 0xb7a0a4bd in SigHandler () from /home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#8 0xb7a0391d in sighandler () from /home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#9 <signal handler called>
#10 0xb4a5de59 in CbmTrajFilter::AddTrack (this=0x0, p=0xa194ba0) at
/home/soeren/pandaroot/base/CbmTrajFilter.cxx:310
#11 0xb4a45c25 in CbmMCApplication::GeanePreTrack (this=0x84fce70, x=0xa0b9ad8,
p=0xa0b9ae4, PDG=13)
    at /home/soeren/pandaroot/base/CbmMCApplication.cxx:313
#12 0xb20d6b11 in CbmGeanePro::Propagate (this=0xa0b99c8, PDG=13) at
/home/soeren/pandaroot/geane/CbmGeanePro.cxx:252
#13 0xb20d7661 in CbmGeanePro::Propagate (this=0xa0b99c8, TStart=0xbfb03594,
TEnd=0xbfb03168, PDG=13)
    at /home/soeren/pandaroot/geane/CbmGeanePro.cxx:218
#14 0xb407f6b6 in GeaneTrackRep::extrapolateToPoca (this=0xa18ca48, pos=@0xa18d5fc,
statePred=@0xbfb03e6c, covPred=@0xbfb03d70,
    pl=@0xbfb040a8) at /home/soeren/pandaroot/trackrep/GeaneTrackRep.cxx:291
#15 0xb408113b in GeaneTrackRep::getVirtualDetPlane (this=0xa18ca48, hit=@0xa18d5fc)
    at /home/soeren/pandaroot/trackrep/GeaneTrackRep.cxx:96
#16 0xb4395b19 in SpacepointHitPolicy::detPlane (this=0xa18d5f8, hit=0xa18d2f8,
rep=0xa18ca48)
    at /home/soeren/pandaroot/genfit/SpacepointHitPolicy.cxx:95
#17 0xb4380bb9 in RecoHitIfc<SpacepointHitPolicy>::getDetPlane (this=0xa18d2f8,
rep=0xa18ca48)
    at /home/soeren/pandaroot/genfit/RecoHitIfc.h:39
#18 0xb43828e3 in Kalman::processHit (this=0xbfb05af7, hit=0xa18d2f8, rep=0xa18ca48,
hitIndex=0)
    at /home/soeren/pandaroot/genfit/Kalman.cxx:160
#19 0xb4384d45 in Kalman::continueTrack (this=0xbfb05af7, trk=0x9fc1a88) at
/home/soeren/pandaroot/genfit/Kalman.cxx:70
#20 0xb4384e4f in Kalman::processTrack (this=0xbfb05af7, trk=0x9fc1a88) at
/home/soeren/pandaroot/genfit/Kalman.cxx:45
#21 0xb3fd2b19 in DemoKalmanTask::Exec (this=0x9bd2520, opt=0xb4acfc28 "") at
/home/soeren/pandaroot/recotasks/demo/DemoKalmanTask.cxx:159
#22 0xb79a37e6 in TTask::ExecuteTasks () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#23 0xb79a3a91 in TTask::ExecuteTask () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#24 0xb4a57223 in CbmRunAna::Run (this=0x8584e00, Ev_start=0, Ev_end=20) at
/home/soeren/pandaroot/base/CbmRunAna.cxx:183
#25 0xb4a94022 in G__CbmDict_532_0_5 (result7=0xbfb13784, funcname=0x8583260
"\001", libp=0xbfb0fcbc, hash=0)
    at /home/soeren/cbuild/base/CbmDict.cxx:9233
#26 0xb74411c5 in Cint::G__ExceptionWrapper () from
/home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#27 0xb7529420 in G__call_cppfunc () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#28 0xb75014df in G__interpret_func () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#29 0xb74f0af5 in G__getfunction () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#30 0xb75c1e5a in G__getstructmem () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#31 0xb75b86cc in G__getvariable () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#32 0xb74c658f in G__getitem () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#33 0xb74cd514 in G__getexpr () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#34 0xb75562d4 in G__exec_statement () from

```

```
/home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#35 0xb74b20d5 in G__exec_tempfile_core () from
/home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#36 0xb74b2366 in G__exec_tempfile () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#37 0xb7563284 in G__process_cmd () from /home/soeren/fairsoft/tools/root/lib/libCint.so.5.18
#38 0xb79dcbe8 in TCint::ProcessLine () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#39 0xb79d771c in TCint::ProcessLineSynch () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#40 0xb793b9b1 in TApplication::ExecuteFile () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#41 0xb793be24 in TApplication::ProcessFile () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#42 0xb7939274 in TApplication::ProcessLine () from
/home/soeren/fairsoft/tools/root/lib/libCore.so.5.18
#43 0xb73dbeba in TRint::Run () from /home/soeren/fairsoft/tools/root/lib/libRint.so.5.18
#44 0x08048ef5 in main ()
The program is running. Quit anyway (and detach it)? (y or n) [answered Y; input not from
terminal]
Detaching from program: /proc/5274/exe, process 5274
Root > soeren@pchad23:~/pandaroot/recotasks/demo>
```

Subject: Re: crash in recotasks/demo/runDemo.C
Posted by [Sebastian Neubert](#) on Sun, 15 Jun 2008 10:00:57 GMT
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Hi Soeren!

I never had an error with the CbmTrajFilter... What is it??
Lia, Mohammad - do you know??

Soeren, maybe you can produce a more detailed backtrace by looking at the frame where the segmentation violation occurs with gdb. We probably need more insight into which vlue exactly causes the crash. Could you do this!?

Cheers! Sebastian.

Subject: Re: crash in recotasks/demo/runDemo.C
Posted by [Mohammad Al-Turany](#) on Sun, 15 Jun 2008 11:56:04 GMT
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Hallo,

it is my mistake!! I am sorry for this! in fact I was testing the new feature I introduce to Geane, namely accessing the stepping in Geane it self, and my first test was to visualize the tracks created by Geane that is why you see the CbmTrajFilter, you can solve this problem immediatly by calling:

new CbmTrajFilter();

just before calling CbmRunAna::Init() in your macro, with this you will get rid of this error and you will visualize your tracks! of course this should be an option and I will correct it immediately in the CbmMCApplication.

Again Sorry for this!

Mohammad

Subject: Re: crash in recotasks/demo/runDemo.C
Posted by [Mohammad Al-Turany](#) on Sun, 15 Jun 2008 12:10:08 GMT
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Hi,

It is now corrected in svn r 2982 and I will look how to change this in the pre-release! because this change is in the SVN EXTERNALS!

regards

Mohammad

Subject: Re: crash in recotasks/demo/runDemo.C
Posted by [Jens Sören Lange](#) on Mon, 16 Jun 2008 17:41:13 GMT
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This works now thanks to Mohammad's fix.
