Subject: Simulation For a particular branch
Posted by Ajay Kumar on Mon, 22 Oct 2012 15:56:51 GMT
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Hi ..

I want to simulate events for a virtual particle calls "geantino" in such a way that somehow I could be able to get a particular branch "FairRadLenPoint" after the simulation.

Actually I want to plot Radiation length map.

Can anybody suggest me how I can get the particular branch after simulation ?

Regards & Thanks

Subject: Re: Simulation For a particular branch
Posted by Simone Bianco on Tue, 23 Oct 2012 10:43:49 GMT
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Hi,

in your simulation macro add the line:

fRun->SetRadLenRegister(kTRUE);

before the Init();

This will enable the creation of the branch and the storing of the rad length info.

If I remember correctly in the past you had to set to kFALSE also the second parameter passed to the ctor of the detector you wanted to map in order to take into account active volumes as well.
For example to map the MVD rad length we were using

FairDetector *Mvd = new PndMvdDetector("MVD", kFALSE);

but this might have changed in the meanwhile.

Cheers,

Simone

Subject: Re: Simulation For a particular branch
Posted by Ajay Kumar on Tue, 23 Oct 2012 19:37:01 GMT
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Subject: Re: Simulation For a particular branch
Posted by Ajay Kumar on Tue, 23 Oct 2012 19:40:33 GMT
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Hello Simone.

Thanks for your reply.

I have done as you suggest me.I was trying to simulate "neutral geantino" particle (pdgcode-100) by using single particle box generator to get the radiation lenth info.but as I run it getting crashed.crash is look like as:-

```
Processing run_sim_radlength.C...
Warning in <TClassTable::Add>: class PndSdsTask already in TClassTable
Warning in <TClassTable::Add>: class PndSdsMCPoint already in TClassTable
Warning in <TClassTable::Add>: class PndSdsDigi already in TClassTable
Warning in <TClassTable::Add>: class PndSdsStrip already in TClassTable
Warning in <TClassTable::Add>: class PndSdsDetector already in TClassTable
FairRootManager::OpenOutFile("Simulation.root")
[INFO   ] Media file used : /home/ajay/pandaroot/geometry/media_pnd.geo
Info in (PndGeoHandling::Instance): Making a new instance using the framework.
 -I container name PndEmcGeoPar
[INFO   ] ==============  FairRunSim: Initialising simulation run ==============
Info in <TGeoManager::TGeoManager>: Geometry FAIRGeom, FAIR geometry created
-I- FairGeoMedia  Read media
 -I container name PndEmcDigiPar
 -I container name PndEmcDigiNonuniformityPar

************************************************************
    initialisation for run id 1612715927
************************************************************
[ERROR  ] init() PndEmcGeoPar  not initialized
[ERROR  ] init() PndSensorNamePar  not initialized
PndEmcDigiPar initialized from Ascii file
[ERROR  ] init() PndEmcDigiNonuniformityPar  not initialized
Error in <FairRuntimeDb::initContainers()>: Error occured during initialization
[INFO   ] Create visualisation manager
[INFO   ] ---------- Standard Config is called ----------------------------------
Loading Geant3 libraries ...
Loading Geant3 libraries ... finished

 MZSTOR.  ZEBRA table base TAB(0) in /MZCC/ at adr   550579135    20D12BBF HEX

 MZSTOR.  Initialize Store  0  in /GCBANK/
        with Store/Table at absolute adrs   550688477   550579135
                                HEX    20D2D6DD    20D12BBF
                                HEX       1A72A           0
                        relative adrs      108330           0
        with     1 Str. in     2 Links in   5300 Low words in 4999970 words.
        This store has a fence of   16 words.

 MZLOGL.  Set Log Level 0 for store  0
```

```
1*****  GEANT Version  3.21/11 Released on 100298
0*****  Correction Cradle Version  0.1100

 MZDIV.   Initialize Division  Constant  in Store  0
        NW/NWMAX=   20004000000,  MODE/KIND=  1  2
        Division 20 initialized.

 MZLINK.  Initialize Link Area  /GCLINK/  for Store  0 NL/NS=    20    20

 MZLINK.  Initialize Link Area  /GCSLNK/  for Store  0 NL/NS=   100   100
-I- G3Config: Geant3 with TGeo has been created.
SetCuts Macro: Setting Processes..
SetCuts Macro: Setting cuts..
Fatal in <PndBoxGenerator::PndBoxGenerator>: PDG code 100 not defined.
aborting
#0  0x00007f8e997e20ee in waitpid () from /lib/x86_64-linux-gnu/libc.so.6
#1  0x00007f8e99774e8e in ?? () from /lib/x86_64-linux-gnu/libc.so.6
#2  0x00007f8e9a6921a7 in TUnixSystem::StackTrace() () from
/home/ajay/fairsoft/lib/root/libCore.so.5.34
#3  0x00007f8e9a5d84c2 in DefaultErrorHandler(int, bool, char const*, char const*) () from
/home/ajay/fairsoft/lib/root/libCore.so.5.34
#4  0x00007f8e9a5d89de in ErrorHandler () from /home/ajay/fairsoft/lib/root/libCore.so.5.34
#5  0x00007f8e9a5e8631 in TObject::Fatal(char const*, char const*, ...) const () from
/home/ajay/fairsoft/lib/root/libCore.so.5.34
#6  0x00007f8e8b9d7769 in PndBoxGenerator::Init (this=0x15d2870) at
/home/ajay/pandaroot/pgenerators/PndBoxGenerator.cxx:63
#7  0x00007f8e8dbbed91 in FairPrimaryGenerator::Init (this=0x15cb7a0) at
/home/ajay/pandaroot/base/FairPrimaryGenerator.cxx:92
#8  0x00007f8e8dbb612d in FairMCApplication::AddIons (this=0x160b910) at
/home/ajay/pandaroot/base/FairMCApplication.cxx:824
#9  0x00007f8e82f62dff in TGeant3::Init() () from /home/ajay/fairsoft/lib/libgeant321.so
#10 0x00007f8e8dbb2f95 in FairMCApplication::InitMC (this=0x160b910, setup=0x1630510
"/home/ajay/pandaroot/gconfig/g3Config.C", cuts=0x16304d0
"/home/ajay/pandaroot/gconfig/SetCuts.C") at
/home/ajay/pandaroot/base/FairMCApplication.cxx:210
#11 0x00007f8e8dbe8b7c in FairRunSim::SetMCConfig (this=0x14545a0) at
/home/ajay/pandaroot/base/FairRunSim.cxx:345
#12 0x00007f8e8dbe7422 in FairRunSim::Init (this=0x14545a0) at
/home/ajay/pandaroot/base/FairRunSim.cxx:196
#13 0x00007f8e8dc57116 in G__G__BaseDict_998_0_5 (result7=0x7fff787a4910,
funcname=0xc665c0 "", libp=0x7fff78799f00, hash=0) at
/home/ajay/pandaroot/buildPanda/base/G__BaseDict.cxx:14814
#14 0x00007f8e989ad6a6 in Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) () from
/home/ajay/fairsoft/lib/root/libCint.so.5.34
#15 0x00007f8e98a50d31 in G__execute_call () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#16 0x00007f8e98a51130 in G__call_cppfunc () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#17 0x00007f8e98a317f2 in G__interpret_func () from
/home/ajay/fairsoft/lib/root/libCint.so.5.34
#18 0x00007f8e98a1dd28 in G__getfunction () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#19 0x00007f8e98b05f93 in G__getstructmem(int, G__FastAllocString&, char*, int, char*, int*,
G__var_array*, int) () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
```

#20 0x00007f8e98aff9e0 in G__getvariable () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#21 0x00007f8e989f9a32 in G__getitem () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#22 0x00007f8e98a0040f in G__getexpr () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#23 0x00007f8e98a81596 in G__exec_statement () from
/home/ajay/fairsoft/lib/root/libCint.so.5.34
#24 0x00007f8e98a2fd09 in G__interpret_func () from
/home/ajay/fairsoft/lib/root/libCint.so.5.34
#25 0x00007f8e98a1dfba in G__getfunction () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#26 0x00007f8e989fa1a1 in G__getitem () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#27 0x00007f8e98a0040f in G__getexpr () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#28 0x00007f8e98a09e4c in G__calc_internal () from /home/ajay/fairsoft/lib/root/libCint.so.5.34
#29 0x00007f8e98a8db69 in G__process_cmd () from
/home/ajay/fairsoft/lib/root/libCint.so.5.34
#30 0x00007f8e9a65da7d in TCint::ProcessLine(char const*, TInterpreter::EErrorCode*) ()
from /home/ajay/fairsoft/lib/root/libCore.so.5.34
#31 0x00007f8e9a654463 in TCint::ProcessLineSynch(char const*, TInterpreter::EErrorCode*)
() from /home/ajay/fairsoft/lib/root/libCore.so.5.34
#32 0x00007f8e9a5c0998 in TApplication::ExecuteFile(char const*, int*, bool) () from
/home/ajay/fairsoft/lib/root/libCore.so.5.34
#33 0x00007f8e9a5bf6db in TApplication::ProcessLine(char const*, bool, int*) () from
/home/ajay/fairsoft/lib/root/libCore.so.5.34
#34 0x00007f8e9a21660a in TRint::Run(bool) () from /home/ajay/fairsoft/lib/root/libRint.so.5.34
#35 0x000000000040105c in main ()

Am I doing something wrong to simulate this particle?

Is there another way to simulate geantino particle to extract the radiation lenth info by using a particular generator for a particular detector??

I have attached my sim macro here also.
Again help is expecting

Regards & Thanks

File Attachments

1) run_sim_radlength.C, downloaded 424 times

Subject: Re: Simulation For a particular branch
Posted by Simone Bianco on Tue, 23 Oct 2012 19:57:06 GMT
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Hi,

the pdgcode for geantinos should be 0 and not 100.
In your log you find a complain about wrong pdgcode provided to the box generator.
Quote:Fatal in <PndBoxGenerator::PndBoxGenerator>: PDG code 100 not defined.

Simone

Subject: Re: Simulation For a particular branch
Posted by Ajay Kumar on Fri, 26 Oct 2012 13:27:31 GMT
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Hi Simone,

It works fine with zero pdgcode, but it is given 100 for geantino and 101 for charged geantino in evt.pdl.

why we are taking pdgcode 0 for geantino?
what will be the pdgcode for charged geantino?

Thanks

Subject: Re: Simulation For a particular branch
Posted by StefanoSpataro on Fri, 26 Oct 2012 13:32:39 GMT
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Forget about evt.pdl, that file is for evtgen and you are not using it.
0 is the correct number, from Root particle code.