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Subject: Segmentation Fault - MVD digitization  
Posted by [Ankhi Roy](#) on Thu, 05 Jul 2012 11:30:19 GMT  
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Hi,

I have installed pandaroot from the recent trunk version -

<https://subversion.gsi.de/fairroot/pandaroot/trunk>

After generating some simulated data I was trying to digitize MVD, but it is giving segmentation fault -

```
Warning in <TEnvRec::ChangeValue>: duplicate entry <Library.TVirtualMagField=Base
libFairTools.so libParBase.so libGeoBase.so libProof.so libGeomPainter.so libGeom.so
libVMC.so libEG.so libMathCore.so libPhysics.so libMatrix.so libTree.so libHist.so libRIO.so
libCint.so libCore.so> for level 0; ignored
```

```
FairRootManager::OpenOutFile("digi_mvd.root")
```

```
Info in <PndSdsHybridHitProducer::PndSdsHybridHitProducer>: MVD Hybrid Hit Producer
created, Parameters will be taken from RTDB
```

```
[INFO ] The input consists out of the following trees and files:
```

```
[INFO ] - cbmsim
```

```
[INFO ] - sim_mvd.root
```

```
[INFO ] Parameter and input file are available, Assure that basic info is there for the run!
```

```
[INFO ] The number of entries in chain is 5000
```

```
[INFO ] Branch: EventHeader. not found in Tree
```

```
[INFO ] Branch: EventHeader. not found in Tree
```

```
[INFO ] No event Header was found!!!
```

```
[INFO ] Branch: EventHeader. not found in Tree
```

```
[INFO ] Branch: EventHeader. not found in Tree
```

```
*****
```

```
initialisation for run id 1208523731
```

```
*****
```

```
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 = 9, max placements = 36
```

```
Info in <TGeoManager::CloseGeometry>: 6165 nodes/ 93 volume UID's in FAIR geometry
```

```
Info in <TGeoManager::CloseGeometry>: -----modeler ready-----
```

```
Container FairBaseParSet initialized from ROOT file.
```

```
Info in (PndGeoHandling::Instance): Making a new instance using the framework.
```

```
Info in <PndMvdHybridHitProducer::SetParContainers>: done.
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: The container names list contains 10
entries
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDPixelDigiPar
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDStripDigiParRect
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDStripDigiParTrap
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDStripDigiParTD
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDStripDigiParTS
```

```
Info in <PndMvdStripHitProducer::SetParContainers()>: MVDPixelTotDigiPar
```

Info in <PndMvdStripHitProducer::SetParContainers(>: MVDStripTotDigiParRect  
Info in <PndMvdStripHitProducer::SetParContainers(>: MVDStripTotDigiParTrap  
Info in <PndMvdStripHitProducer::SetParContainers(>: MVDStripTotDigiParTD  
Info in <PndMvdStripHitProducer::SetParContainers(>: MVDStripTotDigiParTS  
Info in <PndMvdStripHitProducer::SetParContainers>: done.

\*\*\*\*\*

initialisation for run id 1208523731

\*\*\*\*\*

MVDPixelDigiPar initialized from Ascii file  
MVDPixelTotDigiPar initialized from Ascii file  
MVDStripDigiParRect initialized from Ascii file  
MVDStripDigiParTrap initialized from Ascii file  
MVDStripDigiParTD initialized from Ascii file  
MVDStripDigiParTS initialized from Ascii file  
MVDStripTotDigiParRect initialized from Ascii file  
MVDStripTotDigiParTrap initialized from Ascii file  
MVDStripTotDigiParTD initialized from Ascii file  
MVDStripTotDigiParTS initialized from Ascii file  
PndFieldCreator::SetParm() 0x4a1f9d0

\*\*\*\*\*

initialisation for run id 1208523731

\*\*\*\*\*

MVDPixelDigiPar initialized from Ascii file  
MVDPixelTotDigiPar initialized from Ascii file  
MVDStripDigiParRect initialized from Ascii file  
MVDStripDigiParTrap initialized from Ascii file  
MVDStripDigiParTD initialized from Ascii file  
MVDStripDigiParTS initialized from Ascii file  
MVDStripTotDigiParRect initialized from Ascii file  
MVDStripTotDigiParTrap initialized from Ascii file  
MVDStripTotDigiParTD initialized from Ascii file  
MVDStripTotDigiParTS initialized from Ascii file  
Container PndMultiFieldPar initialized from ROOT file.  
OBJ: PndTransPar PndTransPar Trans. Field parameter container  
OBJ: PndDipole1Par PndDipole1Par Dipole Field parameter container  
OBJ: PndDipole2Par PndDipole2Par Dipole Field parameter container  
OBJ: PndSolenoid1Par PndSolenoid1Par Solenoid 1st region parameter container  
OBJ: PndSolenoid2Par PndSolenoid2Par Solenoid 2nd region parameter container  
OBJ: PndSolenoid3Par PndSolenoid3Par Solenoid 3rd region parameter container  
OBJ: PndSolenoid4Par PndSolenoid4Par Solenoid 4th region parameter container  
[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/TransMap.1500.root  
[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/DipoleMap1.1500.root  
[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/DipoleMap2.1500.root  
[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/SolenoidMap1.root  
[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/SolenoidMap2.root

[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/SolenoidMap3.root

[INFO ] PndFieldMap: Reading field map from ROOT file  
/home/ankhi/pandaroot/input/SolenoidMap4.root

Info in <PndMvdHybridHitProducer::SetBranchNames>: Set Mvd Pixel names.  
InBranchId: 1 for Branch: MVDPoint  
OutBranchId: -1 for Branch: MVDPixelDigis

SDS Pixel Digitization Parameters:  
fDimX (cm) = 0.01  
fDimY (cm) = 0.01  
Charge Threshold (e-) = 1000  
Noise (ENC+Dispersion) (e-) = 200  
Columns on FE = 110  
Rows on FE = 116  
Cluster search radius (channels) = 1.8  
Charge cloud sigma (cm) = 0.000581  
charge conv. (0:ideal, 1:TOT) = 1

Info in <PndMvdHybridHitProducer::Init()>: use TOT charge conversion  
Tot parameter  
charge time: 100 ns  
const. current: 60 e/ns  
threshold: 1000 e  
clock frequency: 50 MHz

Info in <PndMvdHybridHitProducer::Init>: Intialisation successfull  
InBranchId: 1 for Branch: MVDPoint  
OutBranchId: -1 for Branch: MVDStripDigis

Info in <PndMvdStripHitProducer::SetCalculators()>: Create a Parameter Set for Rect sensors  
Rect#

MVD Digitization Parameters:  
Sensor type name is = Rect  
Top Pitch = 0.013 cm  
Bottom Pitch = 0.013 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-3.3345,1.6705)  
Bottom Anchor= (-3.3345,1.6705)  
FE Channels = 128  
Nr of Frontends (Top Side) = 4  
Nr of Frontends (Bottom Side)= 2  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 1  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 12000

Info in <PndMvdStripHitProducer::SetCalculators()>: Create a Parameter Set for Trap sensors  
Trap#

MVD Digitization Parameters:

Sensor type name is = Trap  
Top Pitch = 0.00675 cm  
Bottom Pitch = 0.00675 cm  
Strip Angle (Top) = 1.4399rad = 82.5 deg  
Skew Angle (Top->Bottom) = 0.261799rad = 15 deg  
Top Anchor = (-1.72967,2.78327)  
Bottom Anchor= (-1.72967,2.78327)  
FE Channels = 128  
Nr of Frontends (Top Side) = 4  
Nr of Frontends (Bottom Side)= 4  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 1  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 12000

Info in <PndMvdStripHitProducer::SetCalculators()>: Create a Parameter Set for TD sensors  
TD#

MVD Digitization Parameters:

Sensor type name is = TD  
Top Pitch = 0.005 cm  
Bottom Pitch = 0.005 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-0.9575,0.9575)  
Bottom Anchor= (-0.9575,0.9575)  
FE Channels = 128  
Nr of Frontends (Top Side) = 3  
Nr of Frontends (Bottom Side)= 3  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 0  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 1200

Info in <PndMvdStripHitProducer::SetCalculators()>: Create a Parameter Set for TS sensors  
TS#

MVD Digitization Parameters:

Sensor type name is = TS  
Top Pitch = 0.005 cm  
Bottom Pitch = 1.92 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-0.9575,0.9575)

Bottom Anchor= (0,0.9575)  
FE Channels = 128  
Nr of Frontends (Top Side) = 3  
Nr of Frontends (Bottom Side)= 1  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 0  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 1200

Info in <PndMvdStripHitProducer::SetCalculators()>: Use Tot charge conversion for Rect sensors

Tot parameter

charge time: 100 ns  
const. current: 60 e/ns  
threshold: 5000 e  
clock frequency: 50 MHz

Info in <PndMvdStripHitProducer::SetCalculators()>: Use Tot charge conversion for Trap sensors

Tot parameter

charge time: 100 ns  
const. current: 60 e/ns  
threshold: 5000 e  
clock frequency: 50 MHz

Info in <PndMvdStripHitProducer::SetCalculators()>: Use Ideal charge conversion for TD sensors

Info in <PndMvdStripHitProducer::SetCalculators()>: Use Ideal charge conversion for TS sensors

-I- PndSdsStripHitProducer: Initialisation successfull with these parameters:

MVD Digitization Parameters:

Sensor type name is = Rect  
Top Pitch = 0.013 cm  
Bottom Pitch = 0.013 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-3.3345,1.6705)  
Bottom Anchor= (-3.3345,1.6705)  
FE Channels = 128  
Nr of Frontends (Top Side) = 4  
Nr of Frontends (Bottom Side)= 2  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 1  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2

Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 12000  
MVD Digitization Parameters:  
Sensor type name is = Trap  
Top Pitch = 0.00675 cm  
Bottom Pitch = 0.00675 cm  
Strip Angle (Top) = 1.4399rad = 82.5 deg  
Skew Angle (Top->Bottom) = 0.261799rad = 15 deg  
Top Anchor = (-1.72967,2.78327)  
Bottom Anchor= (-1.72967,2.78327)  
FE Channels = 128  
Nr of Frontends (Top Side) = 4  
Nr of Frontends (Bottom Side)= 4  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 1  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 12000

MVD Digitization Parameters:  
Sensor type name is = TD  
Top Pitch = 0.005 cm  
Bottom Pitch = 0.005 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-0.9575,0.9575)  
Bottom Anchor= (-0.9575,0.9575)  
FE Channels = 128  
Nr of Frontends (Top Side) = 3  
Nr of Frontends (Bottom Side)= 3  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 0  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 1200

MVD Digitization Parameters:  
Sensor type name is = TS  
Top Pitch = 0.005 cm  
Bottom Pitch = 1.92 cm  
Strip Angle (Top) = 1.5708rad = 90 deg  
Skew Angle (Top->Bottom) = -1.5708rad = -90 deg  
Top Anchor = (-0.9575,0.9575)  
Bottom Anchor= (0,0.9575)

FE Channels = 128  
Nr of Frontends (Top Side) = 3  
Nr of Frontends (Bottom Side)= 1  
Charge Threshold (e-) = 5000  
Noise (ENC+Dispersion) (e-) = 1000  
Charge cloud sigma = 0.000581 cm  
charge conv. (0:ideal, 1:TOT) = 0  
Frontend type name is = APV25  
Clusterfinder Mode = 0  
Clusterfinder Mean Algorithm = 0  
Clusterfinder Search Radius: Channels = 2  
Clusterfinder Search Radius: Time = 0  
Top/Bottom Charge correlation cut = 1200  
[WARNING] Branch MVDStripDigis is already registered in WriteoutBufferMap  
[WARNING] Branch MVDPixelDigis is already registered in WriteoutBufferMap

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

```
=====
There was a crash.
This is the entire stack trace of all threads:
=====
#0 0x00007f8be6b0dc3e in waitpid () from /lib/x86_64-linux-gnu/libc.so.6
#1 0x00007f8be6a93f5e in ?? () from /lib/x86_64-linux-gnu/libc.so.6
```

It will be nice if someone tells me what is wrong with this.

Thank you very much.

Ankhi

#2 0x00007f8be79c10f7 in TUnixSystem::StackTrace()

## File Attachments

1) [digi\\_mvd.C](#), downloaded 725 times

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Subject: Re: Segmentation Fault - MVD digitization  
Posted by [Ralf Kliemt](#) on Thu, 05 Jul 2012 17:29:44 GMT  
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Hello Ankhi.

Could you please post the simulation macro, too? It would make it easier to trace that issue.  
What exact revision of the PandaRoot trunk did you use (svn info will tell you).

Kind regards.  
Ralf Kliemt

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Subject: Re: Segmentation Fault - MVD digitization  
Posted by [Ankhi Roy](#) on Fri, 06 Jul 2012 07:58:31 GMT  
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Dear Ralf,

Yesterday Tobias told me that I should use different macro for simulation and digitization. Then it works nicely. Therefore it is not the problem of MVD digitization in pandaroot. I was using wrong macro.

Thanks a lot for your reply.

ankhi

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Subject: Re: Segmentation Fault - MVD digitization  
Posted by [Ankhi Roy](#) on Fri, 06 Jul 2012 08:18:06 GMT  
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Hi Ralf,

I have attached the simulation macro.  
Revision of pandaroot - 15921

svn info -

Path: .  
URL: <https://subversion.gsi.de/fairroot/pandaroot/trunk>  
Repository Root: <https://subversion.gsi.de/fairroot>  
Repository UUID: 0381ead4-6506-0410-b988-94b70fbc4730  
Revision: 15921  
Node Kind: directory  
Schedule: normal  
Last Changed Author: mpatsyuk  
Last Changed Rev: 15898  
Last Changed Date: 2012-07-03 16:32:38 +0530 (Tue, 03 Jul 2012)

ankhi

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#### File Attachments

1) [sim\\_mvd.C](#), downloaded 627 times

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