Subject: Mvd code update
Posted by Ralf Kliemt on Sat, 15 May 2010 21:25:20 GMT
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Hello everybody,

tonight I merged the development branch of the mvd, sds and pnddata/Sdsdata packages to the trunk. The following issues are adressed:
- Mvd inherits now from Sds (like all semiconductor detector systems shall do i.e. lumi/lmd and hyp)
- Introduction of time-over-threshold electronics emulation
- shorter (integer) IDs for detector volumes
- several bugfixes & cleanups

I think, since it never ran on any system outside of the mvd developers, it is better not to add it to the next release.

Please give your feedback if something looks odd.

Thanks, Ralf.

Credits to Tobias Stockmanns & David Pohl. (May they be added to Johans funny statistics)

Subject: Re: Mvd code update
Posted by StefanoSpataro on Wed, 19 May 2010 17:06:25 GMT
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Hello,
I have seen that the mvd digitization is hanging many qa macros.
In particular, I have tried macro/qa/lhetrack/run_digi_tpccombi.C, and the macro stucks at the first event.

By commenting out some tasks, I have realized that the guilty guy is PndMvdClusterTask.
Is it possible to check what is going wrong there?

Subject: Re: Mvd code update
Posted by StefanoSpataro on Thu, 20 May 2010 10:10:13 GMT
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Hi,
thanks for the fix. Now I have seen there is a last problem in the reconstruction code.
Once I launch macro/qa/lhetrack/run_reco_tpccombi.C I have the following crash:

Toggle Spoiler

```
 ***  Event # 1
 =====   PndLheHitsMaker   =====
  Total number of hits for tracking:    63
Total number of tracks in TPC:     2
          Good tracks in TPC:     1
 Working with 63 hits
 found     1 tracks
finder    : Real Time =   0.01 seconds Cpu Time =   0.00 seconds
 =====   PndLheTrackFitter   =====
 Number of tracks for fitting 1

 *** Break *** segmentation violation



==========================================================
There was a crash (#7 0x009793b0 in SigHandler ()).
This is the entire stack trace of all threads:
==========================================================
#0  0x0075f7a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1  0x07536f13 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2  0x074e07b9 in do_system () from /lib/tls/libc.so.6
#3  0x0072b98d in system () from /lib/tls/libpthread.so.0
#4  0x00976c87 in TUnixSystem::Exec ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#5  0x0097cb66 in TUnixSystem::StackTrace ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#6  0x00979322 in TUnixSystem::DispatchSignals ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#7  0x009793b0 in SigHandler ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#8  0x0097862d in sighandler ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#9  <signal handler called>
#10 0x00a4f940 in TRefCnt::AddReference ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#11 0x00a4f931 in TString::TString ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#12 0x05901b50 in PndMvdHit::GetDetName (this=0xc397d50)
    at /home/spataro/test/trunk/pnddata/MvdData/PndMvdHit.h:79
#13 0x073be6e0 in PndMvdRecoHit::PndMvdRecoHit ()
    at /home/spataro/jan10/tools/root/include/TList.h:66
#14 0x03378ac9 in GFRecoHitProducer<PndMvdHit, PndMvdRecoHit>::produce (
    this=0x96cf2f8, index=0)
    at /home/spataro/test/trunk/genfit/GFRecoHitProducer.h:130
#15 0x02b52ef6 in GFRecoHitFactory::createOne (this=0x9928550, detID=8,
    index=0) at /home/spataro/test/trunk/genfit/GFRecoHitFactory.cxx:56
#16 0x02b532cb in GFRecoHitFactory::createMany (this=0x9928550,
    cand=
0xc3a3ff4) at /home/spataro/test/trunk/genfit/GFRecoHitFactory.cxx:77
#17 0x0387a9bc in PndRecoKalmanFit::Fit (this=0x8ed3918, tBefore=0xc3a64f8,
```

PDG=13)
at /home/spataro/test/trunk/GenfitTools/recotasks/PndRecoKalmanFit.cxx:218
#18 0x03880c8e in PndRecoKalmanTask::Exec (this=0x8ed1850, opt=0x6ec3638 "")
at /home/spataro/test/trunk/GenfitTools/recotasks/PndRecoKalmanTask.cxx:119
#19 0x00902925 in TTask::ExecuteTasks ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#20 0x00902721 in TTask::ExecuteTask ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#21 0x06e53e36 in FairRunAna::Run (this=0x8316f10, Ev_start=0, Ev_end=100)
at /home/spataro/test/trunk/base/FairRunAna.cxx:274
#22 0x06e9544e in G__FairDict_681_0_5 (result7=0xbff62400,
funcname=0x8ac1e78 "\001", libp=0xbff57db0, hash=0)
at /home/spataro/test/cbuild/base/FairDict.cxx:10905
#23 0x0014f1d3 in Cint::G__ExceptionWrapper ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#24 0x001e7aa0 in G__execute_call ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#25 0x001e7db2 in G__call_cppfunc ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#26 0x001c98f3 in G__interpret_func ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#27 0x001b5f28 in G__getfunction ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#28 0x0029f339 in G__getstructmem ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#29 0x00296f76 in G__getvariable ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#30 0x00198ee6 in G__getitem ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#31 0x0019d089 in G__getexpr ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#32 0x0021b3ed in G__exec_statement ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#33 0x00186854 in G__exec_tempfile_core ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#34 0x00187bd3 in G__exec_tempfile ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#35 0x00229c92 in G__process_cmd ()
from /home/spataro/jan10/tools/root/lib/libCint.so.5.26
#36 0x00964b57 in TCint::ProcessLine ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#37 0x00964cd8 in TCint::ProcessLineSynch ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#38 0x008993b0 in TApplication::ExecuteFile ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#39 0x00899673 in TApplication::ProcessFile ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#40 0x0089798f in TApplication::ProcessLine ()
from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#41 0x006d1481 in TRint::Run ()
from /home/spataro/jan10/tools/root/lib/libRint.so.5.26
#42 0x08048d5a 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.
==========================================================
#10 0x00a4f940 in TRefCnt::AddReference ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#11 0x00a4f931 in TString::TString ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#12 0x05901b50 in PndMvdHit::GetDetName (this=0xc397d50)
    at /home/spataro/test/trunk/pnddata/MvdData/PndMvdHit.h:79
#13 0x073be6e0 in PndMvdRecoHit::PndMvdRecoHit ()
    at /home/spataro/jan10/tools/root/include/TList.h:66
#14 0x03378ac9 in GFRecoHitProducer<PndMvdHit, PndMvdRecoHit>::produce (
    this=0x96cf2f8, index=0)
    at /home/spataro/test/trunk/genfit/GFRecoHitProducer.h:130
#15 0x02b52ef6 in GFRecoHitFactory::createOne (this=0x9928550, detID=8,
    index=0) at /home/spataro/test/trunk/genfit/GFRecoHitFactory.cxx:56
#16 0x02b532cb in GFRecoHitFactory::createMany (this=0x9928550,
    cand=
0xc3a3ff4) at /home/spataro/test/trunk/genfit/GFRecoHitFactory.cxx:77
#17 0x0387a9bc in PndRecoKalmanFit::Fit (this=0x8ed3918, tBefore=0xc3a64f8,
    PDG=13)
    at /home/spataro/test/trunk/GenfitTools/recotasks/PndRecoKalmanFit.cxx:218
#18 0x03880c8e in PndRecoKalmanTask::Exec (this=0x8ed1850, opt=0x6ec3638 "")
    at  /home/spataro/test/trunk/GenfitTools/recotasks/PndRecoKalmanTask.cxx:119
#19 0x00902925 in TTask::ExecuteTasks ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#20 0x00902721 in TTask::ExecuteTask ()
   from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#21 0x06e53e36 in FairRunAna::Run (this=0x8316f10, Ev_start=0, Ev_end=100)
    at /home/spataro/test/trunk/base/FairRunAna.cxx:274
==========================================================
```

I suppose something is screwed in the mvd reco hit.
Morevoer, in the sim hundreds of mvd volumes are written in the log, maybe it could be the case to "verbose" it by a flag.

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Subject: Re: Mvd code update
Posted by Jens Sören Lange on Thu, 20 May 2010 10:19:45 GMT
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Hi Ralf, we can confirm problems after the changes, i.e. segmentation violation when running macro/pid/run_reco_tpccombi.C. cheers, Soeren

```
  ***  Event # 1
 =====   PndLheHitsMaker   =====
  Total number of hits for tracking:   338
Total number of tracks in TPC:     4
          Good tracks in TPC:     4
 Working with 338 hits
 found     4 tracks
finder    : Real Time =   0.01 seconds Cpu Time =   0.01 seconds
 =====   PndLheTrackFitter   =====
 Number of tracks for fitting 4

 *** Break *** segmentation violation



==========================================================
There was a crash (kSigSegmentationViolation).
This is the entire stack trace of all threads:
==========================================================
#0  0x0000003499a99d75 in waitpid () from /lib64/libc.so.6
#1  0x0000003499a3c331 in do_system () from /lib64/libc.so.6
#2  0x00002ba40b3d0aa1 in TUnixSystem::Exec (this=0x14a58000,
    shellcmd=0x1ca88b58 "/home/panda/fairsoft/jan10/tools/root/etc/gdb-backtrace.sh 13842
1>&2")
    at core/unix/src/TUnixSystem.cxx:1978
#3  0x00002ba40b3cfe23 in TUnixSystem::StackTrace (this=0x14a58000)
    at core/unix/src/TUnixSystem.cxx:2188
#4  0x00002ba40b3d2e5d in TUnixSystem::DispatchSignals (this=0x14a58000,
    sig=kSigSegmentationViolation) at core/unix/src/TUnixSystem.cxx:1106
#5  0x00002ba40b3d2f81 in SigHandler (sig=kSigSegmentationViolation)
    at core/unix/src/TUnixSystem.cxx:350
#6  0x00002ba40b3c9123 in sighandler (sig=11) at core/unix/src/TUnixSystem.cxx:3428
#7  <signal handler called>
#8  0x00002ba40b2d1b50 in TRefCnt::AddReference (this=0xfffffffffffffea) at
include/TRefCnt.h:42
#9  0x00002ba40b2d1ba3 in TString::TString (this=0x7fff4707f5f0, s=...) at
include/TString.h:226
#10 0x00002ba4140b1040 in PndMvdHit::GetDetName (this=0x1ca1ad10)
    at /home/soeren/panda/pandaroot/trunk/pnddata/MvdData/PndMvdHit.h:79
#11 0x00002ba41bb03937 in PndMvdRecoHit::PndMvdRecoHit (this=0x1ca88860,
hit=0x1ca1ad10)
    at  /home/soeren/panda/pandaroot/trunk/GenfitTools/recohits/PndMvdRecoHit.cx x:81
#12 0x00002ba417dda5f9 in GFRecoHitProducer<PndMvdHit, PndMvdRecoHit>::produce
(this=0x16929510,
    index=0) at /home/soeren/panda/pandaroot/trunk/genfit/GFRecoHitProducer.h:130
#13 0x00002ba415568853 in GFRecoHitFactory::createOne (this=0x15591810, detID=8,
index=0)
    at /home/soeren/panda/pandaroot/trunk/genfit/GFRecoHitFactory.cxx:56
#14 0x00002ba415568b48 in GFRecoHitFactory::createMany (this=0x15591810, cand=...)
```

at /home/soeren/panda/pandaroot/trunk/genfit/GFRecoHitFactory.cxx:77
#15 0x00002ba41bd3f0e5 in PndRecoKalmanFit::Fit (this=0x15bf51f0, tBefore=0x1ca89c50, PDG=13)
at /home/soeren/panda/pandaroot/trunk/GenfitTools/recotasks/PndRecoKalmanFi t.cxx:218
#16 0x00002ba41bd4512c in PndRecoKalmanTask::Exec (this=0x15bf11b0, opt=0x2ba4134e35b0 "")
at /home/soeren/panda/pandaroot/trunk/GenfitTools/recotasks/PndRecoKalmanTa sk.cxx:119
#17 0x00002ba40b336f3f in TTask::ExecuteTasks (this=0x14ad1990, option=0x2ba4134e35b0 "")
at core/base/src/TTask.cxx:312
#18 0x00002ba40b3371ce in TTask::ExecuteTask (this=0x14ad1990, option=0x2ba4134e35b0 "")
at core/base/src/TTask.cxx:275

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Subject: Re: Mvd code update
Posted by Ralf Kliemt on Thu, 20 May 2010 19:14:53 GMT
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Hello guys,

Thanks for posting the segfault. I think I know what to do.

Cheers, Ralf.

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