Subject: [FIXED] segfault in PndFsmMvdPid.cxx
Posted by Johan Messchendorp on Tue, 22 Apr 2014 17:55:22 GMT
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Hi Ralf & Klaus,

I justed noted a "trivial" segfault with my simulations related to the piece of code below in PndFsmMvdPid.cxx.
The problem is that the parameter "part" is not always setup properly, after which it sends random "part" to MeanEnergyLoss with segfault. For example, I am running some Lambda_c simulations (4122), which might give a crash when this particle is seen in the simulations.

Greets,

Johan.

```
---------------------------------
PndFsmResponse*
PndFsmMvdPid::respond(PndFsmTrack *t)
{
  PndFsmResponse *result=new PndFsmResponse();

  result->setDetector(this);
  bool wasDetected=detected(t);
  result->setDetected(wasDetected);

  if (wasDetected && fabs(t->charge())>1e-8)
  {
    //select particle
    PidType part;                              <=========
    switch(abs(t->pdt())) {
      case 2212:part=proton; break;
      case 321: part=kaon; break;
      case 211: part=pion; break;
      case 13:  part=muon; break;
      case 11:  part=electron; break;
    }

    //build random energy loss
    _momentum = t->p4().Vect().Mag();
    _energyloss = MeanEnergyLoss(part) + mpv(part) + _rand->Landau(0, width1(part)) +
_rand->Gaus(0, width2(part))*_dEdxResMulti;  <=====
...
---------------------------
```

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by StefanoSpataro on Tue, 22 Apr 2014 18:56:51 GMT
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In theory this particle should decay and it should not be seen in simulation. The good question

is why this happens.

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Johan Messchendorp on Tue, 22 Apr 2014 21:22:08 GMT
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Hi Stefano,

Yes, it (lambdac+) indeed nicely decays albeit it with a c-tau of about 60 mum. The number of the particle 4122 does show up in the respective code which I can see with a "cout" the "part", evidently, causing the segfault. That is the information from my side. If you need more info, let me know...

Greets,

Johan.

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Ralf Kliemt on Wed, 23 Apr 2014 07:50:27 GMT
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Hi Johann,

The FastSim now does only care about "final state particles", i.e. e, mu, pi, K, p and gamma. See trunk and scrut14.

Cheers
Ralf

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by StefanoSpataro on Wed, 23 Apr 2014 07:54:52 GMT
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Can you upload the .dec file?

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Johan Messchendorp on Wed, 23 Apr 2014 09:29:10 GMT
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Hi,

Here it is...

---
noPhotos

```
Decay pbarpSystem0
  1.0  Lambda_c+ anti-Lambda_c- PHSP;
Enddecay

Decay Lambda_c+
  1.0 p+ K- pi+ PHSP;
Enddecay

End
--------------
```

(with pbarpSystem0 as unstable object of course)

j.

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by StefanoSpataro on Wed, 23 Apr 2014 09:33:23 GMT
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Then your lambdac should not reach the PndFsmTrack status.
have you seen already such crashes, or maybe this is your "educated guess"?

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Johan Messchendorp on Wed, 23 Apr 2014 09:38:05 GMT
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I have seen the crash, that is why I tried to check what is going on...

j.

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Ralf Kliemt on Wed, 23 Apr 2014 09:42:22 GMT
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Hi.

Does the bug still exist?

Ralf

Subject: Re: segfault in PndFsmMvdPid.cxx
Posted by Johan Messchendorp on Wed, 23 Apr 2014 09:50:26 GMT
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It is OK now with the newest revision of scrut14, thanks....

Greets,

Johan.