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Subject: Problem: implementing/using PndGeoHandling in the SciTil simulation  
Posted by [Dominik Steinschaden](#) on Tue, 21 Apr 2015 14:01:42 GMT

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Hi all,

at the moment I am working on an update of the implementation of the SciTil detector (barrel TOF) in pandaroot.

Therefore I want to use the PndGeoHandling class to generate shortIDs for my sensitive Sensors.

I tried to get an idea how to implement the class from the code of other sub detector groups which are using the class, but at least for me it seems that its not running in my code in the same way.

As a first step i just tried to implement the class in the (event based) simulation stage. Therefor i defined a new variable in the PndSciT.h file

```
PndGeoHandling* fGeoH;
```

and modified the PndSciT.cxx file e.g. adding the following lines to the constructor

```
if ( fGeoH == NULL )  
    fGeoH = PndGeoHandling::Instance();
```

originally i also tried to make use out of the class, but since my code was not working i reduced it now to just these 3 lines, which already cause a problem.

so whats the problem:

When i run the simulation (using the macro provided by macro/run/sim\_complete.C) the simulation runs till the end and produces an output, but i get the following warnings at the end of the simulation.

```
[WARNING] Function FairRun::GetWriteRunInfoFile() is deprecated and will vanish in future versions of FairRoot.
```

```
Please use FairRun::IsRunInfoGenerated() instead.
```

```
[INFO ] *** PndEmcGeoPar written to ROOT file version: 4
```

```
[INFO ] *** PndSensorNamePar written to ROOT file version: 4
```

```
[INFO ] *** PndEmcDigiPar written to ROOT file version: 4
```

```
[INFO ] *** PndEmcDigiNonuniformityPar written to ROOT file version: 4
```

```
Warning in <TBufferFile::WriteObjectAny>: since FairRuntimeDb has no public constructor which can be called without argument, objects of this class can not be read with the current library. You will need to add a default constructor before attempting to read it.
```

```
[INFO ] *** FairBaseParSet written to ROOT file version: 4
```

```
[INFO ] *** FairGeoParSet written to ROOT file version: 3
```

```
[INFO ] *** PndMultiFieldPar written to ROOT file version: 3
```

```
[INFO ] *** PndGeoPassivePar written to ROOT file version: 3
```

```
[INFO ] *** PndGeoSttPar written to ROOT file version: 3
```

```
[INFO ] *** PndGeoFtsPar written to ROOT file version: 3
```

```
[INFO ] *** PndRichGeoPar written to ROOT file version: 3
```

```
[INFO ] *** PndGeoSciTPar written to ROOT file version: 3
```

[INFO ] \*\*\* PndGeoFtofPar written to ROOT file version: 3  
RealTime=46.662729 seconds, CpuTime=46.570000 seconds  
Test passed  
All ok

When I now try to start the digitization stage, in which I don't changed anything  
(using the macro/run/digi\_complete.C macro)  
it fails with an segmentation violation.

initialisation for run id 1429623803

```
*****
-I- FairRunTimeDB::InitContainer() FairGeoParSet
Info in <TGeoManager::CloseGeometry>: Geometry loaded from file...
Info in <TGeoManager::SetTopVolume>: Top volume is cave. Master volume is cave
Info in <TGeoNavigator::BuildCache>: --- Maximum geometry depth set to 100
Info in <TGeoManager::Voxelize>: Voxelizing...
Info in <TGeoManager::CountLevels>: max level = 12, max placements = 4550
Info in <TGeoManager::CloseGeometry>: 2016457 nodes/ 5646 volume UID's in FAIR
geometry
Info in <TGeoManager::CloseGeometry>: -----modeler ready-----
Container FairGeoParSet initialized from ROOT file.
-I- FairRunTimeDB::InitContainer() FairBaseParSet
Info in (PndGeoHandling::Instance): Making a new instance using the framework.
Container FairBaseParSet initialized from ROOT file.
-I container name PndGeoSttPar
```

\*\*\* Break \*\*\* segmentation violation

```
=====
There was a crash.
This is the entire stack trace of all threads:
=====
#0 0x00007fd4e1e5bb4c in __libc_waitpid (pid=9468, stat_loc=stat_loc
entry=0x7ffdc2605080, options=options
entry=0) at ../sysdeps/unix/sysv/linux/waitpid.c:31
#1 0x00007fd4e1de12e2 in do_system (line=<optimized out>) at
../sysdeps/posix/system.c:148
#2 0x00007fd4e2b11723 in TUnixSystem::StackTrace() () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#3 0x00007fd4e2b1341c in TUnixSystem::DispatchSignals(ESignals) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#4 <signal handler called>
#5 0x00007fd4e2ac2d61 in TCollection::RemoveAll(TCollection*) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#6 0x00007fd4d57044a5 in PndSdsHybridHitProducer::SetParContainers (this=0x2e4fc70) at
/home/dominik/simulationen/pandaroot/trunk_test/sds/SdsDigi/PndSdsHybridHitProducer.cxx:1
56
#7 0x00007fd4d53cbc71 in PndMvdHybridHitProducer::SetParContainers (this=0x2e4fc70) at
/home/dominik/simulationen/pandaroot/trunk_test/mvd/MvdDigi/PndMvdHybridHitProducer.cxx
:63
```

#8 0x00007fd4d78f34d9 in FairTask::SetParTask (this=0x2e4fc70) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairTask.cxx  
:91  
#9 0x00007fd4d78f3475 in FairTask::SetParTasks (this=0xffffffff) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairTask.cxx  
:155  
#10 0x00007fd4d78f3475 in FairTask::SetParTasks (this=0xffffffff) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairTask.cxx  
:155  
#11 0x00007fd4d78f34e2 in FairTask::SetParTask (this=<optimized out>) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairTask.cxx  
:92  
#12 0x00007fd4d78eca22 in FairRunAna::Init (this=0x2782a80) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairRunAna.  
cxx:244  
#13 0x00007fd4d7961b55 in G\_\_G\_\_BaseDict\_785\_0\_5 (result7=0x7ffdc2608760,  
funcname=<optimized out>, libp=<optimized out>, hash=<optimized out>) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/build/base/G\_\_BaseDict  
.cxx:13233  
#14 0x00007fd4e146495d in Cint::G\_\_ExceptionWrapper(int (\*)(G\_\_value\*, char const\*,  
G\_\_param\*, int), G\_\_value\*, char\*, G\_\_param\*, int) () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#15 0x00007fd4e1508ba7 in G\_\_execute\_call () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#16 0x00007fd4e1508f65 in G\_\_call\_cppfunc () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#17 0x00007fd4e14e850f in G\_\_interpret\_func () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#18 0x00007fd4e14d5c99 in G\_\_getfunction () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#19 0x00007fd4e15befb5 in G\_\_getstructmem(int, G\_\_FastAllocString&, char\*, int, char\*, int\*,  
G\_\_var\_array\*, int) () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#20 0x00007fd4e15b64ae in G\_\_getvariable () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#21 0x00007fd4e14afb1f in G\_\_getitem () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#22 0x00007fd4e14b54c5 in G\_\_getexpr () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#23 0x00007fd4e153846d in G\_\_exec\_statement () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#24 0x00007fd4e14e9a6c in G\_\_interpret\_func () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#25 0x00007fd4e14d5cf7 in G\_\_getfunction () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#26 0x00007fd4e14b0022 in G\_\_getitem () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#27 0x00007fd4e14b54c5 in G\_\_getexpr () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#28 0x00007fd4e14c0d9b in G\_\_calc\_internal () from  
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34  
#29 0x00007fd4e1547b7f in G\_\_process\_cmd () from

```

/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCint.so.5.34
#30 0x00007fd4e2ad5640 in TCint::ProcessLine(char const*, TInterpreter::EErrorCode*) ()
from /home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#31 0x00007fd4e2ad1d0b in TCint::ProcessLineSynch(char const*, TInterpreter::EErrorCode*)
() from /home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#32 0x00007fd4e2a3fb7c in TApplication::ExecuteFile(char const*, int*, bool) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#33 0x00007fd4e2a3f0b0 in TApplication::ProcessLine(char const*, bool, int*) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#34 0x00007fd4e268c209 in TRint::HandleTermInput() () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libRint.so.5.34
#35 0x00007fd4e2b12be5 in TUnixSystem::CheckDescriptors() () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#36 0x00007fd4e2b1370a in TUnixSystem::DispatchOneEvent(bool) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#37 0x00007fd4e2a96cf6 in TSystem::InnerLoop() () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#38 0x00007fd4e2a97900 in TSystem::Run() () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#39 0x00007fd4e2a3d2af in TApplication::Run(bool) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#40 0x00007fd4e268d3be in TRint::Run(bool) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libRint.so.5.34
#41 0x0000000000400fdc 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 0x00007fd4e2ac2d61 in TCollection::RemoveAll(TCollection*) () from
/home/dominik/simulationen/pandaroot/fairsoft/mar15/lib/root/libCore.so.5.34
#6 0x00007fd4d57044a5 in PndSdsHybridHitProducer::SetParContainers (this=0x2e4fc70) at
/home/dominik/simulationen/pandaroot/trunk_test/sds/SdsDigi/PndSdsHybridHitProducer.cxx:1
56
#7 0x00007fd4d53cbc71 in PndMvdHybridHitProducer::SetParContainers (this=0x2e4fc70) at
/home/dominik/simulationen/pandaroot/trunk_test/mvd/MvdDigi/PndMvdHybridHitProducer.cxx
:63
#8 0x00007fd4d78f34d9 in FairTask::SetParTask (this=0x2e4fc70) at
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03_source/base/steer/FairTask.cxx
:91
#9 0x00007fd4d78f3475 in FairTask::SetParTasks (this=0xffffffff) at
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03_source/base/steer/FairTask.cxx
:155
#10 0x00007fd4d78f3475 in FairTask::SetParTasks (this=0xffffffff) at
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03_source/base/steer/FairTask.cxx
:155
#11 0x00007fd4d78f34e2 in FairTask::SetParTask (this=<optimized out>) at
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03_source/base/steer/FairTask.cxx

```

:92

#12 0x00007fd4d78eca22 in FairRunAna::Init (this=0x2782a80) at  
/home/dominik/simulationen/pandaroot/fairsoft/fairroot/v-15.03\_source/base/steer/FairRunAna.  
cxx:244

=====

I'm now trying since half a week to fix this, but i still have now Idea. so maybe someone who knows how to use the PndGeoHandling Class can explain me how to implement it in the code.

kind regards

Dominik Steinschaden

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