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Subject: segmentation fault during digitization (wrong mapper?)  
Posted by [Manuel Zambrana](#) on Fri, 21 May 2010 16:24:11 GMT  
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Dear all,

after a successful simulation test, we have tried digitization. We have used "case 17" for the emc geometry and we get segmentation fault when we have particles in the forward direction. We think it is a problem related to the mapper of the forward endcap or shashlyk. We used BoxGenerator and shoot photons in different directions. When we shoot in the backward region(no hits in forward endcap or shashlyk calorimeter) there is no error. When we shoot in the forward region we get the error.

Could anybody take a look to test, and eventually fix, the mapper used by the latest emc geometry?

Thank you very much.

cheers,  
manuel

ps. this is an example of the message we get in the log file when problems are found:

```
=====
#5 0x00007f87c6aba0aa in PndEmcTwoCoordIndex::XCoord (this=0x0)
   at /home/zambrana/work/software/trunk/emc/EmcTools/PndEmcTwoCoordIndex.h:59
#6 0x00007f87c6ab9c0a in PndEmcDigi (this=0xd97b0a0, trackid=0, id=509000021,
energy=0.00731491204, time=18,
hitIndex=109) at /home/zambrana/work/software/trunk/emc/EmcData/PndEmcDigi.cxx:54
#7 0x00007f87c6ad7cd6 in PndEmcWaveformToDigi::Exec (this=0x1862ee0,
opt=0x7f87c88d9290 "")
   at /home/zambrana/work/software/trunk/emc/EmcDigi/PndEmcWaveformToDigi.cxx: 133
#8 0x00007f87d3b86f90 in TTask::ExecuteTasks ()
   from /local/raid0/work/khaneftd/fairsoft/tools/root/lib/libCore.so.5.26
#9 0x00007f87d3b862cb in TTask::ExecuteTask ()
   from /local/raid0/work/khaneftd/fairsoft/tools/root/lib/libCore.so.5.26
#10 0x00007f87c8849537 in FairRunAna::Run (this=0x78de10, Ev_start=0, Ev_end=10)
   at /home/zambrana/work/software/trunk/base/FairRunAna.cxx:271
=====
```

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Subject: Re: segmentation fault during digitization (wrong mapper?)  
Posted by [Dima Melnychuk](#) on Fri, 21 May 2010 16:47:53 GMT  
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Hi Manuel,

I would recommend you to stick to the EMC geometry "case 15" for a while, since at the moment EMC with the latest version of shashlyk calorimeter (case 17) works only at the

simulation stage.

On the one hand there is still no proper digitization for shahlyk implemented and the same digitization as for the rest EMC is used.

I suppose that proper digitization of shashlyk will be implemented in the near future and this error will disappear.

However I will try to look if it's possible to suppress this error with the geometry "case 17".

Best regards,

Dima

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Dmitry Morozov](#) on Mon, 24 May 2010 06:29:16 GMT

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Hello everybody,

yes Dima is right there is no proper digitization for shashlyk yet, but I'm working in this direction right now. It will be there soon i believe. For the moment you should not use geom vers 16 and 17 for the full simulation.

Best regards,  
Dmitry.

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Dmitry Khanef](#) on Tue, 25 May 2010 12:54:26 GMT

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Dear all,

I met the same problem even with case 15. But in addition there is another problem:

```
===== EMC:: ConstructRootGeometry() m4a ===
```

```
=====
fgeoName3:: /u/dkhanef/programs/trunk/geometry/emc_module4_StraightGeo24.4.root
File name Bw1= /u/dkhanef/programs/trunk/geometry/emc_module4_StraightGeo24.4.root
You do not provide a ROOT file
```

Somehow pandaroot isn't able to load backward endcap geometry in case 15 but still can do it in other cases. I checked case 11,12 and 17.

P.S. pandaroot v.8554

Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Stefano Spataro](#) on Tue, 25 May 2010 14:02:51 GMT

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Is it just a message, or the detector is completely missing in the simulation?

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Dmitry Khaneft](#) on Tue, 25 May 2010 14:23:26 GMT

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Stefano Spataro wrote on Tue, 25 May 2010 16:02: Is it just a message, or the detector is completely missing in the simulation?

Sorry, it is just a message.

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Stefano Spataro](#) on Tue, 25 May 2010 14:25:39 GMT

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I suppose that is another "cout" forgotten inside the code...

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Dmitry Khaneft](#) on Tue, 25 May 2010 14:59:13 GMT

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I looked for cout command and I have found it only in ConstructGeometry() function in PndEmc.cxx. I think that during an introduction of cases 16 and 17 some part of code has been changed. Probably ConstructGeometry() is called somewhere one more time without specifying a name of the detector which cause the message during simulation.

It should really tell you that something going wrong with your geometry but normally it shouldn't print this message.

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Subject: Re: segmentation fault during digitization (wrong mapper?)

Posted by [Dmitry Morozov](#) on Wed, 26 May 2010 09:30:57 GMT

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I have removed forgotten "cout" and fixed issue with wrong message about "You do not provide a ROOT file"

Dmitry

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