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Subject: Problems with integer FairTrackPar charge  
Posted by [StefanoSpataro](#) on Wed, 16 Sep 2009 14:58:56 GMT  
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Hello,  
after moving the charge in FairTrackPar from float to integer the genfit/geane code crashes in the following way:

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```
*** Break *** floating point exception
(no debugging symbols found)
Using host libthread_db library "/lib/tls/libthread_db.so.1".
Attaching to program: /proc/15127/exe, process 15127
(no debugging symbols found)...done.
[Thread debugging using libthread_db enabled]
[New Thread -1208826176 (LWP 15127)]
(no debugging symbols found)...done.
(no debugging symbols found)...done.
(no debugging symbols found)...done.
(no debugging symbols found)...done.
(no debugging symbols found)...done.
(no debugging symbols found)...done.
(no debugging symbols found)...done.
0x0075f7a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1 0x00529f13 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2 0x004d37b9 in do_system () from /lib/tls/libc.so.6
#3 0x0024198d in system () from /lib/tls/libpthread.so.0
#4 0x0096d4b7 in TUnixSystem::Exec () from
/home/spataro/july09/tools/root/lib/libCore.so.5.24
#5 0x0097314f in TUnixSystem::StackTrace () from
/home/spataro/july09/tools/root/lib/libCore.so.5.24
#6 0x0096fb4a in TUnixSystem::DispatchSignals () from
/home/spataro/july09/tools/root/lib/libCore.so.5.24
#7 0x0096fbd8 in SigHandler () from /home/spataro/july09/tools/root/lib/libCore.so.5.24
#8 0x0096ee55 in sighandler () from /home/spataro/july09/tools/root/lib/libCore.so.5.24
#9 <signal handler called>
#10 0x0190ea69 in FairGeaneUtil::FromSDToMars (this=0xbfe44d10, PC=0xbfe44c40,
RC=0xbfe44c60, H=0xbfe44d70, CH=0, SP1=1, DJ1=0xbfe452d8, DK1=0xbfe452f0,
PD=0xbfe44d50, RD=@0xbfe44b20) at
/home/spataro/july09/pandaroot/trackbase/FairGeaneUtil.cxx:1485
#11 0x018fc832 in FairTrackParP::FairTrackParP () at
/home/spataro/july09/tools/root/include/TVector3.h:280
#12 0x0631147b in GeaneTrackRep::extrapolate (this=0xca446f0, pl=@0xbfe464c0,
statePred=@0xbfe46640, covPred=@0xbfe46540)
at /home/spataro/july09/pandaroot/trackrep/GeaneTrackRep.cxx:152
#13 0x0302a5de in Kalman::processHit (this=0xbfe47ad0, tr=0xca43158, ihit=0, irep=0,
rejectOutlier=false)
at /home/spataro/july09/pandaroot/genfit/Kalman.cxx:248
#14 0x03029754 in Kalman::fittingPass (this=0xbfe47ad0, trk=0xca43158, direction=1) at
/home/spataro/july09/pandaroot/genfit/Kalman.cxx:140
#15 0x03028ef7 in Kalman::processTrack (this=0xbfe47ad0, trk=0xca43158) at
```

/home/spataro/july09/pandaroot/genfit/Kalman.cxx:38

The error disappears going back to an older svn release (6466). Then, maybe it could be better to restore the "floating" charge... or try to fix all the remaining stuff.

The problems appear within all the warnings after the "integer" change:

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Scanning dependencies of target TrkBase

[ 79%] Building CXX object trackbase/CMakeFiles/TrkBase.dir/FairTrackPar.o

[ 79%] Building CXX object trackbase/CMakeFiles/TrkBase.dir/FairTrackParP.o

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx: In constructor

`FairTrackParP::FairTrackParP(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t\*, TVector3, TVector3, TVector3)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx:46: warning: converting to `Int\_t' from `Double\_t'

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx: In constructor

`FairTrackParP::FairTrackParP(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t\*, TVector3, TVector3, TVector3, Double\_t)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx:130: warning: converting to `Int\_t' from `Double\_t'

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx: In member function `void

FairTrackParP::SetTrackPar(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t\*, TVector3, TVector3, TVector3, TVector3, Double\_t)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParP.cxx:501: warning: converting to `Int\_t' from `Double\_t'

[ 79%] Building CXX object trackbase/CMakeFiles/TrkBase.dir/FairTrackParH.o

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx: In constructor

`FairTrackParH::FairTrackParH(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t\*)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx:44: warning: converting to `Int\_t' from `Double\_t'

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx: In constructor

`FairTrackParH::FairTrackParH(FairTrackParP\*, Int\_t&)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx:188: warning: passing `Double\_t' for converting 7 of `void FairTrackParH::SetTrackPar(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Int\_t, Double\_t\*)'

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx: In member function `void

FairTrackParH::SetTrackPar(Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t, Double\_t\*)':

/home/spataro/july09/pandaroot/trackbase/FairTrackParH.cxx:279: warning: converting to `Int\_t' from `Double\_t'

[ 80%] Building CXX object trackbase/CMakeFiles/TrkBase.dir/FairGeaneUtil.o

[ 80%] Building CXX object trackbase/CMakeFiles/TrkBase.dir/TrackBaseDict.o

Linking CXX shared library ../lib/libTrkBase.so

[ 80%] Built target TrkBase

Scanning dependencies of target Geane

[ 80%] Building CXX object geane/CMakeFiles/Geane.dir/FairGeanePro.o

/home/spataro/july09/pandaroot/geane/FairGeanePro.cxx: In member function `Bool\_t

FairGeanePro::Propagate(FairTrackParH\*, FairTrackParH\*, Int\_t)':

/home/spataro/july09/pandaroot/geane/FairGeanePro.cxx:128: warning: passing `Float\_t' for

```
converting 7 of `void FairTrackParH::SetTrackPar(Double_t, Double_t, Double_t, Double_t,
Double_t, Double_t, Int_t, Double_t*)'
/home/spataro/july09/pandaroot/geane/FairGeanePro.cxx: In member function `Bool_t
FairGeanePro::Propagate(FairTrackParP*, FairTrackParP*, Int_t)':
/home/spataro/july09/pandaroot/geane/FairGeanePro.cxx:244: warning: passing `Float_t' for
converting 7 of `void FairTrackParP::SetTrackPar(Double_t, Double_t, Double_t, Double_t,
Double_t, Double_t, Int_t, Double_t*, TVector3, TVector3, TVector3, TVector3)'
Linking CXX shared library ../lib/libGeane.so
[ 80%] Built target Geane
[ 80%] Generating trackrepDict.cxx, trackrepDict.h
Scanning dependencies of target trackrep
[ 80%] Building CXX object trackrep/CMakeFiles/trackrep.dir/GeaneTrackRep.o
/home/spataro/july09/pandaroot/trackrep/GeaneTrackRep.cxx: In constructor
`GeaneTrackRep::GeaneTrackRep(FairGeanePro*, const DetPlane&, const TVector3&, const
TVector3&, const TVector3&, double, int)':
/home/spataro/july09/pandaroot/trackrep/GeaneTrackRep.cxx:53: warning: passing `double' for
converting 5 of `FairTrackParP::FairTrackParP(TVector3, TVector3, TVector3, TVector3, Int_t,
TVector3, TVector3, TVector3)'
```

I don't have rights to write inside trackbase and I have no idea on how GeaneTrackRep (and relatives) is working, then I cannot fix it in the first way neither in the other.

I have reopened a ticket about this serious bug yesterday, but considering that there was no reply I think it has not worked properly, then I move the discussion in the forum.