Fiducial cut study & recalibrator update

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CNT fiducial cut study

- Procedure
 - define run groups
 - check stability at the run groups
 - tune simulation and decide fiducial cut

√tune in 3D parameter space : phi0, zed, and charge/pT

- Track cut
 - event cut : BBC charge>50 && |BBC Z-vertex|<8cm
 - track cut : quality=31 or 63 && p>1GeV/c
 - e-ID cut : E/p>0.7 && n0>=3 && disp<5 && chi2/npe0<10
 - ✓Cut parameters are not enough. I will update results using final cut parameter set.
- Use files made for QA for the study



Define run group



- Divide into 4 run groups
- 1st-2nd : increase DCH dead area
- 2nd-3rd : Magnetic field is inverted and repair work for VTXP was done (4th repair).
- 3rd-4th : increase DCH live area

Stability at run group 3 : phi0

• divide run group 3 into 4 small sub-run groups and compared them scaled by the number of events.



difference at each bin is within statistical error

Stability at run group 3 : zed



difference at each bin is within statistical error.

Fiducial cut for run group 3

• Tuning of simulation is not done since simulation data are not ready. But I made draft version of fiducial cut by checking dead area using data of a subrun group.



Recalibrator update

- I updated recalibrator for VTX
 - SvxCentralTrackRecalList, SvxCentralTrackRecal : output of the recalibrator
 - SvxCentralTrackRecalReco : basic part of recalibrator
 - SvxCentralTrackReFit : refitting module
 - ✓ location in CVS : offline/framework/recal/
- You need special setup to activate refitting module. See the following example.
 - /direct/phenix+hhj/akimoto/svx/ana/recal/
 - Analysis class : see /direct/phenix+hhj/akimoto/svx/ana/recal/RecalAna.C and RecalAna.h
 - Analysis macro : /direct/phenix+hhj/akimoto/svx/ana/recal/wrk/ run_compactCNT_example.C