Global Tracking

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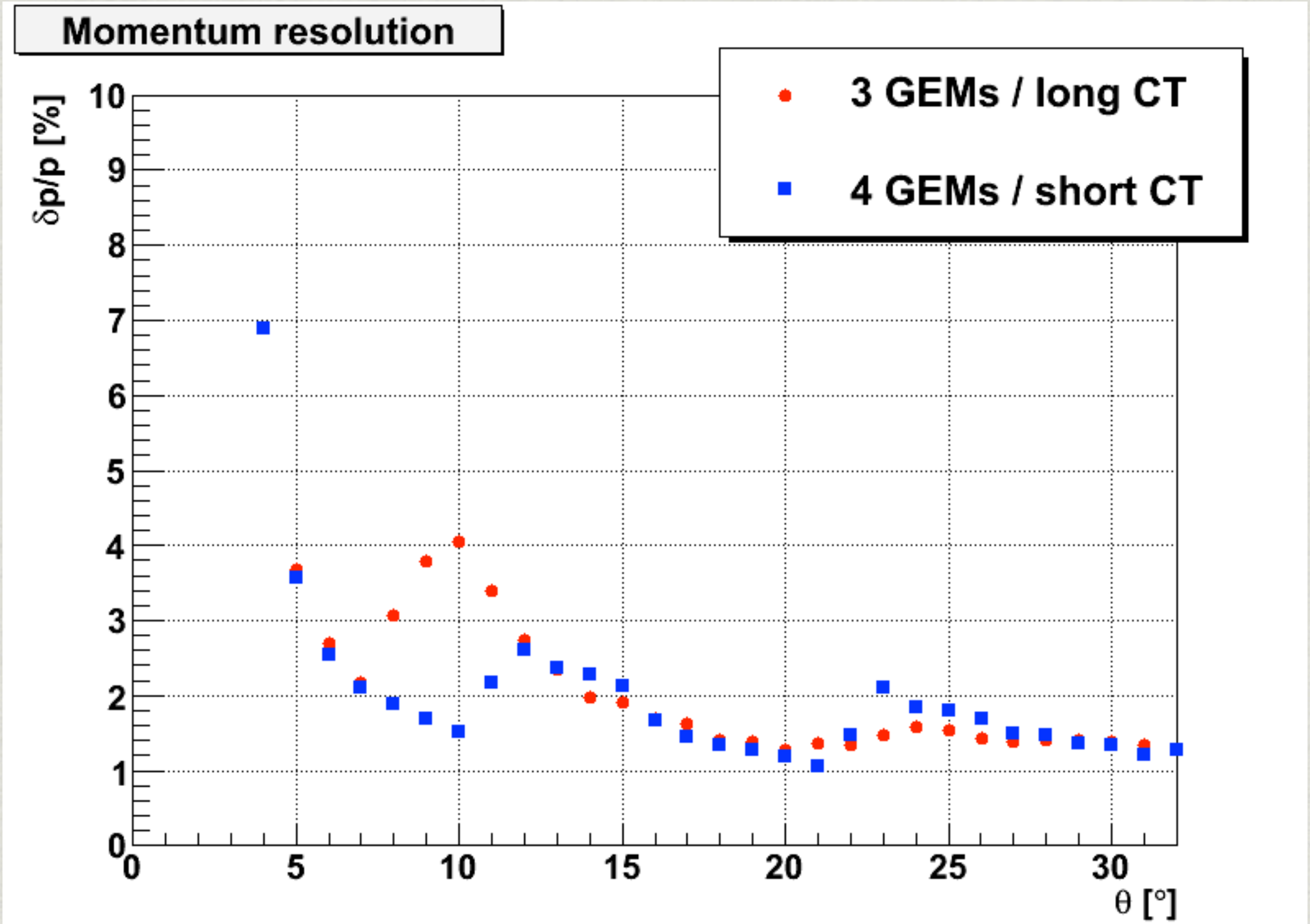
global/PndGlobalIdealTrackMerger

- Uses ideal local tracks found in various detectors (MVD, STT, TPC, GEM, DCH) to form a global track, according to the MC track index
- An array of PndTracks named “GlobalTrack” with first(last)TrackParP taken from the first(last) local track
- PndTrackCand hit list contains hits from all the local tracks
- Can run PndRecoKalmanTask

Usage

```
// ##########################################################################   MERGE
PndGlobalIdealTrackMerger* trackMerger = new PndGlobalIdealTrackMerger(iVerbose);
trackMerger->UseMvdSttTpcGemDch(kTRUE,kTRUE,kFALSE,kTRUE,kTRUE);
fRun->AddTask(trackMerger);

PndGlobalTrackMergerQA* trackMergerQA = new PndGlobalTrackMergerQA(iVerbose);
fRun->AddTask(trackMergerQA);

// ##########################################################################   FIT MERGED TRACKS
// -----   Prepare Geane   --------------------------------------------
FairGeane *Geane = new FairGeane();
fRun->AddTask(Geane);

// -----   Run Kalman fitter   ----------------------------------------
PndRecoKalmanTask* recoKalman = new PndRecoKalmanTask();
recoKalman->SetTrackInBranchName("GlobalTrack");
recoKalman->SetTrackOutBranchName("GlobalFitTrack");
fRun->AddTask(recoKalman);

PndGlobalTrackFitQA* trackFitQA = new PndGlobalTrackFitQA(0);
fRun->AddTask(trackFitQA);
```

Tracking performance



Problems...

- GEM is now returning array of PndTracks, all other ideal track finders return arrays of PndTrackCands
- for the DCH ideal track merger works, but KalmanFitter crashes in some events

Plans

- Create PndGlobalTrackMerger:
  - do not use MC information
  - propagate and match local tracks