Subject: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Wed, 09 May 2012 11:05:40 GMT
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Hi,

I got another crash in the simulation task (rev = 15458, random seed = 29, otherwise as before) due to a geometry problem at z = -150.0. This time x = 21.1 and y = 48.9. In a previous crash at that z coordinate I had x = 18.4 and y = -71.5.

Obviously we don't have any active particle detector there but only dead material. Could someone who is/feels competent and responsible for the geometry check what the problem really is, in order to eventually remove this kind of bugs?

Best regards,
Albrecht

File Attachments

1) crash_29.txt, downloaded 480 times

Subject: Re: another crash due to problem at z = -150
Posted by StefanoSpataro on Wed, 09 May 2012 11:34:14 GMT
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Hi,
I loaded the full geometry and found the following:

root [14] TGeoNode* node =
gGeoManager->FindNode(21.128305435180664,48.875217437744141,-150.0001220703125)
root [15] node->GetName()
(const char* 0x3e13b99)"DrcPDSensor_1"

It seems a problem of DIRC, then.
Just to be sure, you could try the same with the geoemtry you are using. Ppen the param file, load the rootlogon:

root [1] .x $VMCWORKDIR/gconfig/rootlogon.C

Open a TBrowser, and click on FairBaseParSet... this should load the geometry. After you can do the "FindNode" putting the coordinates of your crash, as I did, and you should find (hopefuly) the same node name.

Subject: Re: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Wed, 09 May 2012 13:17:27 GMT

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Dear Stefano,

Thank you for your message, but following your suggestion I got another crash with segmentation violation, exactly when I clicked on FairBaseParSet. The error output of the crash is attached below.

I asked Marius to check what I did: he did the same with his installation and also got a crash at the same point.

What's wrong?

Best regards,
Albrecht

File Attachments
1) crash_geo.txt, downloaded 428 times

Subject: Re: another crash due to problem at z = -150
Posted by StefanoSpataro on Wed, 09 May 2012 13:22:19 GMT
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In theory the crash you are reporting was fixed on march 14. Are you sure you are using an updated trunk? At least scitil folder should be updated.

Subject: Re: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Wed, 09 May 2012 13:39:06 GMT
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Dear Stefano,

As you can see from my message of yesterday, I did an svn update around 1 p.m., and, with svn info, I get rev 15458.

What else can I do?

And what about the new crash related to checking the geometry? Why does this not work?

Hope the puzzle can be solved.

Best regards,
Albrecht

Subject: Re: another crash due to problem at z = -150
Posted by StefanoSpataro on Wed, 09 May 2012 13:53:28 GMT

In my folder the geoemtry is working, so I cannot understand what is wrong with your computer.
About the original crash, DIRC people should take a look.

Subject: Re: another crash due to problem at z = -150
Posted by Maria Patsyuk on Wed, 09 May 2012 14:57:31 GMT

Hi,

I'm responsible for the DIRC simulation and unfortunately I did not get the idea how do you get this crash. I'd like to help you if you provide me some details.

Best regards,
Maria

Subject: Re: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Wed, 09 May 2012 15:53:44 GMT

Dear Maria,

I think the crash happens if a (primary or secondary) particle hits the specified volume element (x = 21.1, y = 48.9, z = -150.0). I can only give you the conditions with which I got the crash:

PandaRoot Revision: 15458
Reaction: 4.0 GeV/c pbar + d --> p phi pi-
start random seed: 29
--> crash at event 779

I attach the decay file and the simulation macro below. I think together with the revision number this is the best you can do to try to reproduce the crash.

Just run
root -b -q "run_sim_stt_evt.C(nEvents,29)"
with nEvents > 779.

However, I don't know whether on your computer you get exactly the same random numbers as I get. If not, you won't hit this volume element.

By the way, I got a similar crash with rev = 15051, start random seed = 17 at event 649 at x = 18.4, y = -71.5, z = -150.0, see my posted message of April 16. That's why I thought that we have a specific geometry problem at z = -150.0.

Maybe there is a faster way to test this by directly creating a particle which hits these volume elements but I don't know how to do this easily.

If you get something, please let me know.

Best regards,
Albrecht

File Attachments

1) run_sim_stt_evt.C, downloaded 468 times
2) apd2pphipim.dec, downloaded 438 times

Subject: Re: another crash due to problem at z = -150
Posted by StefanoSpataro on Wed, 09 May 2012 16:40:24 GMT
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In my PC event 779 is fine, now I am trying different seed numbers to find the crash. how much is the failure rate?

Subject: Re: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Thu, 10 May 2012 06:25:57 GMT
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Hi Stefano,

From the fact that 778 events were simulated without problems you can see that the probability to crash is of the order of 1 per mille. But I guess the probability to exactly get the crash in this volume element is even smaller.

If you used exacly my sim file, decay file and seed number, and don't get the crash, then maybe your PC creates a different history of random numbers in the course of the simulation. Is this possible?

In this case, I think trying to get exactly the same event pattern including all secondaries that creates my crash by trying different seed numbers is completely hopeless.

Another question: did you check the used geometry files in my sim file?
Maybe part of them is outdated, and this results in the second crash yesterday when trying to load the geometry as you suggested?
I don't know which are the correct geometry files to use. Is there any updated list of preferred geometry files to be used, including the recent changes? By svn update I don't get such changes if the file name changes or new geometries are implemented.

Best regards,
Albrecht

Subject: Re: another crash due to problem at z = -150
Posted by StefanoSpataro on Thu, 10 May 2012 07:23:25 GMT

Hi,
unfortunately random number chain changes with the computer, one has to find which seed number produces the crash in which system...

About the geometry, it is correct. The only "non standard" geometry is for MVD, where you used Mvd-2.1_AddDisks_FullVersion.root instead of Mvd-2.1_FullVersion.root, but the rest is fine. Usually the most updated stuff is in my macro/pid folder.

About the geometry crash, could you please check that in scitil/SciTLinkDef.h the lines with PndGeoSciTPar and PndSciTContFact are without "+":

#pragma link C++ class PndGeoSciTPar;
#pragma link C++ class PndSciTContFact;

Just to be sure.

Subject: Re: another crash due to problem at z = -150
Posted by Albrecht Gillitzer on Thu, 10 May 2012 08:11:32 GMT

Hi,

the two lines you mention are witjout "+" at the end,
the two lines before and the one afterwards are with "+".

Best regards,
Albrecht
