

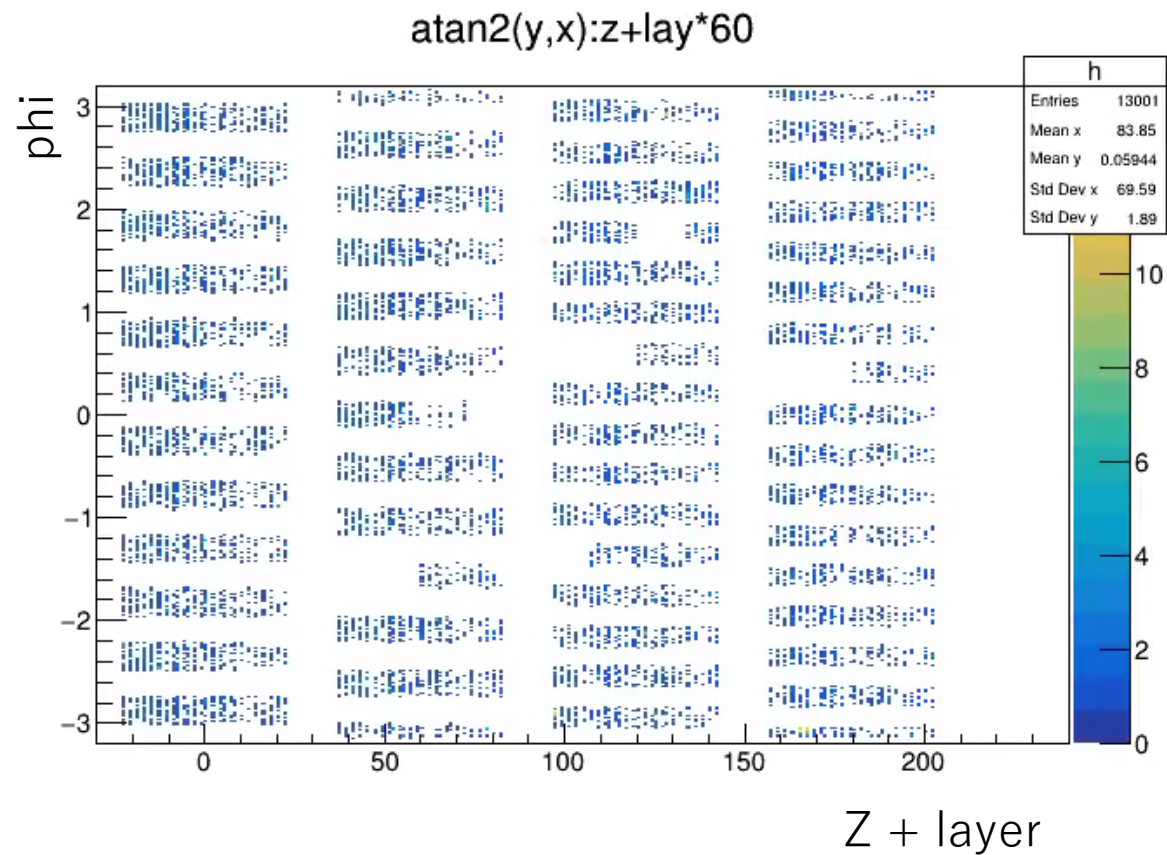
Software updates

- Three calibration parameters are ready for Fun4All. Thanks!
 - HotDead Map : Joseph, code is ready (InttBadChannelMap)
 - BCOMap : Jaein, code is ready (InttBCOMap)
 - DACMap : Takashi, code is ready (InttDacMap)
- These codes are committed into coresoftware
- CDB files are stored in the database.
- Reconstruction macro
 - /sphenix/user/hachiya/myrepo/coresoftware/offline/packages/intt/macro_decode/Fun4All_TrkrHitSet_Unpacker_INTT.C
 - /sphenix/user/hachiya/myrepo/coresoftware/offline/packages/intt/macro_decode/Fun4All_Intt_RecoCluster.C
 - You don't need to change the production macro
 - Calibration parameters are automatically loaded in the macro

```
rc->set_StringFlag("CDB_GLOBALTAG", "ProdA_2023");  
rc->set_uint64Flag("TIMESTAMP", runnumber);
```

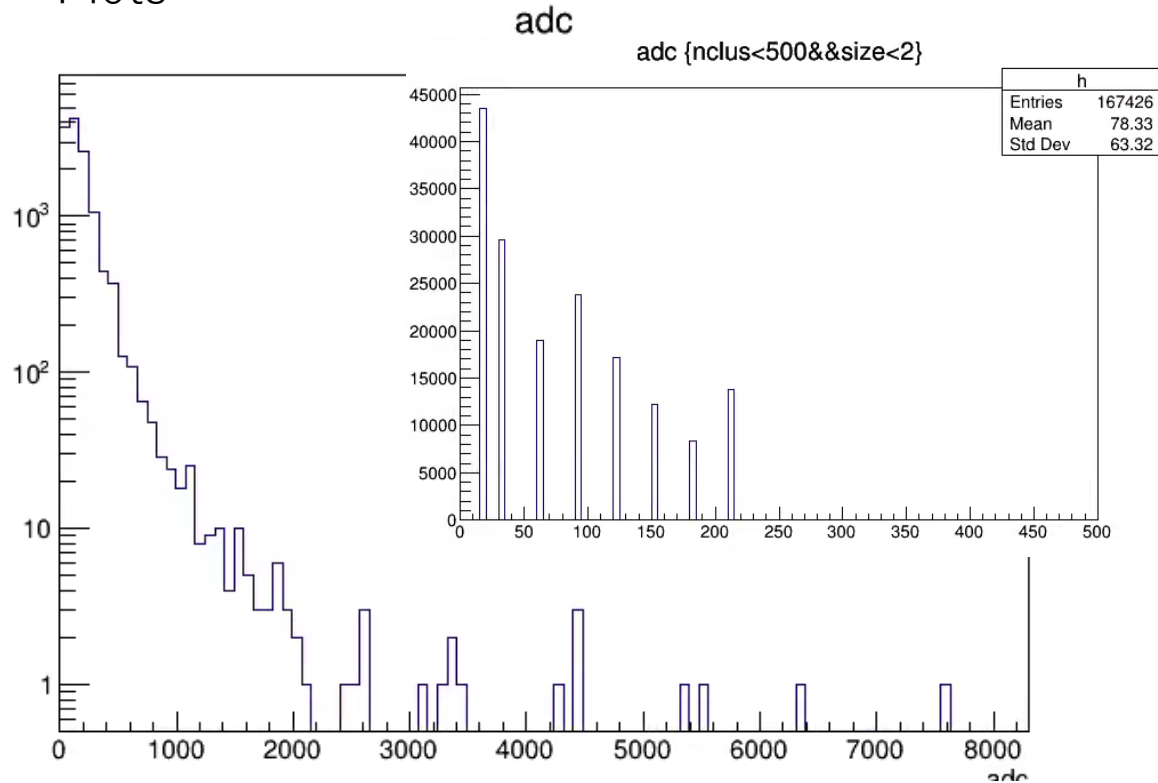
Some plots

Hitmap



Bad channels are masked

Plots



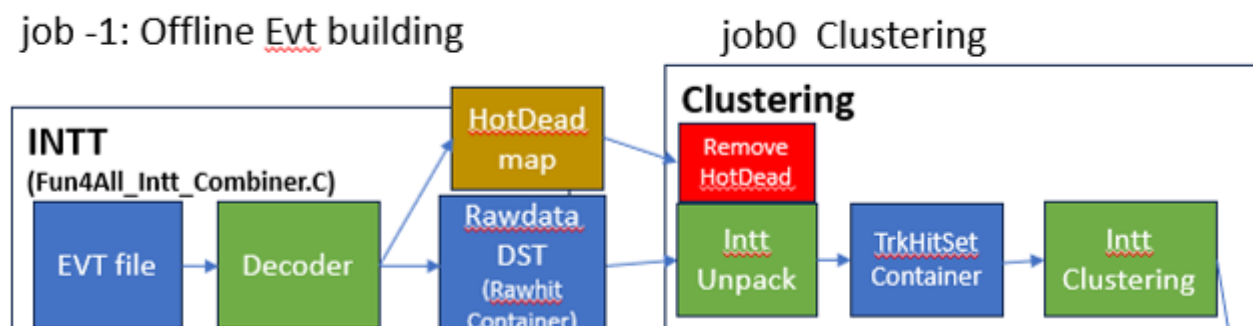
ADC is converted w/ DAC

Event base tree

- Thanks Joseph to write new event base tree and scripts.
- We have the event based tree “InttEvent” class which is a data object used for long time. I think it is good to use InttEvent because we developed the code with InttEvent.
 - [InttEvent in GitHub](#)
 - One can modify this if necessary.
 - InttEvent is basically same with InttRawhit class (F4A data object)

Calibration – on – the fly

- As Joseph and ChengWei reported, the software group plans to produce the calibration parameters right after the data is taken or during data taking.
 - They asked us how many events is necessary to do calibration



- Parameters

- Hotdead map and BCO map

They want to run continuously between job -1 and job 0

- (almost) no dead time

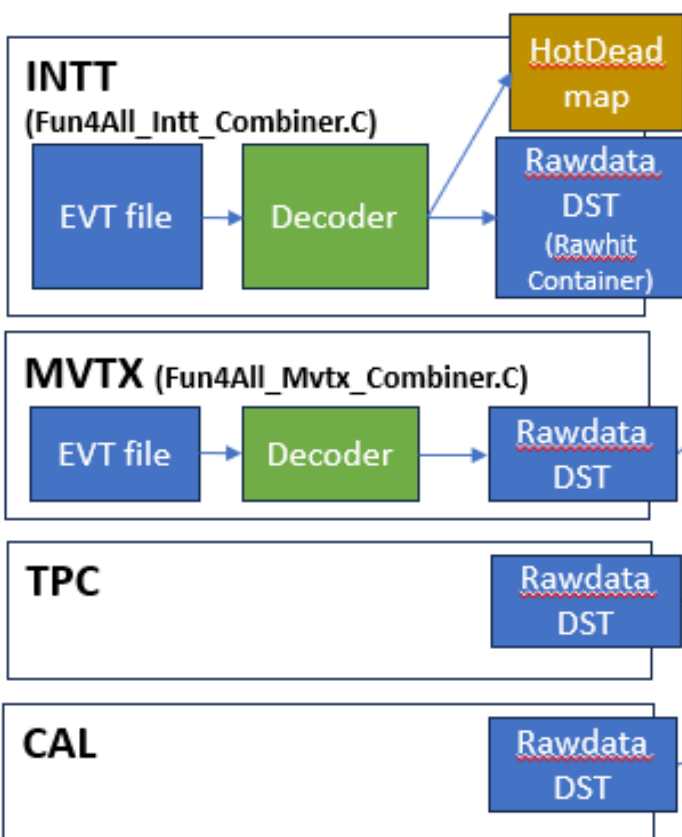
- Jaein produced the framework to calculate hotdead map and BCO map using event based tree. This needs to be modified using InttRawhit instead of InttEvent

Question

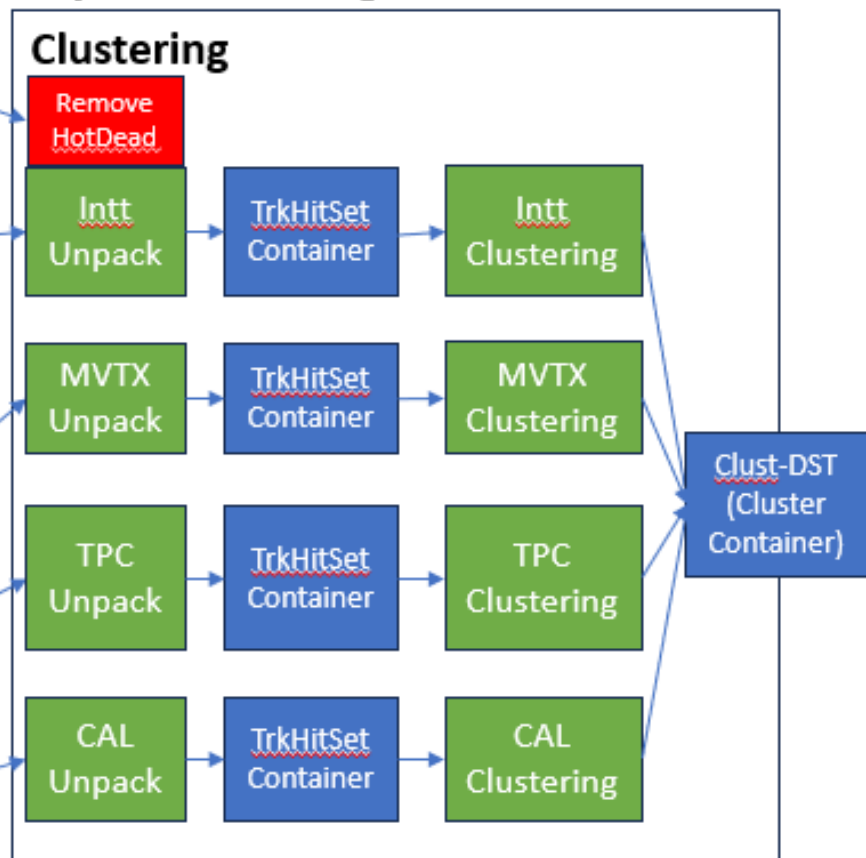
- ChengWei, do you have the F4A module to calculate Z-vertex?

Workflow : Multi-stage approach

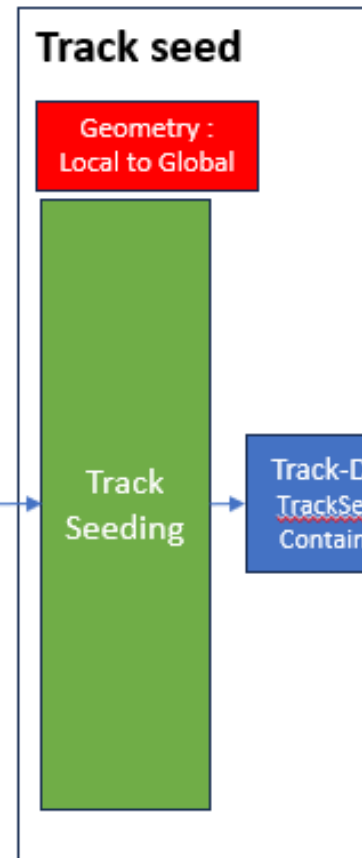
job -1: Offline Evt building



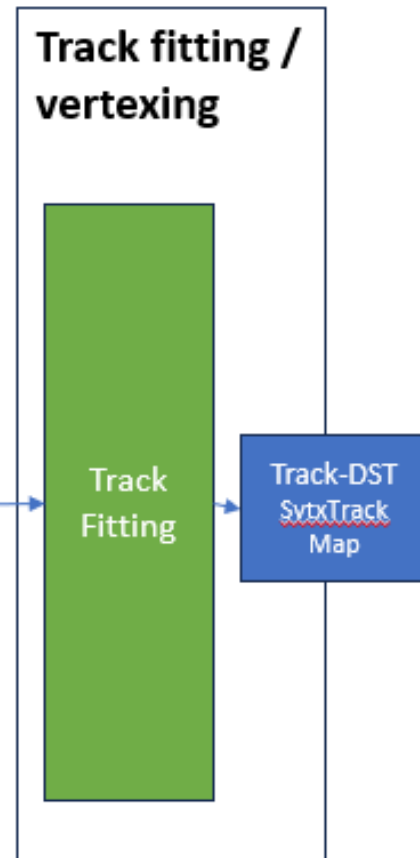
job0 Clustering



job-A Track seed



job-C Track fit/vtx



- Run with all the data
- Each subsystem has their Raw data DST

- Run with all the data
- TrkrHitSet should be only good hit after hot/dead map removed
- All data in this run is packed to single DST

- Run with all the data

- Run with all the data

CDB for InttDACMap

- CDB (database) uses 3 labels to identify the CDB file
 - **GlobalTag**: ProdA_2023 or MDC2 (or more)
 - **Domain** : parameter name: INTT_DACMAP
 - Similar name is good for HotDeadMap and BCOMap
 - **TimeStamp** : 64bit integer which enables calib_par for each beam crossing (if necessary, but not). RunNumber is used for run23
 - CDB allows 2 different timestamp, Begin-End type and Begin-(no end) type
 - End-time should be greater than Begin-time (The same is not accepted)
 - `cdb->insertPayload("INTT_DACMAP","CDBTTree_INTT_DACMAP.root", 20869,20870);`

- Module is tested with CDB TestBench

```
=====
CDB GLOBALTAG : hachiya
TIMESTAMP : 20869
Fun4AllServer::setRun(): run 0 uses CDB TIMESTAMP 20869
calibinfo DAC : INTT_DACMAP CDB
CDBFile: /sphenix/user/hachiya/calibration/INTT_DACMAP/fb/c5/fbc57b510a51212c46c98b6cef0219f8_CDBTTree_INTT_DACMAP.root
=====
```

```
rc->set_StringFlag("CDB_GLOBALTAG","hachiya");
rc->set_uint64Flag("TIMESTAMP",20869);
```

I would like to commit [this module to coresoftware](#) for dN/deta