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Subject: Smoothing method in class Kalman

Posted by [Anonymous Poster](#) on Wed, 11 Mar 2009 10:35:19 GMT

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Hi everybody,

I am cleaning up genfit and trying to make things a bit tighter. One item which I would like to clean up is the Kalman class. In particular I would like to remove the smoothing method for the time being.

This method was implemented as shown in Fruehwirth and Regler and it had the following point to it: To get rid of the bias on the track parameters when you only do one fitting pass. However this was never tested and used by us, since it was replaced with the much simpler approach of several-pass-fitting. We agreed in discussions that this solution is fine for use, since it gave good results.

That I want to remove this method does not mean that smoothing is going to be a problem in genfit. We just need to come up with a reason we need it and a choice for a solution. I have something in mind which I will briefly go over in my note I'm preparing.

In the moment the method is referenced in four methods, namely:

`PndLheKalmanTask::Exec()`, `PndDchKalmanTask2::Exec()`, `PndDchKalmanTask::Exec()`, and `DemoKalmanTask::Exec()`

I assume that Sebastian put it `DemoKalmanTask` and then it was just copied. In these methods smoothing is protected by a flag which is default false. Does anybody use this flag? If so, please tell me and we can discuss how to proceed. If it is not used I would kindly ask the Dch and lhetrack experts to remove those calls to `Kalman::Smoothing()`. I can do it myself if I get the write access.

I am looking forward to your (Dch, and Lhe) responses so I can continue my work!

Cheers, Christian

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