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Subject: Re: STTPoints do not match with STTHelixHit  
Posted by [Lia Lavezzi](#) on Thu, 23 Apr 2009 10:07:26 GMT  
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Hi Tobias,

I tried to run your macros but I get some crash:

1) runMvdSim.C: I switched from FairEvtGenGenerator to FairBoxGenerator since I don't have the data file from EvtGen but it crashes with this error

### Run 0 start.

FairMCApplication::GeneratePrimaries()

-I FairPrimaryGenerator: 10 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)

>>> Event 0

```
*** Break *** segmentation violation
Using host libthread_db library "/lib/tls/libthread_db.so.1".
Attaching to program: /proc/7719/exe, process 7719
[Thread debugging using libthread_db enabled]
[New Thread -1208269120 (LWP 7719)]
0x00a8d7a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1 0x067270f3 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2 0x066d07b9 in do_system () from /lib/tls/libc.so.6
#3 0x009f298d in system () from /lib/tls/libpthread.so.0
#4 0x0032c180 in TUnixSystem::Exec (this=0x8b14638,
#5 0x0032c634 in TUnixSystem::StackTrace (this=0x8b14638)
    at core/unix/src/TUnixSystem.cxx:2121
#6 0x0032a479 in TUnixSystem::DispatchSignals (this=0x8b14638,
    sig=kSigSegmentationViolation) at core/unix/src/TUnixSystem.cxx:1089
#7 0x00328315 in SigHandler (sig=kSigSegmentationViolation)
    at core/unix/src/TUnixSystem.cxx:351
#8 0x0032f38c in sighandler (sig=11) at core/unix/src/TUnixSystem.cxx:3344
#9 <signal handler called>
#10 0x060c2a74 in TGeoVoxelFinder::GetValidExtra (this=0xac48e18,
    array1=0xac4b395 "\224\226\222\022\020 ",
    ncheck=@0xbff1b2c8) at geom/geom/src/TGeoVoxelFinder.cxx:605
#11 0x060c4791 in TGeoVoxelFinder::GetNextCandidates (this=0xac48e18,
    point=0xbff1b320, ncheck=@0xbff1b2c8)
    at geom/geom/src/TGeoVoxelFinder.cxx:1166
#12 0x060c57f7 in TGeoVoxelFinder::GetNextVoxel (this=0xac48e18,
    point=0xbff1b320, ncheck=@0xbff1b2c8)
    at geom/geom/src/TGeoVoxelFinder.cxx:1484
#13 0x0608d10a in TGeoShapeAssembly::DistFromOutside (this=0x95de2b0,
    point=0xbff1b3e0, dir=0xbff1b3c0, iact=3, step=1411.954476830846, safe=0x0)
    at geom/geom/src/TGeoShapeAssembly.cxx:230
#14 0x0608d030 in TGeoShapeAssembly::DistFromOutside (this=0x95df438,
    point=0xbff1b4d0, dir=0xbff1b4b0, iact=3, step=1411.954476830846, safe=0x0)
    at geom/geom/src/TGeoShapeAssembly.cxx:213
#15 0x0608d030 in TGeoShapeAssembly::DistFromOutside (this=0x961b5b8,
    point=0xbff1b5c0, dir=0xbff1b5a0, iact=3, step=1411.954476830846, safe=0x0)
    at geom/geom/src/TGeoShapeAssembly.cxx:213
#16 0x0608d030 in TGeoShapeAssembly::DistFromOutside (this=0x965ef80,
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point=0xbff1b6c0, dir=0xbff1b6a0, iact=3, step=1411.954476830846, safe=0x0)
at geom/geom/src/TGeoShapeAssembly.cxx:213
#17 0x0605c574 in TGeoNavigator::FindNextDaughterBoundary (this=0x91820c8,
point=0xbff1b830, dir=0xbff1b810, idaughter=@0xbff1b808, compmatrix=true)
at geom/geom/src/TGeoNavigator.cxx:909
#18 0x0605b0b6 in TGeoNavigator::FindNextBoundary (this=0x91820c8,
stepmax=25697.528866946272, path=0x6f4c01a "", frombdr=true)
at geom/geom/src/TGeoNavigator.cxx:613
#19 0x0604042c in TGeoManager::FindNextBoundary (this=0x8f167c0,
stepmax=-25697.528866946272, path=0x6f4c01a "", frombdr=true)
at geom/geom/src/TGeoManager.cxx:2295
#20 0x06f43dc9 in TG4RootNavigator::ComputeStep (this=0xc65c830,
pGlobalPoint=@0xbff1bb60, pDirection=@0xbff1bb80,
pCurrentProposedStepLength=256975.28866946368, pNewSafety=@0xbff1bbb0)
at montecarlo/g4root/src/TG4RootNavigator.cxx:143
#21 0x03876012 in G4Transportation::AlongStepGetPhysicalInteractionLength (
this=0xe890d00, track=@0xf38e100, currentMinimumStep=256975.28866946368,
currentSafety=@0xbff1bc50, selection=0xc663824)
at src/G4Transportation.cc:227
#22 0x05ab362c in G4VProcess::AlongStepGPIL (this=0xe890d00, track=@0xf38e100,
previousStepSize=32.659569449450601, currentMinimumStep=256975.28866946368,
proposedSafety=@0xbff1bc50, selection=0xc663824)
at
/home/lavezzi/fairsoft2/fairsoft/transport/geant4/source/processes/management/include/G4VPr
ocess.hh:425
#23 0x05ab235f in G4SteppingManager::DefinePhysicalStepLength (this=0xc663718)
at src/G4SteppingManager2.cc:218
#24 0x05ab6c74 in G4SteppingManager::Stepping (this=0xc663718)
at src/G4SteppingManager.cc:181
#25 0x05ac05ea in G4TrackingManager::ProcessOneTrack (this=0xc6636b0,
apValueG4Track=0xf38e100) at src/G4TrackingManager.cc:126
#26 0x05e3ef3b in G4EventManager::DoProcessing (this=0xc663668,
anEvent=0xc66f6a8) at src/G4EventManager.cc:185
#27 0x05e3f72b in G4EventManager::ProcessOneEvent (this=0xc663668,
anEvent=0xc66f6a8) at src/G4EventManager.cc:335
#28 0x05d9f66f in G4RunManager::DoEventLoop (this=0xc6635b8, n_event=10,
macroFile=0x0, n_select=-1) at src/G4RunManager.cc:235
#29 0x05d9ef99 in G4RunManager::BeamOn (this=0xc6635b8, n_event=10,
macroFile=0x0, n_select=-1) at src/G4RunManager.cc:140
#30 0x07cb3925 in TG4RunManager::ProcessRun (this=0x93fd4c0, nofEvents=10)
at run/src/TG4RunManager.cxx:388
#31 0x07cba5f2 in TGeant4::ProcessRun (this=0x93f8e30, nofEvents=10)
at run/src/TGeant4.cxx:1140
#32 0x07dafec4 in FairMCApplication::RunMC (this=0x9189258, nofEvents=10)
at /home/lavezzi/test_dev/geanefor/trunk/base/FairMCApplication.cxx:228
#33 0x07dc91f6 in FairRunSim::Run (this=0x9103990, NStart=10, NStop=0)
at /home/lavezzi/test_dev/geanefor/trunk/base/FairRunSim.cxx:289
#34 0x07dfefb5 in G__FairDict_532_0_5 (result7=0xbff23300,
funcname=0x91019a0 "\001", libp=0xbff1d480, hash=0)
at /home/lavezzi/test_dev/geanefor/trunk/cbuild/base/FairDict.cxx:9292
#35 0x00b0bc0d in Cint::G__ExceptionWrapper (
funcp=0x7dfeade <G__FairDict_532_0_5>, result7=0xbff23300,

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funcname=0x91019a0 "\001", libp=0xbff1d480, hash=0)
at cint/cint/src/Api.cxx:364
#36 0x00bb2ddd in G__execute_call (result7=0xbff23300, libp=0xbff1d480,
ifunc=0x91019a0, ifn=0) at cint/cint/src/newlink.cxx:2305
#37 0x00bb3422 in G__call_cppfunc (result7=0xbff23300, libp=0xbff1d480,
ifunc=0x91019a0, ifn=0) at cint/cint/src/newlink.cxx:2471
#38 0x00b951b0 in G__interpret_func (result7=0xbff23300,
funcname=0xbff22f00 "Run", libp=0xbff1d480, hash=309, p_ifunc=0x91019a0,
funcmatch=1, memfunc_flag=1) at cint/cint/src/ifunc.cxx:5245
#39 0x00b7bc28 in G__getfunction (item=0xbff26146 "Run(nEvents)",
known3=0xbff2555c, memfunc_flag=1) at cint/cint/src/func.cxx:2534
#40 0x00c691cf in G__getstructmem (store_var_type=112,

tagname=0xbff23760 "fRun", known2=0xbff2555c, varglobal=0xd06ca0, objptr=2)
at cint/cint/src/var.cxx:6623
#41 0x00c5ccb6 in G__getvariable (item=0xbff26140 "fRun->Run(nEvents)",
known=0xbff2555c, varglobal=0xd06ca0, varlocal=0x0)
at cint/cint/src/var.cxx:5252
#42 0x00b6f873 in G__getitem (item=0xbff26140 "fRun->Run(nEvents)")
at cint/cint/src/expr.cxx:1884
#43 0x00b6dee2 in G__getexpr (expression=0xbff27a30 "fRun->Run(nEvents)")
at cint/cint/src/expr.cxx:1470
#44 0x00bda2ca in G__exec_function (statement=0xbff27a30 "fRun->Run(nEvents)",
pc=0xbff27e5c, piout=0xbff27e54, plargestep=0xbff27e44, presult=0xbff27a00)
at cint/cint/src/parse.cxx:601
#45 0x00be636a in G__exec_statement (mparen=0xbff27ec0)
at cint/cint/src/parse.cxx:6972
#46 0x00b4bf98 in G__exec_tempfile_core (
file=0xbff30cc0 "/home/lavezzi/test_dev/geanefor/trunk/macro/mvd/Tobias/./runMvdSim.C",
fp=0x0) at cint/cint/src/debug.cxx:251
#47 0x00b4d4fc in G__exec_tempfile (
file=0xbff30cc0 "/home/lavezzi/test_dev/geanefor/trunk/macro/mvd/Tobias/./runMvdSim.C")
at cint/cint/src/debug.cxx:798
#48 0x00bf1238 in G__process_cmd (line=0x717552 "cbmroot.Drc.DrcBarPoint_]",
prompt=0x8b177ec "", more=0x8b177e4, err=0xbff3152c, rslt=0xbff31530)
at cint/cint/src/pause.cxx:3074
#49 0x00317724 in TCint::ProcessLine (this=0x8b177c8,
line=0x717552 "cbmroot.Drc.DrcBarPoint_]", error=0xbff33d24)
at core/meta/src/TCint.cxx:339
#50 0x00317af9 in TCint::ProcessLineSynch (this=0x8b177c8,
line=0x717552 "cbmroot.Drc.DrcBarPoint_]", error=0xbff33d24)
at core/meta/src/TCint.cxx:406
#51 0x0022b879 in TApplication::ExecuteFile (file=0xbff31cc3 "runMvdSim.C",
error=0xbff33d24) at core/base/src/TApplication.cxx:935
#52 0x0022b129 in TApplication::ProcessFile (this=0x8b38570,
file=0xbff31cc3 "runMvdSim.C", error=0xbff33d24)
at core/base/src/TApplication.cxx:825
#53 0x0022b065 in TApplication::ProcessLine (this=0x8b38570,
line=0xbff31cc0 ".x runMvdSim.C", sync=false, err=0xbff33d24)
at core/base/src/TApplication.cxx:798
#54 0x008c3df6 in TRint::Run (this=0x8b38570, retrn=false)
at core/rint/src/TRint.cxx:355

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#55 0x08048df7 in main (argc=1, argv=0xbff33e04) at main/src/rmain.cxx:29

If I change the solenoid geo file from PandaSolenoidV833.root to FullSolenoid.root (I copied this from tutorials/lhetrack/run\_sim\_sttcombi\_pgun.C) it goes to the end without problems... I don't exactly know why;

2) runMvdDigi.C: it crashes with this message

-I- PndMvdNoiseProducer: Intialisation successfull

Warning in <TGeoManager::Init>: Deleting previous geometry: FAIRGeom/FAIR geometry

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 <TGeoManager::CloseGeometry>: 473268 nodes/ 3406 volume UID's in FAIR geometry

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

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

Using host libthread\_db library "/lib/tls/libthread\_db.so.1".

Attaching to program: /proc/7365/exe, process 7365

[Thread debugging using libthread\_db enabled]

[New Thread -1208207680 (LWP 7365)]

0x00a8d7a2 in \_dl\_sysinfo\_int80 () from /lib/ld-linux.so.2

#1 0x023ed0f3 in \_\_waitpid\_nocancel () from /lib/tls/libc.so.6

#2 0x023967b9 in do\_system () from /lib/tls/libc.so.6

#3 0x009f298d in system () from /lib/tls/libpthread.so.0

#4 0x0032c180 in TUnixSystem::Exec (this=0x9b05638,  
at core/unix/src/TUnixSystem.cxx:1941

#5 0x0032c634 in TUnixSystem::StackTrace (this=0x9b05638) at  
core/unix/src/TUnixSystem.cxx:2121

#6 0x0032a479 in TUnixSystem::DispatchSignals (this=0x9b05638,  
sig=kSigSegmentationViolation)

at core/unix/src/TUnixSystem.cxx:1089

#7 0x00328315 in SigHandler (sig=kSigSegmentationViolation) at  
core/unix/src/TUnixSystem.cxx:351

#8 0x0032f38c in sighandler (sig=11) at core/unix/src/TUnixSystem.cxx:3344

#9 <signal handler called>

#10 0x532e7475 in ?? ()

#11 0x06d1ba8a in TGeoManager::GetVolume ()

from /home/lavezzi/fairsoft2/fairsoft/tools/root\_v5.20.00/lib/libGeom.so

#12 0x03be6924 in PndMvdGeoHandling::GetPath (this=0xef6e728, id=

{\_vptr.TString = 0x6f53c8, static fgInitialCapac = 15, static fgResizeInc = 16, static  
fgFreeboard = 15, fData = 0xccc4ae8 "1\_1/84\_0/165\_1/164\_2/163\_1/146\_4/143\_1/142\_1/",  
static fgIsA = 0xa199168})

at /home/lavezzi/test\_dev/geanefor/trunk/mvd/MvdTools/PndMvdGeoHandling.cxx:90

#13 0x03bd337b in PndMvdStripHitProducer::SelectSensorParams (this=0xa372e08,  
detname=Cannot access memory at address 0x532e7475

)  
at /home/lavezzi/test\_dev/geanefor/trunk/mvd/MvdDigi/PndMvdStripHitProducer.cxx:415

#14 0x03bd257a in PndMvdStripHitProducer::Exec (this=0xa372e08, opt=0x21a6c18 "")

at /home/lavezzi/test\_dev/geanefor/trunk/mvd/MvdDigi/PndMvdStripHitProducer.cxx:224

#15 0x002a99de in TTask::ExecuteTasks (this=0xa0f3208, option=0x21a6c18 "") at  
core/base/src/TTask.cxx:298#16 0x002a97d9 in TTask::ExecuteTask (this=0xa0f3208,



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option=0x21a6c18 "") at core/base/src/TTask.cxx:261
#17 0x021455f6 in FairRunAna::Run (this=0xa10ff88, Ev_start=0, Ev_end=5)
    at /home/lavezzi/test_dev/geanefor/trunk/base/FairRunAna.cxx:248
#18 0x0217fb92 in G__FairDict_532_0_5 (result7=0xbfef9630, funcname=0xa10dff8 "\001",
libp=0xbfef37b0,
    hash=0) at /home/lavezzi/test_dev/geanefor/trunk/cbuild/base/FairDict.cxx:9288
#19 0x00b0bc0d in Cint::G__ExceptionWrapper (funcp=0x217fade <G__FairDict_532_0_5>,
result7=0xbfef9630,
    funcname=0xa10dff8 "\001", libp=0xbfef37b0, hash=0) at cint/cint/src/Api.cxx:364
#20 0x00bb2ddd in G__execute_call (result7=0xbfef9630, libp=0xbfef37b0, ifunc=0xa10dff8,
ifn=0)
    at cint/cint/src/newlink.cxx:2305
#21 0x00bb3422 in G__call_cppfunc (result7=0xbfef9630, libp=0xbfef37b0, ifunc=0xa10dff8,
ifn=0)
    at cint/cint/src/newlink.cxx:2471
#22 0x00b951b0 in G__interpret_func (result7=0xbfef9630, funcname=0xbfef9230 "Run",
libp=0xbfef37b0,
    hash=309, p_ifunc=0xa10dff8, funcmatch=1, memfunc_flag=1) at cint/cint/src/ifunc.cxx:5245
#23 0x00b7bc28 in G__getfunction (item=0xbfec476 "Run(nStart,nEvents)",
known3=0xbfebf88c, memfunc_flag=1) at cint/cint/src/func.cxx:2534
#24 0x00c691cf in G__getstructmem (store_var_type=112, varname=0xbfef9880

    membername=0xbfec476 "Run(nStart,nEvents)", tagname=0xbfef9a90 "fRun",
known2=0xbfebf88c,
    varglobal=0xd06ca0, objptr=2) at cint/cint/src/var.cxx:6623
#25 0x00c5ccb6 in G__getvariable (item=0xbfec470 "fRun->Run(nStart,nEvents)",
known=0xbfebf88c,
    varglobal=0xd06ca0, varlocal=0x0) at cint/cint/src/var.cxx:5252
#26 0x00b6f873 in G__getitem (item=0xbfec470 "fRun->Run(nStart,nEvents)") at
cint/cint/src/expr.cxx:1884
#27 0x00b6dee2 in G__getexpr (expression=0xbfeddd60 "fRun->Run(nStart,nEvents)")
    at cint/cint/src/expr.cxx:1470
#28 0x00bda2ca in G__exec_function (statement=0xbfeddd60 "fRun->Run(nStart,nEvents)",
pc=0xbfefe18c,
    piout=0xbfefe184, plargestep=0xbfefe174, presult=0xbfeddd30) at cint/cint/src/parse.cxx:601
#29 0x00be636a in G__exec_statement (mparen=0xbfefe1f0) at cint/cint/src/parse.cxx:6972
#30 0x00b4bf98 in G__exec_tempfile_core (
    file=0xbff06ff0 "/home/lavezzi/test_dev/geanefor/trunk/macro/mvd/Tobias/./runMvdDigi.C",
fp=0x0)
    at cint/cint/src/debug.cxx:251
#31 0x00b4d4fc in G__exec_tempfile (
    file=0xbff06ff0 "/home/lavezzi/test_dev/geanefor/trunk/macro/mvd/Tobias/./runMvdDigi.C")
    at cint/cint/src/debug.cxx:798
#32 0x00bf1238 in G__process_cmd (line=0x717553 "Info_]", prompt=0x9b087ec "",
more=0x9b087e4,
    err=0xbff0785c, rslt=0xbff07860) at cint/cint/src/pause.cxx:3074
#33 0x00317724 in TCint::ProcessLine (this=0x9b087c8, line=0x717553 "Info_]",
error=0xbff0a054)
    at core/meta/src/TCint.cxx:339
#34 0x00317af9 in TCint::ProcessLineSynch (this=0x9b087c8, line=0x717553 "Info_]",
error=0xbff0a054)
    at core/meta/src/TCint.cxx:406

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#35 0x0022b879 in TApplication::ExecuteFile (file=0xbff07ff3 "runMvdDigi.C",
error=0xbff0a054)
    at core/base/src/TApplication.cxx:935
#36 0x0022b129 in TApplication::ProcessFile (this=0x9b29570, file=0xbff07ff3 "runMvdDigi.C",
error=0xbff0a054) at core/base/src/TApplication.cxx:825
#37 0x0022b065 in TApplication::ProcessLine (this=0x9b29570, line=0xbff07ff0 ".x
runMvdDigi.C", sync=false, err=0xbff0a054) at core/base/src/TApplication.cxx:798
#38 0x008c3df6 in TRint::Run (this=0x9b29570, retrn=false) at core/rint/src/TRint.cxx:355
#39 0x08048df7 in main (argc=1, argv=0xbff0a134) at main/src/rmain.cxx:29
```

So I could not check the SttHelixHit myself in this case , can you please run your reconstruction adding:  
sttHHProducer->WriteHistograms()  
just after the run has finished (like in macro/stt/runreco.C) to fill the residuals histograms and post these figures? It should be more evident there how big is the difference...

Thank you and ciao,  
Lia.