

Hi Felix,

Quote:Actually, it was a numerical protection that we built in quite some time ago and that has been removed without my knowledge. There also have been some other improvements in the code.

Do you mean the protection against low momenta? I removed it some months ago since we fixed the realated problem in GEANE (or at least I thought it was fixed...). I am really sorry if this is the cause of the crash, but I really cannot understand why GEANE started to crash again on low momenta after several months of good work.

After next week I will investigate GEANE in more detail and make a full check, sorry for not beeing able to do it now.

Unfortunately there is also a bad news. With the updated code I get this crash:

Found Tracks: 1 in event no. 264

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\*\*\* Break \*\*\* floating point exception

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There was a crash (kSigFloatingException).

This is the entire stack trace of all threads:

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#0 0xffffe424 in __kernel_vsyscall ()
#1 0xb63c78c3 in __waitpid_nocancel () from /lib/libc.so.6
#2 0xb6364963 in do_system () from /lib/libc.so.6
#3 0xb64a557b in system () from /lib/libpthread.so.0
#4 0xb71fa231 in TUnixSystem::Exec (this=0x80711c0,
  shellcmd=0x10f613a0 "/home/lavezzi/fairsoft5/tools/root/etc/gdb-backtrace.sh 24944 1>&2")
  at /home/lavezzi/fairsoft5/tools/root/core/unix/src/TUnixSystem.cxx:2036
#5 0xb71faa3d in TUnixSystem::StackTrace (this=0x80711c0)
  at /home/lavezzi/fairsoft5/tools/root/core/unix/src/TUnixSystem.cxx:2265
#6 0xb71f85d7 in TUnixSystem::DispatchSignals (this=0x80711c0,
  sig=kSigFloatingException)
  at /home/lavezzi/fairsoft5/tools/root/core/unix/src/TUnixSystem.cxx:1162
#7 0xb71f6785 in SigHandler (sig=kSigFloatingException)
  at /home/lavezzi/fairsoft5/tools/root/core/unix/src/TUnixSystem.cxx:362
#8 0xb71fdcef in sighandler (sig=8)
  at /home/lavezzi/fairsoft5/tools/root/core/unix/src/TUnixSystem.cxx:3552
#9 <signal handler called>
#10 0xb23d9bb1 in GFTools::invertMatrix (mat=..., inv=...)
  at /home/lavezzi/test_dev/trunk/genfit/GFTools.cxx:262
#11 0xb23d0478 in GFKalman::chi2Increment (this=0x8aa5d28, r=..., H=...,
  cov=..., V=...)
  at /home/lavezzi/test_dev/trunk/genfit/GFKalman.cxx:200
```

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#12 0xb23d14f5 in GFKalman::processHit (this=0x8aa5d28, tr=0x10f55e68,
    ihit=1, irep=0, direction=-1)
    at /home/lavezzi/test_dev/trunk/genfit/GFKalman.cxx:313
#13 0xb23d02bd in GFKalman::fittingPass (this=0x8aa5d28, trk=0x10f55e68,
    direction=-1) at /home/lavezzi/test_dev/trunk/genfit/GFKalman.cxx:169
#14 0xb23cfb0b in GFKalman::processTrack (this=0x8aa5d28, trk=0x10f55e68)
    at /home/lavezzi/test_dev/trunk/genfit/GFKalman.cxx:77
#15 0xafb38f01 in PndRecoKalmanFit::Fit (this=0x8aa5cf8, tBefore=
    0xecb6e08, PDG=13)
    at /home/lavezzi/test_dev/trunk/GenfitTools/recotasks/PndRecoKalmanFit.cxx: 282
#16 0xafb3eabd in PndRecoKalmanTask::Exec (this=0x8a9d638,
    opt=0xb35949c0 "")
    at /home/lavezzi/test_dev/trunk/GenfitTools/recotasks/PndRecoKalmanTask.cxx :122
#17 0xb717f5c9 in TTask::ExecuteTasks (this=0x808ca90,
    option=0xb35949c0 "")
    at /home/lavezzi/fairsoft5/tools/root/core/base/src/TTask.cxx:312
#18 0xb717f3df in TTask::ExecuteTask (this=0x808ca90,
    option=0xb35949c0 "")
    at /home/lavezzi/fairsoft5/tools/root/core/base/src/TTask.cxx:275
#19 0xb34ebb99 in FairRunAna::Run (this=0x844ff00, Ev_start=0,
    Ev_end=2000) at /home/lavezzi/test_dev/trunk/base/FairRunAna.cxx:272
#20 0xb353ed84 in G__FairDict_883_0_5 (result7=0xbfa4f088,
    funcname=0x808b028 "", libp=0xbfa44a44, hash=0)
    at /home/lavezzi/test_dev/trunk/cbuild/base/FairDict.cxx:13242
#21 0xb69a183e in Cint::G__ExceptionWrapper (
    funcp=0xb353ec93 <G__FairDict_883_0_5(G__value*, char const*, G__param*, int)>,
    result7=0xbfa4f088, funcname=0x808b028 "", libp=0xbfa44a44,
    hash=0) at cint/cint/src/Api.cxx:393
#22 0xb6a699f6 in G__execute_call (result7=0xbfa4f088, libp=0xbfa44a44,
    ifunc=0x808b028, ifn=0) at cint/cint/src/newlink.cxx:2406
#23 0xb6a6a250 in G__call_cppfunc (result7=0xbfa4f088, libp=0xbfa44a44,
    ifunc=0x808b028, ifn=0) at cint/cint/src/newlink.cxx:2610
#24 0xb6a464ec in G__interpret_func (result7=0xbfa4f088,
    funcname=0x807f0a0 "Run", libp=0xbfa44a44, hash=309,
    p_ifunc=0x808b028, funcmatch=1, memfunc_flag=1)
    at cint/cint/src/ifunc.cxx:5795
#25 0xb6a22d68 in G__getfunction (item=0x807c30e "Run(0,nEvents)",
    known3=0xbfa5257c, memfunc_flag=1) at cint/cint/src/func.cxx:2665
#26 0xb6b44144 in G__getstructmem (store_var_type=112, varname=...,
    membername=0x807c30e "Run(0,nEvents)", memnamesize=2147483647,
    tagname=0x807cb18 "fRun", known2=0xbfa5257c, varglobal=0xb6c07280,
    objptr=2) at cint/cint/src/var.cxx:6804
#27 0xb6b3629f in G__getvariable (item=0x807c308 "fRun->Run(0,nEvents)",
    known=0xbfa5257c, varglobal=0xb6c07280, varlocal=0x0)
    at cint/cint/src/var.cxx:5390
#28 0xb6a12f7d in G__getitem (item=0x807c308 "fRun->Run(0,nEvents)")
    at cint/cint/src/expr.cxx:1906
#29 0xb6a10ae6 in G__getexpr (expression=0x809a148 "fRun->Run(0,nEvents)")
    at cint/cint/src/expr.cxx:1488
#30 0xb6a99e32 in G__exec_function (statement=..., pc=0xbfa543f4,
    piout=0xbfa543f0, plargestep=0xbfa543e8, presult=0xbfa54370)
    at cint/cint/src/parse.cxx:645

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#31 0xb6aaa416 in G__exec_statement (mparen=0xbfa54654)
  at cint/cint/src/parse.cxx:7372
#32 0xb69e6489 in G__exec_tempfile_core (
  file=0x8099940 "
/home/lavezzi/test_dev/trunk/macro/dedx/muon/rireco1/./run_reco_sttcombi_sin.C ", fp=0x0)
  at cint/cint/src/debug.cxx:265
#33 0xb69e7db3 in G__exec_tempfile (
  file=0x8099940 "
/home/lavezzi/test_dev/trunk/macro/dedx/muon/rireco1/./run_reco_sttcombi_sin.C ") at
  cint/cint/src/debug.cxx:813
#34 0xb6ab83a4 in G__process_cmd (
  line=0x83f94b8 ".x
/home/lavezzi/test_dev/trunk/macro/dedx/muon/rireco1/./run_reco_sttcombi_sin.C ",
  prompt=0x8073984 "", more=0x807397c,
  err=0xbfa556c4, rslt=0xbfa55690) at cint/cint/src/pause.cxx:3170
#35 0xb71b6fba in TCint::ProcessLine (this=0x8073950,
  line=0x83f94b8 ".x
/home/lavezzi/test_dev/trunk/macro/dedx/muon/rireco1/./run_reco_sttcombi_sin.C ",
  error=0xbfa582ac)
  at /home/lavezzi/fairsoft5/tools/root/core/meta/src/TCint.cxx:522
#36 0xb71b7513 in TCint::ProcessLineSynch (this=0x8073950,
  line=0x83f94b8 ".x
/home/lavezzi/test_dev/trunk/macro/dedx/muon/rireco1/./run_reco_sttcombi_sin.C ",
  error=0xbfa582ac)
  at /home/lavezzi/fairsoft5/tools/root/core/meta/src/TCint.cxx:601
#37 0xb710eb38 in TApplication::ExecuteFile (
  file=0xbfa56271 "run_reco_sttcombi_sin.C", error=0xbfa582ac,
  keep=false)
  at /home/lavezzi/fairsoft5/tools/root/core/base/src/TApplication.cxx:1035
#38 0xb710e3e6 in TApplication::ProcessFile (this=0x8138ed0,
  file=0xbfa56271 "run_reco_sttcombi_sin.C", error=0xbfa582ac,
  keep=false)
  at /home/lavezzi/fairsoft5/tools/root/core/base/src/TApplication.cxx:911
#39 0xb710e2a0 in TApplication::ProcessLine (this=0x8138ed0,
  line=0xbfa5626e ".x run_reco_sttcombi_sin.C", sync=false,
  err=0xbfa582ac)
  at /home/lavezzi/fairsoft5/tools/root/core/base/src/TApplication.cxx:884
#40 0xb6616c9b in TRint::Run (this=0x8138ed0, retrn=false)
  at /home/lavezzi/fairsoft5/tools/root/core/rint/src/TRint.cxx:402
#41 0x08049085 in main (argc=1, argv=0xbfa583d4)
  at /home/lavezzi/fairsoft5/tools/root/main/src/rmain.cxx:29
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The lines below might hint at the cause of the crash.  
If they do not help you then please submit a bug report at  
<http://root.cern.ch/bugs>. Please post the ENTIRE stack trace  
from above as an attachment in addition to anything else  
that might help us fixing this issue.

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#10 0xb23d9bb1 in GFTools::invertMatrix (mat=..., inv=...)
  at /home/lavezzi/test_dev/trunk/genfit/GFTools.cxx:262

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#11 0xb23d0478 in GFKalman::chi2Increment (this=0x8aa5d28, r=..., H=...,
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    option=0xb35949c0 "")
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#19 0xb34ebb99 in FairRunAna::Run (this=0x844ff00, Ev_start=0,
    Ev_end=2000) at /home/lavezzi/test_dev/trunk/base/FairRunAna.cxx:272
=====
```

when running the Kalman...

However if I use an older revision it works... I saw it on a run of low momentum single track muons and one of electrons (below 1 GeV/c).

...I hope this will not affect channel reconstruction...

Lia.