
Subject: Reconstruction macro crush - PndMCTrackAssociator
Posted by [Dima Melnychuk](#) on Tue, 24 May 2011 10:18:46 GMT
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Dear colleagues,

Running reconstruction macro for eta_c analysis with STT I observe the crush from PndMCTrackAssociator.

I run macros from /macro/run/tdrct/eta_c

```
run_sim_stt_evt.C(2000,seed)
run_digi_stt_evt.C
run_reco_stt_evt.C
```

The last macro depending on the seed in 60% of cases produce the crush.

For example with seed=101

Toggle Spoiler

Found Tracks: 4 in event no. 213

Found Tracks: 3 in event no. 214

Error in <TClonesArray::At>: index 16392 out of bounds (size: 756, this: 0x377b500)

mvd hit 0 11 does not exist

mvd hit 0 11 does not exist

Error in <TDecompLU::InvertLU>: matrix is singular, 1 diag elements < tolerance of 2.2204e-16

Error in <TDecompLU::InvertLU>: matrix is singular, 1 diag elements < tolerance of 2.2204e-16

*** PndRecoKalmanFit::Exec Genfit Exception: trk->addHitVector

*** Break *** segmentation violation

=====

There was a crash.

This is the entire stack trace of all threads:

=====

```
#0 0x00002b04ac138715 in waitpid () from /lib/libc.so.6
#1 0x00002b04ac0e1721 in do_system () from /lib/libc.so.6
#2 0x00002b04aa6b1d39 in TUnixSystem::StackTrace ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#3 0x00002b04aa6aed2a in TUnixSystem::DispatchSignals ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#4 <signal handler called>
#5 0x00002b04b0f96bd8 in FairHit::GetRefIndex (this=0x0)
   at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6 0x00002b04b81c180f in PndMCTrackAssociator::GetMvdHitPixels (
   this=0x2a3fae0, index=11)
   at /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMATCH/PndMCTrackAssociator.
cxx:142
```

```
#7 0x00002b04b81c1e6f in PndMCTrackAssociator::Exec (this=0x2a3fae0,
option=0x2b04b0fa1970 "")
  at /d/panda02/dmelnich/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8 0x00002b04aa637719 in TTask::ExecuteTasks ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#9 0x00002b04aa63716b in TTask::ExecuteTask ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#10 0x00002b04b0eee701 in FairRunAna::Run (this=0x19aa590, Ev_start=0,
Ev_end=2000)
  at /d/panda02/dmelnich/pandaroot/pandaroot/base/FairRunAna.cxx:272
#11 0x00002b04b0f4ae36 in G__FairDict_883_0_5 (result7=0x7fff0e9024d0,
funcname=0x19a7770 "", libp=0x7fff0e8f7ac0, hash=0)
  at /d/panda02/dmelnich/pandaroot/build64/base/FairDict.cxx:13385
#12 0x00002b04aad5259d in Cint::G__ExceptionWrapper ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#13 0x00002b04aae02f30 in G__execute_call ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#14 0x00002b04aae04c7a in G__call_cppfunc ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#15 0x00002b04aadddd9f in G__interpret_func ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#16 0x00002b04aadcc3f in G__getfunction ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#17 0x00002b04aaeba1e3 in G__getstructmem ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#18 0x00002b04aaeb036a in G__getvariable ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#19 0x00002b04aada035c in G__getitem ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#20 0x00002b04aadaaf3d in G__getexpr ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#21 0x00002b04aae310de in G__exec_statement ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#22 0x00002b04aad8c592 in G__exec_tempfile_core ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#23 0x00002b04aad8c8bb in G__exec_tempfile ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#24 0x00002b04aae4440c in G__process_cmd ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#25 0x00002b04aa670f0c in TCint::ProcessLine ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#26 0x00002b04aa6709f3 in TCint::ProcessLineSynch ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#27 0x00002b04aa5caae6 in TApplication::ExecuteFile ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#28 0x00002b04aa5c7e7e in TApplication::ProcessLine ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#29 0x00002b04ab8cce4d in TRint::Run ()
  from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libRint.so.5.29
#30 0x000000000040106d in main ()
=====
```

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.

```
=====
#5 0x00002b04b0f96bd8 in FairHit::GetRefIndex (this=0x0)
   at /d/panda02/dmelnich/pandaroot/pandaroot/base/FairHit.h:39
#6 0x00002b04b81c180f in PndMCTrackAssociator::GetMvdHitPixels (
   this=0x2a3fae0, index=11)
   at /d/panda02/dmelnich/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7 0x00002b04b81c1e6f in PndMCTrackAssociator::Exec (this=0x2a3fae0,
   option=0x2b04b0fa1970 "")
   at /d/panda02/dmelnich/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
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#10 0x00002b04b0eee701 in FairRunAna::Run (this=0x19aa590, Ev_start=0,
   Ev_end=2000)
   at /d/panda02/dmelnich/pandaroot/pandaroot/base/FairRunAna.cxx:272
=====
```

This macro for eta_c reconstruction with STT is based on the corresponding macro in npipi directory and probably this task (PndMCTrackAssociator) is not necessary here (at least I do not use its results at the moment).

But the may be somebody have an idea how to remove this crush.

Dima