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/dmelnych/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/dmelnych/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/dmelnych/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 0x00002b04aadcce3f 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/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/dmelnych/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/dmelnych/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

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by StefanoSpataro on Tue, 24 May 2011 17:04:52 GMT
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Hi,
I was able to reproduce some error, I am not sure if this was yours. However it seems there was a small bug in mvd code that now is fixed (thanks to Ralf).
Could you please update and try again?

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Dima Melnychuk on Thu, 26 May 2011 10:24:39 GMT
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Hi,

After update by Ralf the problem with PndMCTrackAssociator is improved but not disappeared completely.

As I have written in my first post, I run the following macros
from /macro/run/tdrct/eta_c

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

Initially I run with 10 different seeds 101-110. In 6 out of 10 cases PndMCTrackAssociator crashed.

After update the crash appears in 2 out of 10 runs. In one case (seed=109) at the same events but with slightly different log message from MVD.

So at the beginning it was

Toggle Spoiler

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
Found Tracks: 0 in event no. 491

Error in <TClonesArray::At>: index 16387 out of bounds (size: 944, this: 0x4c62bd0)
mvd hit 0 35 does not exist
mvd hit 1 36 does not exist
mvd hit 0 35 does not exist
mvd hit 1 36 does not exist
*** PndRecoKalmanFit::Exec Genfit Exception: trk->addHitVector

*** Break *** segmentation violation

==========
There was a crash.
This is the entire stack trace of all threads:
==========
#0 0x00002b72acb4b715 in waitpid () from /lib/libc.so.6
#1 0x00002b72acaf4721 in do_system () from /lib/libc.so.6
#2 0x00002b72ab0c4d39 in TUnixSystem::StackTrace ()
from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#3 0x00002b72ab0c1d2a in TUnixSystem::DispatchSignals ()
from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29

```
#4  <signal handler called>
#5  0x00002b72b19a9bd8 in FairHit::GetRefIndex (this=0x0)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6  0x00002b72b8bd480f in PndMCTrackAssociator::GetMvdHitPixels (
    this=0x28db740, index=35)
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7  0x00002b72b8bd4e6f in PndMCTrackAssociator::Exec (this=0x28db740,
    option=0x2b72b19b4970 "")
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8  0x00002b72ab04a719 in TTask::ExecuteTasks ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#9  0x00002b72ab04a16b in TTask::ExecuteTask ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#10 0x00002b72b1901701 in FairRunAna::Run (this=0x1846590, Ev_start=0,
    Ev_end=2000)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairRunAna.cxx:272
#11 0x00002b72b195de36 in G__FairDict_883_0_5 (result7=0x7fff88cc84d0,
    funcname=0x1843770 "", libp=0x7fff88cbdac0, hash=0)
    at /d/panda02/dmelnych/pandaroot/build64/base/FairDict.cxx:13385
#12 0x00002b72ab76559d in Cint::G__ExceptionWrapper ()
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#13 0x00002b72ab815f30 in G__execute_call ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#14 0x00002b72ab817c7a in G__call_cppfunc ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#15 0x00002b72ab7f0d9f in G__interpret_func ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#16 0x00002b72ab7dfe3f in G__getfunction ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#17 0x00002b72ab8cd1e3 in G__getstructmem ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#18 0x00002b72ab8c336a in G__getvariable ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#19 0x00002b72ab7b335c in G__getitem ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#20 0x00002b72ab7bdf3d in G__getexpr ()
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#21 0x00002b72ab8440de in G__exec_statement ()
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#22 0x00002b72ab79f592 in G__exec_tempfile_core ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#23 0x00002b72ab79f8bb in G__exec_tempfile ()
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#24 0x00002b72ab85740c in G__process_cmd ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#25 0x00002b72ab083f0c in TCint::ProcessLine ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#26 0x00002b72ab0839f3 in TCint::ProcessLineSynch ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#27 0x00002b72aafddae6 in TApplication::ExecuteFile ()
```

```
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#28 0x00002b72aafdae7e in TApplication::ProcessLine ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#29 0x00002b72ac2dfe4d in TRint::Run ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libRint.so.5.29
#30 0x000000000040106d in main ()
==========================================================
```

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that might help us fixing this issue.

```
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#5  0x00002b72b19a9bd8 in FairHit::GetRefIndex (this=0x0)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6  0x00002b72b8bd480f in PndMCTrackAssociator::GetMvdHitPixels (
    this=0x28db740, index=35)
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7  0x00002b72b8bd4e6f in PndMCTrackAssociator::Exec (this=0x28db740,
    option=0x2b72b19b4970 "")
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8  0x00002b72ab04a719 in TTask::ExecuteTasks ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#9  0x00002b72ab04a16b in TTask::ExecuteTask ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#10 0x00002b72b1901701 in FairRunAna::Run (this=0x1846590, Ev_start=0,
    Ev_end=2000)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairRunAna.cxx:272
==========================================================
```

And after update:

Toggle Spoiler

```
==========================================
Error in <TClonesArray::At>: index 27914 out of bounds (size: 944, this: 0x47a95f0)
Found Tracks: 0 in event no. 491
---------------
Error in <TClonesArray::At>: index 31855 out of bounds (size: 944, this: 0x47a95f0)
Error in <TClonesArray::At>: index 16388 out of bounds (size: 944, this: 0x47a95f0)
mvd hit 0 35 does not exist
mvd hit 1 34 does not exist
mvd hit 2 33 does not exist
mvd hit 0 35 does not exist
mvd hit 1 34 does not exist
mvd hit 2 33 does not exist
*** PndRecoKalmanFit::Exec Genfit Exception: trk->addHitVector
```

*** Break *** segmentation violation

==========
There was a crash.
This is the entire stack trace of all threads:
==========
#0 0x00002ade63d9d715 in waitpid () from /lib/libc.so.6
#1 0x00002ade63d46721 in do_system () from /lib/libc.so.6
#2 0x00002ade62316d39 in TUnixSystem::StackTrace ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#3 0x00002ade62313d2a in TUnixSystem::DispatchSignals ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#4 <signal handler called>
#5 0x00002ade68bfbbd8 in FairHit::GetRefIndex (this=0x0)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6 0x00002ade6fe2880f in PndMCTrackAssociator::GetMvdHitPixels (
    this=0x2d3ffe0, index=35)
    at /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7 0x00002ade6fe28e6f in PndMCTrackAssociator::Exec (this=0x2d3ffe0,
    option=0x2ade68c06970 "")
    at /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8 0x00002ade6229c719 in TTask::ExecuteTasks ()

.....
==========

And for the seed=106 reconstruction crashed at different event

Toggle Spoiler
Error in <TClonesArray::At>: index 18018 out of bounds (size: 646, this: 0x71dfae0)
Found Tracks: 4 in event no. 1166
---
mvd hit 0 12 does not exist
*** PndRecoKalmanFit::Exec Genfit Exception: trk->addHitVector
Error in <TDecompLU::InvertLU>: matrix is singular, 2 diag elements < tolerance of 2.2204e-16
Error in <TDecompLU::InvertLU>: matrix is singular, 2 diag elements < tolerance of 2.2204e-16
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
Error in <TDecompLU::InvertLU>: matrix is singular, 1 diag elements < tolerance of 2.2204e-16
Error in <TDecompLU::InvertLU>: matrix is singular, 2 diag elements < tolerance of 2.2204e-16
Error in <TDecompLU::InvertLU>: matrix is singular, 1 diag elements < tolerance of 2.2204e-16

*** Break *** segmentation violation

```
==========================================================
There was a crash.
This is the entire stack trace of all threads:
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#0  0x00002abbad0d2715 in waitpid () from /lib/libc.so.6
#1  0x00002abbad07b721 in do_system () from /lib/libc.so.6
#2  0x00002abbab64bd39 in TUnixSystem::StackTrace ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#3  0x00002abbab648d2a in TUnixSystem::DispatchSignals ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#4  <signal handler called>
#5  0x00002abbb1f30bd8 in FairHit::GetRefIndex (this=0x0)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6  0x00002abbb915d80f in PndMCTrackAssociator::GetMvdHitPixels (
    this=0x21f2f90, index=12)
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7  0x00002abbb915de6f in PndMCTrackAssociator::Exec (this=0x21f2f90,
    option=0x2abbb1f3b970 "")
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8  0x00002abbab5d1719 in TTask::ExecuteTasks ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#9  0x00002abbab5d116b in TTask::ExecuteTask ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#10 0x00002abbb1e88701 in FairRunAna::Run (this=0x115c590, Ev_start=0,
    Ev_end=2000)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairRunAna.cxx:272
#11 0x00002abbb1ee4e36 in G__FairDict_883_0_5 (result7=0x7fffea4d7270,
    funcname=0x1159770 "", libp=0x7fffea4cc860, hash=0)
    at /d/panda02/dmelnych/pandaroot/build64/base/FairDict.cxx:13385
#12 0x00002abbabcec59d in Cint::G__ExceptionWrapper ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#13 0x00002abbabd9cf30 in G__execute_call ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#14 0x00002abbabd9ec7a in G__call_cppfunc ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#15 0x00002abbabd77d9f in G__interpret_func ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#16 0x00002abbabd66e3f in G__getfunction ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#17 0x00002abbabe541e3 in G__getstructmem ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#18 0x00002abbabe4a36a in G__getvariable ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#19 0x00002abbabd3a35c in G__getitem ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#20 0x00002abbabd44f3d in G__getexpr ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#21 0x00002abbabdcb0de in G__exec_statement ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#22 0x00002abbabd26592 in G__exec_tempfile_core ()
```

```
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#23 0x00002abbabd268bb in G__exec_tempfile ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#24 0x00002abbabdde40c in G__process_cmd ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCint.so.5.29
#25 0x00002abbab60af0c in TCint::ProcessLine ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#26 0x00002abbab60a9f3 in TCint::ProcessLineSynch ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#27 0x00002abbab564ae6 in TApplication::ExecuteFile ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#28 0x00002abbab561e7e in TApplication::ProcessLine ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#29 0x00002abbac866e4d 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  0x00002abbb1f30bd8 in FairHit::GetRefIndex (this=0x0)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairHit.h:39
#6  0x00002abbb915d80f in PndMCTrackAssociator::GetMvdHitPixels (
    this=0x21f2f90, index=12)
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:142
#7  0x00002abbb915de6f in PndMCTrackAssociator::Exec (this=0x21f2f90,
    option=0x2abbb1f3b970 "")
    at  /d/panda02/dmelnych/pandaroot/pandaroot/PndMCMatch/PndMCTrackAssociator.
cxx:246
#8  0x00002abbab5d1719 in TTask::ExecuteTasks ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#9  0x00002abbab5d116b in TTask::ExecuteTask ()
   from /misc/cbmsoft/Etch64/may11/fairsoft/tools/root/lib/libCore.so.5.29
#10 0x00002abbb1e88701 in FairRunAna::Run (this=0x115c590, Ev_start=0,
    Ev_end=2000)
    at /d/panda02/dmelnych/pandaroot/pandaroot/base/FairRunAna.cxx:272
==========================================================
```

Dima

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator

Posted by StefanoSpataro on Thu, 26 May 2011 13:56:36 GMT
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Hi Dima,
there is something that I do not understand.
In your log you have:

mvd hit 0 12 does not exist

do you have such messages in other parts of the code?
I have run again the procedure but for me it does not crash, and I cannot see such messages.

If I have understood well, the problem comes from some wrong MVD index inside the PndTrackCand, filled by the STT tracking tasks. I supposed the MVD fix would have solved them, but this is not the case.
Do you have updated everything from the trunk, and launched the simulation from scratch? I do not want that using some parts of the previous files you are falling again in an error already fixed.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Dima Melnychuk on Thu, 26 May 2011 14:22:34 GMT
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Hi Stefano,

such messages
Quote:
mvd hit 0 12 does not exist

appear only before the crash.

And I have updated everything from the trunk, but rerun not from the simulation but from the digitization level.
I expected it's sufficient but will try once again from scratch and let you know about results.

By the way I run my macros on GSI batch farm and I would expect that running the code there with the same seeds crush should be reproducible.

Dima

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by StefanoSpataro on Thu, 26 May 2011 15:20:16 GMT
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hi,
this is what I am trying to do, on a lenny64 machine.

However, I think it is a problem of the SttMvd tracking, or maybe of the mvdriemann itself.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Ralf Kliemt on Thu, 26 May 2011 15:44:24 GMT
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Hi guys.

The issue "mvd hit 0 12 does not exist" occurs in the PndSttMvdGemTracking.
I digged a bit in my own code and found a serious issue. The "Detector ID".
What is it now?

Any suiting Number from that PndDetectorList.h, like kMVD?
Any suiting Number from that PndDetectorList.h, like kMVDDigiStrip?
The Branch Id from FairRootManager::Instance()->GetBranchId()?

When clear, I'll apply all Mvd related detID entries to that thing. Right now There is a mismatch between the meaning in the mvd code and the tracking.

Kind Regards.
Ralf

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Tobias Stockmanns on Thu, 26 May 2011 15:49:57 GMT
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Dear pandaRooters,

I strongly suggest to use the BranchID from FairRootManager.

Cheers,

Tobias

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by StefanoSpataro on Thu, 26 May 2011 15:54:13 GMT
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The answer is:

c: The Branch Id from FairRootManager::Instance()->GetBranchId()

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Lia Lavezzi on Thu, 26 May 2011 16:41:41 GMT
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Hi all,
I know the line "mvd hit 0 12 does not exist" comes from PndSttMvdGemTracking, but in that occasion it just reads the list of hits collected in the SttMvdTrackCand and checks whether each hit is an mvd or stt hit.
I confirm it makes the check via detId = FairRootManager::Instance()->GetBranchId() and I know that also in PndSttMvdTracking the detId is assigned that way.
So, could it be that one specific hit is not assigned properly to the SttMvdTrackCand?
I did not have the time to check it yet, but I think the quickest thing to do is a macro which loops over the SttMvdTrackCand and from each of them takes the hits and checks whether they exist in their own TCA.

I have a question, did anyone try to apply the MCTrackAssociator directly to the MvdTracks or to the SttMvdTracks? This should clarify which task creates the problem...

Cheers,
Lia.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by StefanoSpataro on Thu, 26 May 2011 17:14:08 GMT
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Hi,
unfortunately only Dima has such problem. have you tried in an interactive machine?
I have tried with a lenny64, seed # 109, but I cannot reproduce this crash... I have no idea.
Maybe Dima can try as suggested by Lia, but my fear (again) is that some trackcandhit is messed.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Ralf Kliemt on Fri, 27 May 2011 08:13:26 GMT
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Hi Dima,

I was looking inside the code and did not find a cause for your problem.
So I ask you to check carefully your pandaroot installation (svn diff, revert changes you have except your own development, removing the build files and recompile from scratch). I expect you did that anyway x times while searching for a fix.

Another thing: When I switch the detID to be the TClonesArray's ID It will should be the removal of all kMVD... things in the data type list. There is some code still using it, so I'll have to go into some trouble getting it right there, too.
Opinions?

Ralf.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by StefanoSpataro on Fri, 27 May 2011 08:35:20 GMT
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Hi,
we are starting right now the digitization procedure. If at present the digi code gives problems, then the fix should be done as soon as possible. If it is just a matter of restyling, i would propose to postpone it.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Ralf Kliemt on Fri, 27 May 2011 10:37:34 GMT
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Hi.
Just a comment. When we store that Branch ID and use it later we have to take care that all files are loaded again. Furthermore, I think we even have to take care to load the branches in the same order again. So when registering a TCA, but not putting it to a file will make problems here.

Ralf

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Lia Lavezzi on Fri, 27 May 2011 10:42:02 GMT
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Hi,
 I prepared a macro (attached to this message) to test the PR as I said before, so that we can understand if (and where) there is a wrong hitid in a track candidate.

Please, Dima, can you run the macro on your files (changing the file names accordingly to yours) and on the different TCAs of PndTrack which come out from the various pattern recognitions?
At the moment it is set to work for evt_***_stt.root files (digi/reco) and for SttMvdTrack.

I hope this can help finding the problem,
Lia.

File Attachments
1) checkPR.C, downloaded 556 times

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator

Posted by StefanoSpataro on Fri, 27 May 2011 10:45:39 GMT
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According to Mohammad and Tobias we should not have such problems.
I ask for confirmation.

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Tobias Stockmanns on Fri, 27 May 2011 11:40:56 GMT
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Hi pandaRooters,

the Branch Id does not depend on the order of file loading or if the file is loaded at all. This Id is stored in each file header containing the Id's of all branches generated before.

Cheers,

Tobias

Subject: Re: Reconstruction macro crush - PndMCTrackAssociator
Posted by Dima Melnychuk on Sun, 29 May 2011 06:52:04 GMT
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Dear colleagues,

After updating to svn rev. 12110 and running again 10 runs by 2000 events I cannot reproduce this crash anymore.

So the problem disappeared, however I do not understand at which step exactly.

However, thanks to everybody participating in debugging.

Dima