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Subject: new GENFIT release

Posted by [Anonymous Poster](#) on Wed, 31 Mar 2010 21:33:12 GMT

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Dear colleagues,

there is a new release of GENFIT for PANDArOOT. If you do an update on your trunk you will get revision 183 of GENFIT. The most important changes with respect to the old version are:

- the Kalman filter had a small problem which was leading to slightly wrong error estimations. The covariance matrix must be multiplied with a large factor before the fit is repeated in reverse order of hits. So far this factor was 20, which was too small. Now the factor is 500.
- we now have the possibility to use finite planes for tracking. It means that a MVD wafer for instance has a limited size and shape, e.g. a rectangle. This is particularly important for fitting looping tracks. If you are interested on details, please ask any questions, I will answer them.
- this GENFIT version is compatible with a new track representation we are working on here. It has the same track parametrization as GeaneTrackRep, also uses ROOT geometry, and is based on a Runge-Kutta algorithm. It will work for fitting tracks in the forward spectrometer. It will be introduced in detail at the next PANDA meeting.

Best regards, Christian

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Subject: Re: new GENFIT release

Posted by [Johan Messchendorp](#) on Wed, 31 Mar 2010 21:41:10 GMT

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Hi,

Christian, don't forget to change the external revision of "GenfitTools/trackrep/LSLtrackRep&GeaneTrackRep2" as well in the trunk. At the moment it is still rev. 98.

Greetings,

Johan.

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Subject: Re: new GENFIT release

Posted by [Anonymous Poster](#) on Wed, 31 Mar 2010 21:57:22 GMT

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Hi Johan,

thanks for noticing. I am aware of that. That is not an incompatibility. We will make a small change to GeaneTrackRep2 in the near future. But actually GeaneTrackRep2 is not really used in PANDArOOT, so it isn't very important. PANDArOOT uses GeanTrackRep mostly. The other version was written by me to distribute to other projects as it does not depend on any Fair classes.

LSLTrackRep is outdated and is not currently used in PANDARoot (as far as I know). But the old version is compatible with the new GENFIT release as well.

Cheers, Christian

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Subject: Re: new GENFIT release  
Posted by [asanchez](#) on Thu, 01 Apr 2010 08:13:30 GMT  
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Dear Christian ,  
concerning LsLtrackrep I'm the one who is using it, till geane  
can work properly for low momntum particle.

best regards  
Alicia Sanchez

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Subject: Re: new GENFIT release  
Posted by [Anonymous Poster](#) on Thu, 01 Apr 2010 08:47:15 GMT  
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Hi Alicia,

ooops sorry about my wrong statement. You can further use it, but soon we will have  
RKTrackRep which might work better for you. What are the particles you are tracking. What  
kind and what momentum?

Cheers, Christian

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Subject: Re: new GENFIT release  
Posted by [asanchez](#) on Thu, 01 Apr 2010 09:19:53 GMT  
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Dear christian,  
i have already tested the RKTrackRep  
by the time you have introduced it by the first time in genfit package, but the result was a little  
bit strange, maybe i should try again with the new revision .

I know that to track pions in momentum range of 80-150 Mev/c  
( that have been alreday done by the AGS -E906 collaboration but  
with drift chambers and not with silicon detectors) can be  
hard, but i think it is a exciting challenge to be solved.

I'm really glad to follow your (and pavia group) advances concerning the genfit + geane ; ).

best regards  
Alicia S.

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