Subject: G4 simulation: No MCPoint where one should be...
Posted by Simone Esch on Thu, 11 Apr 2013 09:07:31 GMT
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Dear PandaRoot Users,

in my simulation I found a problem with the creation of MCPoints.
I am simulating the decay ppbar ->Lambda Lambdabar -> pion_minus pion_plus proton antiproton.
Looking into the MC data I found a few cases, where a particle path crosses a sensitve material, but no MC Point was created (see pictures below).

We saw this in ~6 events.
I appeared something like in one event among 20 events and just for pions (plus and minus).
The output from the simulation is (Verbose=2):

>>> Event 7
-I- PndSdsDetector: Adding Point at (-1.26017, -9.74078, 39.485) cm, (-1.26333, -9.74761, 39.515) cm, detector /cave_1/CombinedLambdaDisks_0/LambdaDisk_1/LargeRing_0/StripSensorActiveLargeTrap_6 0, track 2, energy loss 561.051 keV
-I- PndSdsDetector: Adding Point at (-1.31324, -9.85647, 39.985) cm, (-1.31648, -9.86339, 40.015) cm, detector /cave_1/CombinedLambdaDisks_0/LambdaDisk_1/LargeRing_1/StripSensorActiveLargeTrap_5 0, track 2, energy loss 459.511 keV
-I- PndSdsDetector: Adding Point at (5.38529, -0.204025, 38.985) cm, (5.38924, -0.205889, 39.015) cm, detector /cave_1/CombinedLambdaDisks_0/LambdaDisk_1/SmallRing_0/StripSensorActiveSmallTrap_21 0, track 1, energy loss 113.605 keV
-I- PndSdsDetector: Adding Point at (7.74768, -1.98032, 59.985) cm, (7.75052, -1.98347, 60.015) cm, detector /cave_1/CombinedLambdaDisks_0/LambdaDisk_2/LargeRing_1/StripSensorActiveLargeTrap_8 0, track 1, energy loss 225.731 keV

-------- WWWW ------- G4Exception-START -------- WWWW -------
*** G4Exception : GeomNav1002
issued by : G4PropagatorInField::ComputeStep()
Particle is stuck; it will be killed.
Zero progress for 51 attempted steps.
Proposed Step is 1.56268e-05 but Step Taken is 1.56268e-05
For Particle with Charge = 1 Momentum = 253.548 Mass = 139.57
in volume DipolePip
*** This is just a warning message. ***
-------- WWWW -------- G4Exception-END --------- WWWW -------

-I- PndSdsDetector: Adding Point at (3.06891, 9.56976, 59.985) cm, (3.06929, 9.57481, 60.015) cm, detector /cave_1/CombinedLambdaDisks_0/LambdaDisk_2/LargeRing_1/StripSensorActiveLargeTrap_11 0, track 0, energy loss 192.765 keV
DIGI EXECUTION **********
-I- PndSdsDetector: 0 points registered in this event.
[INFO ] FairPrimaryGenerator: (Event 9) 4 primary tracks from vertex (0.000000, 0.000000,

0.000000 )  Event Time = 0.000000 (ns)

So nothing is reported about this point.

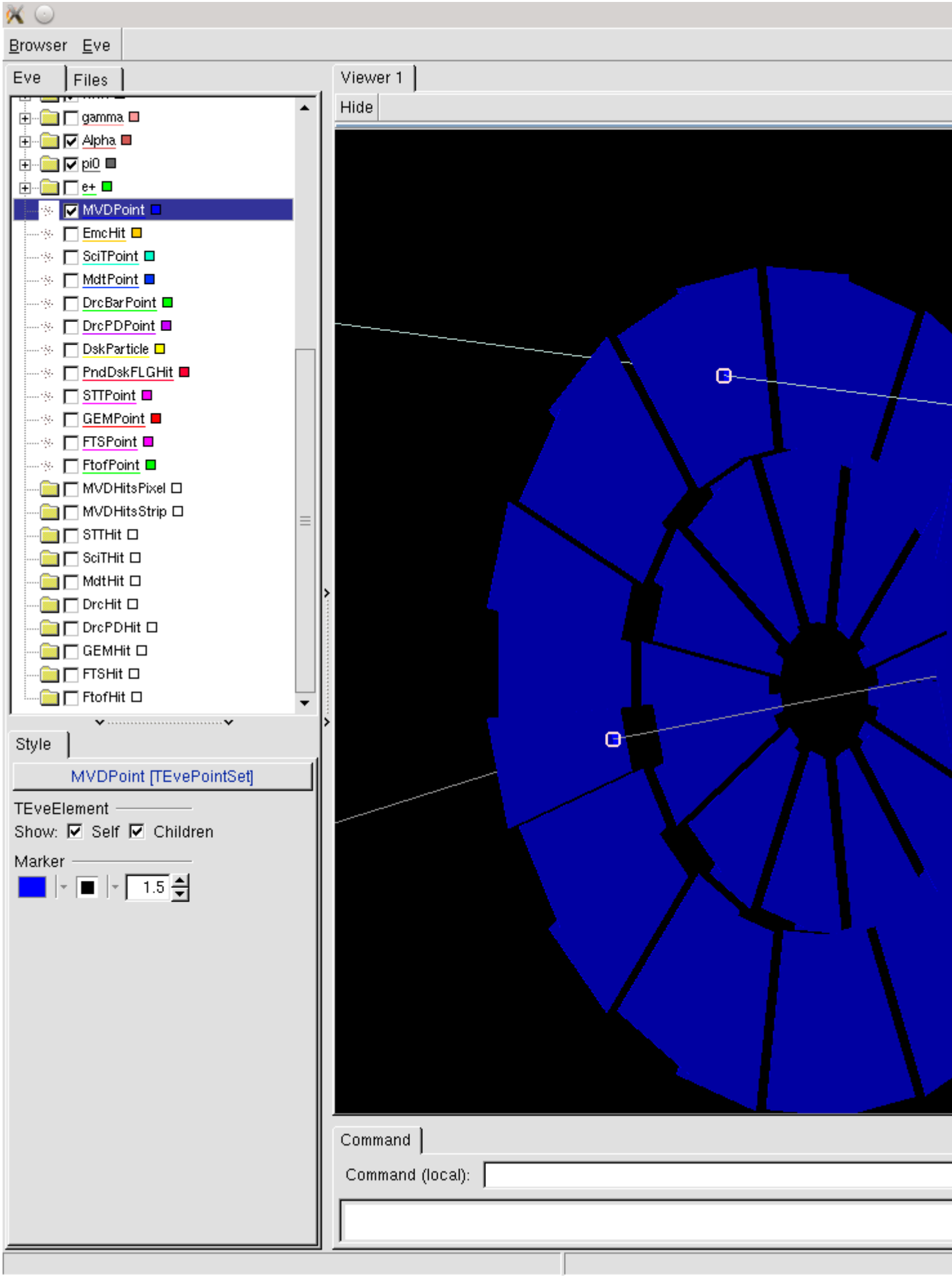
My system is:
openSUSE 12.2 Mantis - Kernel
external packages sep12
pandaroot rev 18841

Thanks

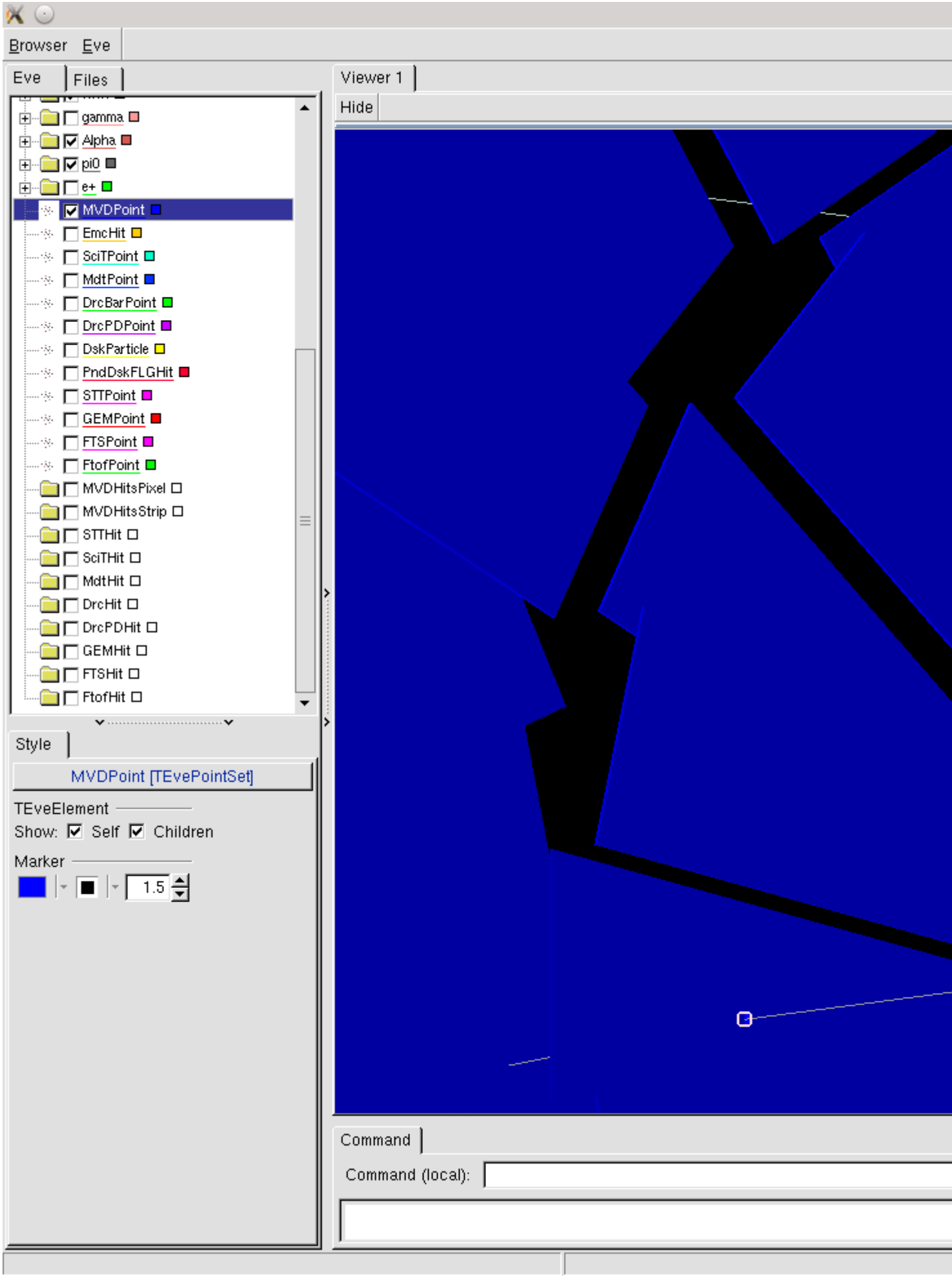
Simone

## File Attachments

1) eventDisplay_Screenshot_Event7.png, downloaded 1755 times


Browser
Eve
Eve
Files
gamma
Alpha
pi0
e+
MVDPoint
EmcHit
SciTPoint
MdtPoint
DrcBarPoint
DrcPDPoint
DskParticle
PndDskFLGHit
STTPoint
GEMPoint
FTSPoint
FtofPoint
MVDHitsPixel
MVDHitsStrip
STTHit
SciTHit
MdtHit
DrcHit
DrcPDHit
GEMHit
FTSHit
FtofHit
Style
MVDPoint [TEvePointSet]
TEveElement
Show:
Self
Children
Marker
1.5
Viewer 1
Hide
Command
Command (local):

2) eventDisplay_Screenshot_Event7_zoom.png, downloaded 1758 times


Browser
Eve
Eve
Files
gamma
Alpha
pi0
e+
MVDPoint
EmcHit
SciTPoint
MdtPoint
DrcBarPoint
DrcPDPoint
DskParticle
PndDskFLGHit
STTPoint
GEMPoint
FTSPoint
FtofPoint
MVDHitsPixel
MVDHitsStrip
STTHit
SciTHit
MdtHit
DrcHit
DrcPDHit
GEMHit
FTSHit
FtofHit
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MVDPoint [TEvePointSet]
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Command (local):