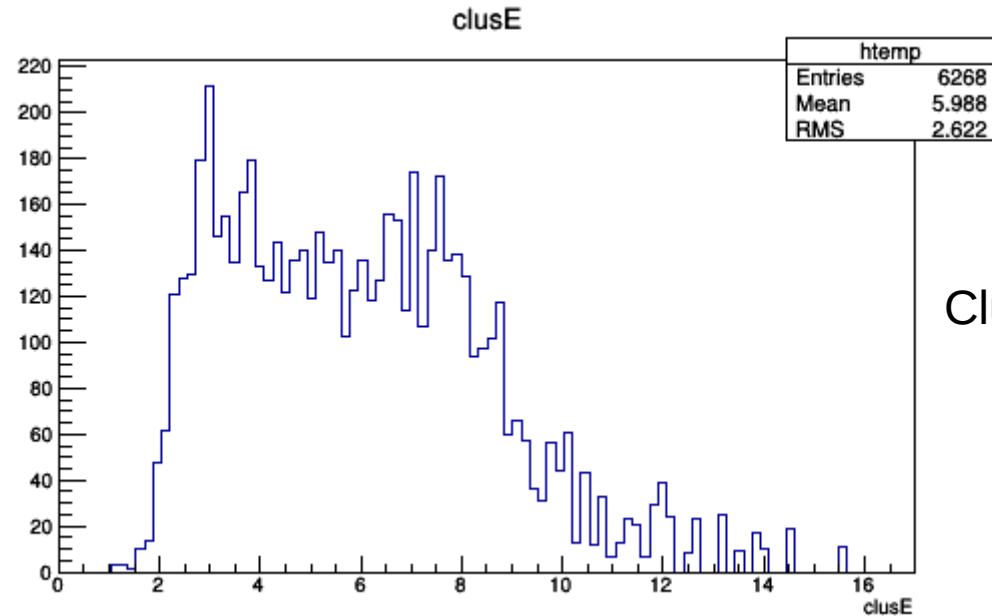


MC readout/recon with Ecal

- Priority! Needed for calibrations!
- Process:
 1. Readout:
 - FADCEcalReadoutDriver
 - Geant E-> FADC counts
 - Buffers events, writes them all out after certain clock cycle (pile up comes from this)
 - EcalRawConverterDriver
 - FADC counts-> Energy for triggering
 - Mode 3 timing (MC)
 2. Reconstruction:
 - EcalRawConverterDriver
 - FADC counts (from readout)-> Energy
 - Mode 3 timing (MC)

MC Energy

- Reported over mailing list:

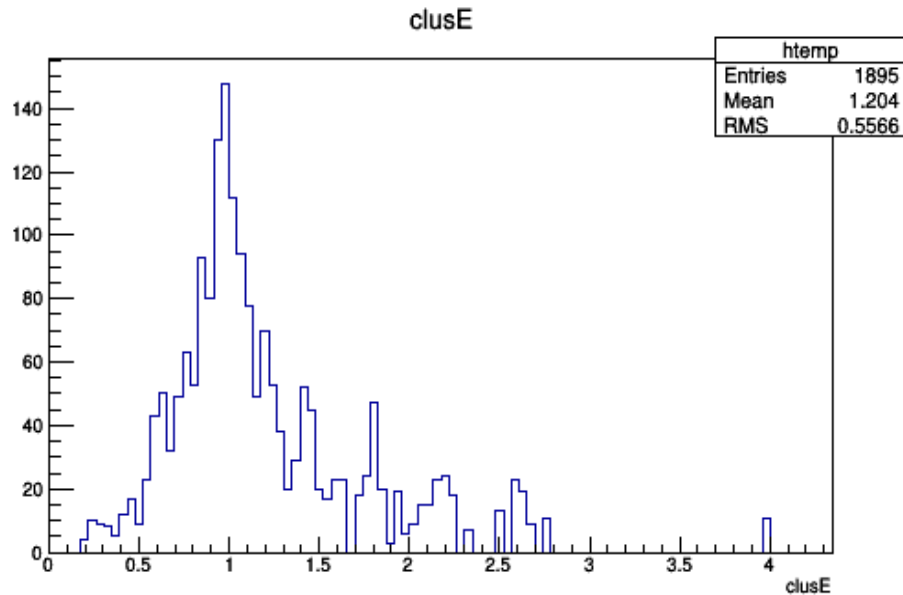


Cluster energy in GeV

- Mis-match between readout/recon EcalRawConverterDriver- these settings in the steering file must be identical!

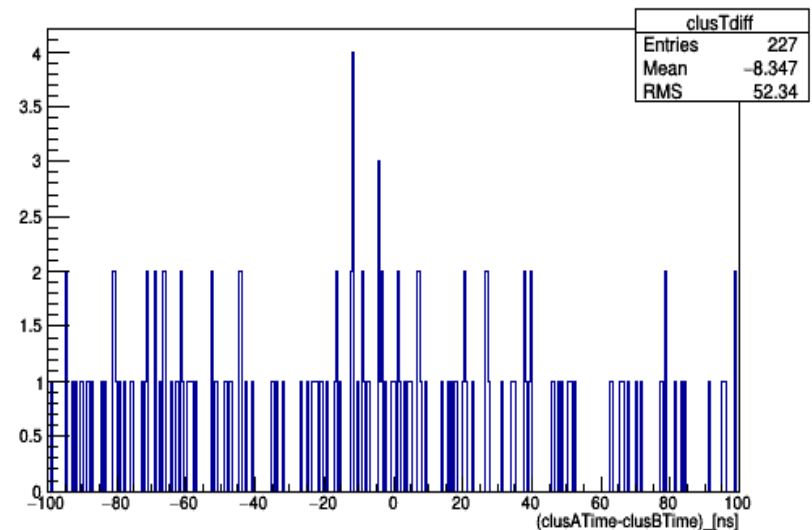
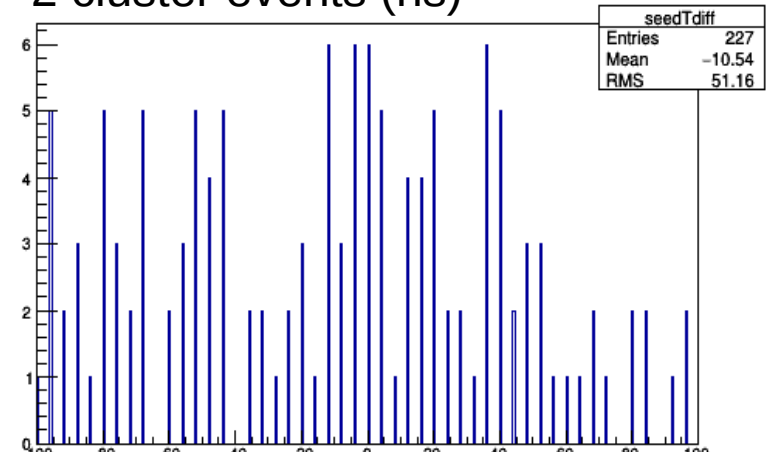
MC Energy/Timing

- Still not sure about the cluster energies and timing.
 - Problem in hit making?
 - Problem in pile-up and readout?



Cluster energy in GeV

Time difference between seed hits in 2 cluster events (ns)



Time difference between clusters in 2 cluster events (ns)

MC Energy/Timing

- Still not sure about the cluster energies and timing.
 - Problem in hit making?
 - Problem in pile-up and readout?

```
collection name : EcalReadoutHits
parameters:

----- print out of RawCalorimeterHit collection -----

flag: 0x8000000
parameter ReadoutName [string]: EcalHits,
  LCIO::RCHBIT_ID1      : 0
  LCIO::RCHBIT_TIME    : 1

  LCIO::RCHBIT_NO_PTR  : 0
-----
WARNING: CellIDDecoder - no CellIDEncoding parameter in collection !
-> using default : "M:3,S-1:3,I:9,J:9,K-1:6"
-----
```

```
[ id ] | cellId0 ( M, S, I, J, K) | cellId1 | amplitude | time
-----|-----|-----|-----|-----
[00000732| 00261133| 00000000|      5400|      4416|

  id-fields: --- unknown/default ---- [00000733| 00327181| 00000000|      4001|      2496|
  id-fields: --- unknown/default ---- [00000734| 00392205| 00000000|      5483|      4480|
  id-fields: --- unknown/default ---- [00000735| 04061965| 00000000|      3437|       128|
  id-fields: --- unknown/default ---- [00000736| 04194061| 00000000|      4069|      2368|
  id-fields: --- unknown/default ---- [00000737| 04129037| 00000000|      4626|      2368|
  id-fields: --- unknown/default ---- [00000738| 04129037| 00000000|      3102|      5056|
  id-fields: --- unknown/default ---- [00000739| 04128013| 00000000|      2991|       192|
  id-fields: --- unknown/default ---- [00000740| 04128013| 00000000|      5333|      5248|
```

Dumping readout event to see hits in units of FADC. What is this time?