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Subject: sigfault during EMC reco  
Posted by [Dmitry Morozov](#) on Tue, 19 Feb 2008 09:12:30 GMT  
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Dear EMC experts,

I have a sigmentation violation when I try to reconstuct some clusters using reco\_emc.C macro.

Here is exactly that I do:

I tried this on two machines with SL3 and SL4 - i see the same on both.

1) sim\_emc.C to simulate some events with 1 GeV gammas, geometry file: "emc\_module1234.dat"(tried with others - same result) , geant 3 (with geant4 - the same).  
Output: sim\_emc.root - with no problems

2) hit\_emc.C to get hits from points.  
Output: hit\_emc.root - with no problems

3) digi\_emc.C to digitize the hits.  
Output: digi\_emc.root - with no problems

4) reco\_emc.C to reconstruct clusters...  
And here i get the following output:

```
[vfreez] /home/freez/fairroot/pandaroot/macro/emc > root reco_emc.C
```

```
*****  
*                                     *  
*   W E L C O M E  t o  R O O T   *  
*                                     *  
*  Version  5.17/05  16 October 2007  *  
*                                     *  
*  You are welcome to visit our Web site *  
*    http://root.cern.ch                *  
*                                     *  
*****
```

```
ROOT 5.17/05 (trunk@20369, De 05 2007, 06:02:00 on linux)
```

```
CINT/ROOT C/C++ Interpreter version 5.16.27, Oct 25, 2007
```

```
Type ? for help. Commands must be C++ statements.
```

```
Enclose multiple statements between { }.
```

```
root [0]
```

```
Processing reco_emc.C...
```

```
PSaid instance created... access via gSaid->f()
```

```
- RTDB container factory CbmBaseContFact  
- RTDB container factory PndFieldContFact  
- RTDB container factory PndPassiveContFact  
- RTDB container factory PndEmcContFact  
-l- CbmRunAna: Opening Input file: sim_emc.root  
-l- CbmRunAna Input file: sim_emc.root is connected to friend: digi_emc.root
```

fRun->Init()

-I- CbmRunAna::Init :  
sim\_emc.root is connected with: digi\_emc.root

Info in <TGeoManager::CloseGeometry>: Geometry loaded from file...  
Info in <TGeoManager::SetTopVolume>: Top volume is cave. Master volume is cave  
Info in <TGeoManager::Voxelize>: Voxelizing...  
Info in <TGeoNavigator::BuildCache>: --- Maximum geometry depth set to 100  
Info in <TGeoManager::CloseGeometry>: 17324 nodes/ 2181 volume UID's in CBM geometry  
Info in <TGeoManager::CloseGeometry>: -----modeler ready-----  
PndFieldCreator::SetParm()  
create PndFieldPar container PndFieldPar  
create PndFieldPar container PndSolenoidPar  
create PndFieldPar container PndDipolePar  
create PndFieldPar container PndTransPar  
create PndFieldPar container PndConstPar  
create PndFieldPar container PndMultiFieldPar  
-I container name PndEmcDigiPar  
-I container name PndEmcRecoPar

\*\*\*\*\*

initialisation for run id 1459998032

\*\*\*\*\*

Container CbmBaseParSet initialized from ROOT file.  
Error in <PndFieldPar::init()>: PndFieldPar not initialized  
Error in <PndSolenoidPar::init()>: PndSolenoidPar not initialized  
Error in <PndDipolePar::init()>: PndDipolePar not initialized  
Error in <PndTransPar::init()>: PndTransPar not initialized  
Error in <PndConstPar::init()>: PndConstPar not initialized  
Container PndMultiFieldPar initialized from ROOT file.  
PndEmcDigiPar initialized from Ascii file  
PndEmcRecoPar initialized from Ascii file  
Error in <CbmRuntimeDb::initContainers()>: Error occured during initialization  
PndFieldCreator::createCbmField()  
OBJ: PndTransPar PndTransPar Trans. Field parameter container  
OBJ: PndDipolePar PndDipolePar Dipole Field parameter container  
OBJ: PndSolenoidPar PndSolenoidPar Solenoid Field parameter container  
-I- PndFieldMap: Reading field map from ROOT file  
/home/freez/fairroot/pandaroot/input/TransMap.root  
-I- PndFieldMap: Reading field map from ROOT file  
/home/freez/fairroot/pandaroot/input/DipoleMap.root  
-I- PndFieldMap: Reading field map from ROOT file  
/home/freez/fairroot/pandaroot/input/SolenoidMap.root  
PndEmcMakeCluster::fDigiEnergyTresholdBarrel: 0.003  
PndEmcMakeCluster::fDigiEnergyTresholdFWD: 0.003  
PndEmcMakeCluster::fDigiEnergyTresholdBWD: 0.003  
PndEmcMakeCluster::fDigiEnergyTresholdShashlyk: 0.003  
Lilo cluster position method  
-I- PndEmcMakeCluster: Intialization successfull  
DigiList length 11

```

*** Break *** segmentation violation
Using host libthread_db library "/lib/tls/libthread_db.so.1".
Attaching to program: /proc/5178/exe, process 5178
[Thread debugging using libthread_db enabled]
[New Thread -1208944960 (LWP 5178)]
0x0080a7a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1 0x00f4ed23 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2 0x00ef87a9 in do_system () from /lib/tls/libc.so.6
#3 0x007f998d in system () from /lib/tls/libpthread.so.0
#4 0x003138ce in TUnixSystem::Exec (this=0xa0c9138,
#5 0x00313d82 in TUnixSystem::StackTrace (this=0xa0c9138) at
unix/src/TUnixSystem.cxx:2012
#6 0x00311bc7 in TUnixSystem::DispatchSignals (this=0xa0c9138,
sig=kSigSegmentationViolation)
    at unix/src/TUnixSystem.cxx:974
#7 0x0030fdded in SigHandler (sig=kSigSegmentationViolation) at
unix/src/TUnixSystem.cxx:340
#8 0x00316ada in sighandler (sig=11) at unix/src/TUnixSystem.cxx:3226
#9 <signal handler called>
#10 0x01694ef6 in PndEmcTwoCoordIndex::itsXCoord (this=0x4006)
    at /home/freez/fairroot/pandaroot/emc/EmcTools/PndEmcTwoCoordIndex.h:56
#11 0x016ba97a in PndEmcTwoCoordIndex::isNeighbour (this=0xc86b2a8, _tci=0x4006)
    at /home/freez/fairroot/pandaroot/emc/EmcTools/PndEmcTwoCoordIndex.cxx:74
#12 0x0169478e in PndEmcDigi::isNeighbour (this=0xdcf8818, theDigi=0xdcf87a0)
    at /home/freez/fairroot/pandaroot/emc/EmcData/PndEmcDigi.cxx:203
#13 0x01697c74 in PndEmcCluster::isInCluster (this=0xddb0b20, theDigi=0xdcf8818)
    at /home/freez/fairroot/pandaroot/emc/EmcData/PndEmcCluster.cxx:313
#14 0x016c478a in PndEmcMakeCluster::Exec (this=0xa6d7038, opt=0x14a0070 "")
    at /home/freez/fairroot/pandaroot/emc/EmcReco/PndEmcMakeCluster.cxx:166
#15 0x0029f83e in TTask::ExecuteTasks (this=0xa4adc80, option=0x14a0070 "") at
base/src/TTask.cxx:298
#16 0x0029f639 in TTask::ExecuteTask (this=0xa4adc80, option=0x14a0070 "") at
base/src/TTask.cxx:261
#17 0x0144129b in CbmRunAna::Run (this=0xa4adbe8, Ev_start=0, Ev_end=100)
    at /home/freez/fairroot/pandaroot/base/CbmRunAna.cxx:157
#18 0x0147805c in G__CbmDict_530_0_5 (result7=0xbfe9d4b0, funcname=0xa4ac110 "\001",
libp=0xbfe976d0, hash=0)
    at /home/freez/fairroot/build/base/CbmDict.cxx:9334
#19 0x00887ce5 in Cint::G__ExceptionWrapper (funcp=0x1477fa8 <G__CbmDict_530_0_5>,
result7=0xbfe9d4b0,
    funcname=0xa4ac110 "\001", libp=0xbfe976d0, hash=0) at cint/src/Api.cxx:364
#20 0x00958813 in G__call_cppfunc (result7=0xbfe9d4b0, libp=0xbfe976d0, ifunc=0xa4ac110,
ifn=0)
    at cint/src/v6_newlink.cxx:512
#21 0x0093e269 in G__interpret_func (result7=0xbfe9d4b0, funcname=0xbfe9d0b0 "Run",
libp=0xbfe976d0, hash=309,
    p_ifunc=0xa4ac110, funcmatch=1, memfunc_flag=1) at cint/src/v6_ifunc.cxx:5118
#22 0x00924f20 in G__getfunction (item=0xbfea0466 "Run(0,nEvents)", known3=0xbfe9f87c,
memfunc_flag=1)
    at cint/src/v6_func.cxx:2511
#23 0x009effd3 in G__getstructmem (store_var_type=112, varname=0xbfe9f550 "(",
membername=0xbfea0466 "Run(0,nEvents)",

```

```
tagname=0xbfe9ddb0 "fRun", known2=0xbfe9f87c, varglobal=0xa7a5a0, objptr=2) at
cint/src/v6_var.cxx:6562
#24 0x009e5a74 in G__getvariable (item=0xbfea0460 "fRun->Run(0,nEvents)",
known2=0xbfe9f87c, varglobal=0xa7a5a0,
  varlocal=0x0) at cint/src/v6_var.cxx:5206
#25 0x00918bd9 in G__getitem (item=0xbfea0460 "fRun->Run(0,nEvents)") at
cint/src/v6_expr.cxx:1884
#26 0x00917248 in G__getexpr (expression=0xbfea1b50 "fRun->Run(0,nEvents)") at
cint/src/v6_expr.cxx:1470
#27 0x0097b9c6 in G__exec_function (statement=0xbfea1b50 "fRun->Run(0,nEvents)",
pc=0xbfea1f7c, piout=0xbfea1f74,
  plargestep=0xbfea1f64, presult=0xbfea1b20) at cint/src/v6_parse.cxx:598
#28 0x009878df in G__exec_statement (mparen=0xbfea1fe0) at cint/src/v6_parse.cxx:6923
#29 0x008f532c in G__exec_tempfile_core (file=0xbfeaa9e0
"/home/freez/fairroot/pandaroot/macro/emc/./reco_emc.C", fp=0x0)
  at cint/src/v6_debug.cxx:251
#30 0x008f6890 in G__exec_tempfile (file=0xbfeaa9e0
"/home/freez/fairroot/pandaroot/macro/emc/./reco_emc.C")
  at cint/src/v6_debug.cxx:798
#31 0x0099259d in G__process_cmd (line=0x72871d "lobal_36", prompt=0xa0cc144 "",
more=0xa0cc13c, err=0xbfeab24c,
  rslt=0xbfeab250) at cint/src/v6_pause.cxx:3070
#32 0x002dbfb2 in TCint::ProcessLine (this=0xa0cc120, line=0x72871d "lobal_36",
error=0xbfeadab4) at meta/src/TCint.cxx:289
#33 0x002dc354 in TCint::ProcessLineSynch (this=0xa0cc120, line=0x72871d "lobal_36",
error=0xbfeadab4)
  at meta/src/TCint.cxx:354
#34 0x002283f9 in TApplication::ExecuteFile (file=0xbfeab9b3 "reco_emc.C",
error=0xbfeadab4)
  at base/src/TApplication.cxx:897
#35 0x00227ca9 in TApplication::ProcessFile (this=0xa0e9d80, file=0xbfeab9b3 "reco_emc.C",
error=0xbfeadab4)
  at base/src/TApplication.cxx:787
#36 0x00227be5 in TApplication::ProcessLine (this=0xa0e9d80, line=0xbfeab9b0 ".x
reco_emc.C", sync=false, err=0xbfeadab4)
  at base/src/TApplication.cxx:760
#37 0x0079ee40 in TRint::Run (this=0xa0e9d80, retrn=false) at rint/src/TRint.cxx:336
#38 0x08048de3 in main (argc=1, argv=0xbfeadb94) at main/src/rmain.cxx:29
-----
```

I can see that it craches at the line

```
#10 0x01694ef6 in PndEmcTwoCoordIndex::itsXCoord (this=0x4006)
  at /home/freez/fairroot/pandaroot/emc/EmcTools/PndEmcTwoCoordIndex.h:56
```

but it does not look strange to me....

Could anybody help me this that?

Thank you.

Dmitry.

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