

DST CBM → BM@N converter: short status

Ilnur Gabdrakhmanov

JINR, VBLHEP

Dubna February 8, 2021

CBM DST structure:

- flat structure: 1 array for all tracks with links to corresponding hits
- separate array for clusters

Status:

- Task create structure of tracks with separated arrays of hits
- Cluster info is put into BM@N hits
- Track indices conversion also implemented

BM@N DST structure:

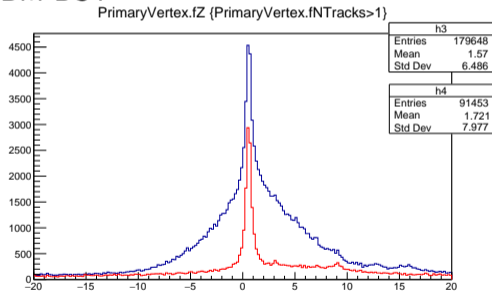
- Global tracks contain links to subtracks
(Global \rightarrow $\left\{ \begin{array}{l} Silicon \rightarrow \\ GEM \rightarrow \dots \\ CSC \rightarrow \end{array} \right.$)
- each subtrack contains links to hits
- each hit contains cluster information

Problems encountered

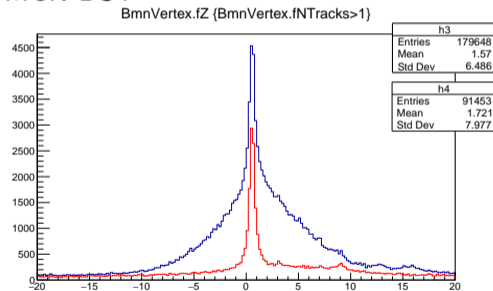
- Different NCX cluster machines have different root versions. Resolved by explicitly enumerating valid machines (as Vasiliï noted in previous report):
[qsub -l 'hostname='\${MACHINES_TO_RUN}' -t 4655-4685 identificationR7Qsub.sh]
- Metadata requirements problem resolved by using BmnFileSource (as Konstantin recommended)

Primary vertex. At least 3 hits (blue) and 4 hits (red) per track respectively

CBM DST



BM@N DST



Usage examples

As macro:

```
void DSTConv(  
    TString inFile = "~/filesbmn/4649-cbm-full.root",  
    TString outFile = "$VMCWORKDIR/macro/run/dst-bmn-4649.root",  
    Int_t nStartEvent = 0,  
    Int_t nEvents = 100) {
```

As task:

```
BmnTrackConv * conv = new BmnTrackConv(periodId, runId, kBMNSETUP);  
fRunAna->AddTask(conv);
```

Samples:

```
/nica/mpd21/ilnur/dst-cbm/ - originals  
/nica/mpd21/ilnur/converted/ - converted samples
```