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Subject: Reco hit production with two inputs.

Posted by [Lia Lavezzi](#) on Wed, 21 Apr 2010 15:29:17 GMT

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Hi Genfitters,

I have a question concerning the reco hit production: is it mandatory to use the GFRcoHitProducer or can I create a PndSttRecoHitProducer, inheriting from GFABsRecoHitProducer, and use that one?

I ask this because since I started using the STT tube map to access the geometrical information I had to access the parameters from inside the PndSttRecoHit::PndSttRecoHit(PndSttHelixHit \*currenthit) and this slows down the code. To speed it up I would do like I do in digi and reco:

- 1) access the parameters only once per run
- 2) fill the tubeArray with the objs PndSttTube, which represent the tubes
- 3) have something like PndSttRecoHit::PndSttRecoHit(PndSttHelixHit \*currenthit, TClonesArray \*tubeArray) to pass the tubeArray directly to the recohit and avoid accessing the parameters at each hit.

I tried the PndSttRecoHitProducer solution and it seems to me that it works, but I wanted to ask if this is "permitted" before putting it on svn.

Cheers,  
Lia.

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Subject: Re: Reco hit production with two inputs.

Posted by [Anonymous Poster](#) on Wed, 21 Apr 2010 17:26:41 GMT

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Hi Lia,

it is no problem in terms of using GENFIT. The GFABsRecoHitProducer allows you to do exactly that. Instead of the template approach of GFRcoHitProducer you solve the issue by inheritance. As far as I can tell now, it is no problem.

The point where it becomes important is at the KalmanTask level. Here you use the HitProducers. Stefano designed the common Kalman task to be used by everybody. So my question to Stefano is:

How do you configure in the KalmanTask, which hit producers are inserted in the GFRcoHitFactory for specific detector IDs? This is where Lia's question points to. Do you see any problem with her proposal?

Cheers, Christian

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Subject: Re: Reco hit production with two inputs.

Posted by [Stefano Spataro](#) on Wed, 21 Apr 2010 17:34:39 GMT

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Hi,

I have proposed to Lia to have her SttrecoHitFactory inside GenfitTools/recohit, so that there is no genfit dependence in stt package.

In PndRecoKalmanFit the standard GFRecoHitProducer is used for STT, but it is possible to modify it (only one command line in GenfitTools/recotasks/PndRecoKalmanFit.cxx::Init()), and maybe some include. Is the class PndSttTube inside pnddata/SttData or stt?

However, I cannot see any difficulties on this implementation.

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Subject: Re: Reco hit production with two inputs.  
Posted by [Lia Lavezzi](#) on Thu, 22 Apr 2010 08:21:53 GMT

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Hi Christian and Stefano,

Quote:Is the class PndSttTube inside pnddata/SttData or stt

The PndSttTube is inside the stt directory. Anyway, the CMakeLists.txt in GenfitTools/recohit has the stt directory among the INCLUDE\_DIRECTORIES, so there should be no problem.

I will try this (in my first trial I put the PndSttRecoHitProducer inside stt/sttreco) and see if it works. If so, I will put it in svn and give the instructions on the changes needed to use the stt producer and fill the map.

Thank you and ciao,  
Lia.