Subject: How to abort secondaries
Posted by Maria Patsyuk on Sun, 06 May 2012 19:34:33 GMT
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Hi pandarooters,

I'd like to prevent all the secondaries from being created. I was looking for some hint in the config files for Geant4, but didn't find anything useful.

The thing is that I'd like not to have any Cherenkov light from secondaries, so if I'll kill them on the first step, they might already have produced some Cherenkov photons, don't they?

Could you give me any hint how to do so?

Best regards,
Maria

Subject: Re: How to abort secondaries
Posted by StefanoSpataro on Mon, 07 May 2012 08:19:35 GMT
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Hi Maria,
I think that if you kill them when they are entering they do not have the "computing time" to interact and produce Cherenkov light. Have you already tried this?

Subject: Re: How to abort secondaries
Posted by Maria Patsyuk on Mon, 07 May 2012 10:39:05 GMT
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Hi Stefano,

no, I didn't try it, but I'd like to.)
What do you mean with entering? If my secondary is born while mother particle was inside a volume, does this secondary nevertheless first enter this volume?

So I should first check if a track is a secondary (trackID?) than check if it is entering and then kill?

Best regards,
Maria

Subject: Re: How to abort secondaries
Posted by StefanoSpataro on Mon, 07 May 2012 10:52:11 GMT
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I mean, in processhits, if (gMC->IsTrackEntering()) ...
Once a particle is created, first it is "entering" inside the volume, and there you can kill it once you check that the mother particle track id is different from -1.

Subject: Re: How to abort secondaries
Posted by Maria Patsyuk on Mon, 07 May 2012 14:32:31 GMT
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Thank you, Stefano!

How can I check the mother particle track id in the ProcessHits function of my detector class (PndDrc)?

Best regards,
Maria

Subject: Re: How to abort secondaries
Posted by StefanoSpataro on Mon, 07 May 2012 14:40:30 GMT
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In processhits:

gMC->GetStack()->GetCurrentParentTrackNumber(),

Subject: Re: How to abort secondaries
Posted by asanchez on Tue, 08 May 2012 08:50:58 GMT
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Dear Maria and Stefano,
Probably you can use the same thing I use to kill secondaries.

Add the function PreTrack() to your detector class before ProcessHits

void PndDrc::PreTrack(){

 // Begin of the event

 fTrackKillSecondary=kFALSE;

//member function, it should be before declared in the detector header file.

  // cout << " PndDrc::PreTrack() "<< endl;

}

In the beginning of ProcessHits,
then stop the track of being tracked by doing gMC->StopTrack();
if FTrackKillSecondary is true.

```
if(fTrackKillSecondary) {
  gMC->StopTrack();
    return kTRUE;
  }
```

Inside ProcessHits after you have stored your primaries,
do fTrackKillSecondary=KTRUE, if you have a secondary or CurrentParentTrack is not -1.

I hope it helps,

cheers
Alicia.

Subject: Re: How to abort secondaries
Posted by Maria Patsyuk on Tue, 08 May 2012 19:13:44 GMT
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Thank you, Alicia!

Nice method) I'll try.

Best regards,
Maria