Subject: Bug in parameter handling?
Posted by Felix Boehmer on Sun, 19 Jun 2011 09:50:57 GMT
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Dear framework experts,

on our bug hunt we came across a strange behavior in the parameter management.

Apparently, when reading the parameters from the ASCII file, everything works, meaning up to the digi macro.
However, when reading in the root parameter files in the reco macro, with EXACTLY the same calls for first and second input, the parameter files are no longer found (e.g. the GAS file seems to be looked up in the wrong path)!

After 2 days of checking and re-checking every line of code in the fitting algorithms to find the problem I now have to conclude that something like a missing geometry must be the problem of the fit as well.

What is going on? Can somebody imagine how this could have been introduced with the latest upgrade? I have been working on 2 weeks old version of the rest-framework before ...

Can somebody confirm this behavior? I know that Dima saw the same thing for the TPC reco macro. Is somebody having likewise problems with the STT reco? If not, then something with the macro has to be off, but I can't find it. And I wonder why it has worked before ...

Cheers

Felix

Subject: Re: Bug in parameter handling?
Posted by Dima Melnychuk on Sun, 19 Jun 2011 10:16:15 GMT
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Hi Felix,

Talking about problem of GAS file, it's not a problem of parameter handling.
It's a problem that in PndTpcRiemannTrackingTask position of GAS file is taken not from parameters file but hardcoded value without path is used.

Calling PndTpcRiemannTrackingTask::Init at line 219

fnsectors= PndTpcDigiMapper::getInstance()->getPadPlane()->GetNSectors();

PndTpcDigiMapper is called.

If PndTpcDigiMapper was not properly initialised before, its constructor is called

PndTpcDigiMapper::PndTpcDigiMapper(bool autoinit)

with autoinit=true

and hardcoded file names are used without any path

```
if(autoinit){
    // objects instantiated here may be replace with the init method!
    fgas= new PndTpcGas("NEON-90_CO2-10_B2_PRES1013.asc",400);

    //TODO: Get these things from Database!!!
   fgem=new PndTpcGem(5000,          // Gain
                      0.02);         // Spread

   fzGem=0.;

   fpadShapes = new PndTpcPadShapePool("2mmPads.dat",
                                       *fgem,
                                      0.5, // lookup range
                                      0.02, // Lookup Step
                                      0.01); // LookupIntegrationStep

    fpadPlane= new PndTpcPadPlane("padplane.dat", fpadShapes);

 }
```

When tpc reco macro contained PndTpcClusterFinderTask initialised before PndTpcRiemannTrackingTask
there at line 128 PndTpcDigiMapper was properly initialised with parameters from RTDB

PndTpcDigiMapper::getInstance(false)->init(fpadplane,fgem,fgas,fpar->getPadShapes(),fzGem,t0,sf);

and later in PndTpcRiemannTrackingTask this properly initialised instance was called.

Dima

Subject: Re: Bug in parameter handling?
Posted by Felix Boehmer on Sun, 19 Jun 2011 10:29:37 GMT
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Thank you, Dima!

The RiemannTrackingTask uses the digimapper to get information from the padplane, which is absolute nonsense! The parameter file should be used for this, getting the padplane directly! We are fixing it right now.

I didn't see this problem before since the clusterizing was done in the reco macro for a second

time, and then the digimapper instance was still properly valid and initialized...

Thanks for the help!

I'll be keeping you updated!

Cheers

Felix

Subject: Re: Bug in parameter handling?
Posted by Felix Boehmer on Sun, 19 Jun 2011 10:48:12 GMT
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Hi Dima,

the problem is fixed in the new version of RiemannTrackingTask. However, the problem of broken Kalman fits still remains. I'll keep you updated.

Cheers

Felix
