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Subject: classes for T0 Candidate algorithm implemented  
Posted by [Dominik Steinschaden](#) on Wed, 15 Mar 2017 13:32:57 GMT  
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Hi all,

today I uploaded some new classes to the trunk to provide a first Version of a T0 Candidate algorithm for timebased simulation.

The files can be found in trunk/PndTools/TimebasedTool/

The algorithm mainly consists of two classes:

PndSolCorrTask.h

is a class to correct TimeStamps of all (chosen) input Branches according to the flight path of the Particles, assuming speed of light and a straight track path from the origin. Afterwards they get sorted timewise and written to the Outputfile.

PndT0CandidateDetermination.h

Class to process sorted and time of flight corrected time stamps (of fast counters) to determine TO in the continuous read out.

Potential event times (T0 Candidates) are stored in a T0Candidates Branche in the reco.root output

PndT0CandidateTask.h

Just a MasterTask which loads the previous classes with the "standard" setting.

in Trunk/macro/qa/eventDet/ is an example macro to show how to use it.

in short: just add the following lines to your reco macro

```
PndT0CandidateTask* T0CandidateTask = new PndT0CandidateTask();  
fRun->AddTask(T0CandidateTask);
```

Attention: by default this Task is meant to processes continuous timesorted data (timebased !! Digitization)

If you want to run it on event based data add the following line before you add the task

```
PndT0CandidateTask->RunContinuous(kFALSE);
```

you can also directly use the SolCorrTask etc. with more different parameters. For informations on this look in the corresponding header files pls.

more information on how the algorithm works exactly can be found in my Presentation in the computing session of the December Meeting 2016 (<https://indico.gsi.de/conferenceDisplay.py?confId=5368>) or at previous online computing meetings.

In Addition we will set up a new entry in the computing Wiki providing the informations also there.

Cheers Dominik

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