Subject: Minutes of PandaRoot Meeting May 27 are posted.
Posted by Jens Sören Lange   on Sun, 15 Jun 2008 12:46:36 GMT
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http://panda-wiki.gsi.de/cgi-bin/view/Computing/Minutes27May2008

Please note that the track object proposal is preliminary.

We will vote about it on the next PandaRoot EVO Meeting, June 17, 2008.

Subject: Re: Minutes of PandaRoot Meeting May 27 are posted.
Posted by Klaus Götzen   on Mon, 16 Jun 2008 07:31:55 GMT
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Hi all,

just wanted to give an early commment on the track proposal:
Be aware, that the TCandidate originally is not a tracking but a analysis object, so therefore I
wouldn't recommend to derive the TTrack from it.
To have some representation for the basic parameters you perhaps could think about deriving
from TFitParams.

Concerning the storage of hit indices I implemented now the class PndMicroCandidate in
RhoBase. This now is intended to contain all the measured information of a track and it also
has some members of type TArrayI (one for each tracking subdetector) forseen to contain the
hit indices.
It also has members for PID information like dE/dx and theta_C for the various detectors.
The idea is to create a TCandidate at analysis time on the fly, which has a backpointer to this
MicroCandidate giving access to all these info at analysis time.
Of course we can put everything we want to this PndMicroCandiate which then serves as the
primary candidate object.

Cheers and hear you tomorrow,
Klaus

Subject: Re: Minutes of PandaRoot Meeting May 27 are posted.
Posted by Sebastian Neubert on Mon, 16 Jun 2008 08:34:46 GMT
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Hi!

I will be at CERN tomorrow so I am not sure wether I will be able to take part in the meeting.
Here are my comments concerning the track objects:

1) For tracking tasks (e.g. Vertexing, Refitting, ...) the full covariances are needed. I did not
understand from the proposal how this will be handled. It is vital that we also keep the
correlations between the space and momentum components of the track parameters!
If we store momentum and position (6 parameters) the system is over-determined. I still do not

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understand what would be the consequences for the covariances. Probably it is no big problem to transform this into the usual 5-parameter form needed for tracking (refitting, constraint fitting..)

A short list of requirements (which data is needed):
++ For Kinematic Fits: Paramters + covariances at Vertex
++ Extrapolation without errors: Parameters at some point
++ Extrapolation with errors: Parameters, Covariances + Hits

2) How do we want to organize the data when we perform several fits on the same set of hits? (e.g. different particle hypothesis) Will this resut in several tracks each containing a copy of the hits?

Best Regards,
Sebastian.

PS: From the design point of view I.M.H.O _inheritance_ of a new object should be motivated by more than just reuse of member variables. Usefull Question: Will we ever put the objects that derive from the base class into the same container?
If you answer no or maybe to this question the code will get clearer if we do not se inheritance.