Subject: Crash in genfit -> KalmanTask 15/3/2010
Posted by StefanoSpataro on Mon, 15 Mar 2010 09:28:31 GMT
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Dear all,
I have found that in my dashboard the macro reco_complete_tpc crashes (and I am not the only one).

In particular, the error comes from KalmanTask, therefore tpc genfit. If you execute the script by dashboard, you have an error. If you execute the macro by normal root reco_complete_tpc.C, the program is quitting root.
Is it possible to fix it?
I suppose there is something not protected in the kalman task, which is giving a bad track to genfit and the exception is not correctly handled (trying to guess, I have never used KalmanTask).

The error could not be seen in the past because before there was a gem bug covering it (fixed since a while), then maybe the error exists since a while.

Have a nice fixing, I copy the gdb error trace.

Toggle Spoiler
GFException thrown with excString:
GEANE propagation failed
in line: 169 in file:
/home/spataro/dart/trunk/GenfitTools/trackrep/GeaneTrackRep/GeaneTrackRe p.cxx
with fatal flag 0

Program received signal SIGFPE, Arithmetic exception.
[Switching to Thread -1208060224 (LWP 17211)]
0xb113115c in erland_ () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
(gdb) bt
#0 0xb113115c in erland_ () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
#1 0xb113331d in ertrch_ () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
#2 0xb1133ded in ertrgo_ () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
#3 0xb1132747 in ertrak_ () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
#4 0xb11c1ecf in TGeant3::Ertrak () from
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so
#5 0x0681a246 in FairGeanePro::Propagate (this=0x13240610, PDG=-11) at
/home/spataro/dart/trunk/geane/FairGeanePro.cxx:277
#6 0x06819a9e in FairGeanePro::Propagate (this=0x13240610, TStart=0xbffcfc70,
TEnd=0xbffcf770, PDG=-11)
at /home/spataro/dart/trunk/geane/FairGeanePro.cxx:226
#7 0x02070b8c in GeaneTrackRep::extrapolateToPoint (this=0xb6079a0, pos=@0xbffd0530,
poca=@0xbffd04d0, dirInPoca=@0xbffd0500)
at /home/spataro/dart/trunk/GenfitTools/trackrep/GeaneTrackRep/GeaneTrackRe p.cxx:270
#8 0x04ab2dce in GFSpacepointHitPolicy::detPlane (this=0x13681c80, hit=0x13681a70,

rep=0xb6079a0)
    at /home/spataro/dart/trunk/genfit/GFSpacepointHitPolicy.cxx:93
#9 0x028bdf7a in GFRecoHitIfc<GFSpacepointHitPolicy>::getDetPlane (this=0x13681a70, rep=0xb6079a0) at /home/spataro/dart/trunk/genfit/GFRecoHitIfc.h:82
#10 0x04aac0cc in GFKalman::processHit (this=0xbffd14a0, tr=0x13758140, ihit=11, irep=0, direction=1) at /home/spataro/dart/trunk/genfit/GFKalman.cxx:268
#11 0x04aab2cc in GFKalman::fittingPass (this=0xbffd14a0, trk=0x13758140, direction=1) at /home/spataro/dart/trunk/genfit/GFKalman.cxx:169
#12 0x04aaaa88 in GFKalman::processTrack (this=0xbffd14a0, trk=0x13758140) at /home/spataro/dart/trunk/genfit/GFKalman.cxx:71
#13 0x02e031bd in KalmanTask::Exec (this=0x996d288, opt=0x1c05108 "") at /home/spataro/dart/trunk/recotasks/KalmanTask.cxx:243
#14 0x00902925 in TTask::ExecuteTasks () from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#15 0x00902721 in TTask::ExecuteTask () from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#16 0x01ba62fa in FairRunAna::Run (this=0x8e5faf8, Ev_start=0, Ev_end=10) at /home/spataro/dart/trunk/base/FairRunAna.cxx:271
#17 0x01bde46e in G__FairDict_669_0_5 (result7=0xbffdcce0, funcname=0x8e5db78 "\001", libp=0xbffd2690, hash=0)

Subject: Re: Crash in genfit -> KalmanTask 15/3/2010
Posted by Anonymous Poster on Mon, 15 Mar 2010 10:18:25 GMT
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Hi,

this is a floating point exception in GEANE. Could the GEANE experts please take a look?

Cheers, Christian

Subject: Re: Crash in genfit -> KalmanTask 15/3/2010
Posted by Lia Lavezzi on Mon, 15 Mar 2010 11:53:24 GMT
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Ok,
 I will try to run the macros and see if I get the crash too. I have to run them without making any change, right?

Ciao,
Lia.

Subject: Re: Crash in genfit -> KalmanTask 15/3/2010
Posted by Lia Lavezzi on Mon, 15 Mar 2010 17:16:58 GMT
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Hi Stefano,

the problem was once again an exponent too small (10^-39) in erland.F. Please try the fixed routine I attach here (you should put it in geant3/erdecks/ and compile geant3 again).

The crash GEANE related disappears, but I get this new one :

Program received signal SIGFPE, Arithmetic exception.
[Switching to Thread -1208796960 (LWP 656)]
0x03f34745 in PndMvdStripClusterTask::CalcMeanCharge (this=0x9efba60,
onecluster=@0xbfef2670,
meanstrip=@0xbfef2518, meanerr=@0xbfef2510, charge=@0xbfef2520)
at /home/lavezzi/test_dev/original/trunk6/mvd/MvdReco/PndMvdStripClusterTask.cxx:485
485 meanstrip = meanstrip/charge;

If you confirm that it is ok I will insert it in the new patch we are preparing which should also fix the missing virtual planes problem (it is not ready yet, I am still working on it with Christian).

Please let me know.
Ciao,
Lia.

File Attachments

1) erland.F, downloaded 445 times

Subject: Re: Crash in genfit -> KalmanTask 15/3/2010
Posted by StefanoSpataro on Mon, 15 Mar 2010 17:37:41 GMT
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Hi,
yes it works. The problem has appeared using electrons ad particle hyp for the kalman, also in another macro. Now both are not crashing anymore (neither the mvd crash you are reporting)
Thanks for the fast fix.

Subject: Re: Crash in genfit -> KalmanTask 15/3/2010
Posted by Lia Lavezzi on Mon, 15 Mar 2010 18:24:05 GMT
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Quote:yes it works
Always happy to hear that!
Lia.
