

# Flush Talk 2nd

## Progress of QA of Clustering

2023/11/16 INTT Analysis Workshop

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# QA of Clustering

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## Checking offline clusters

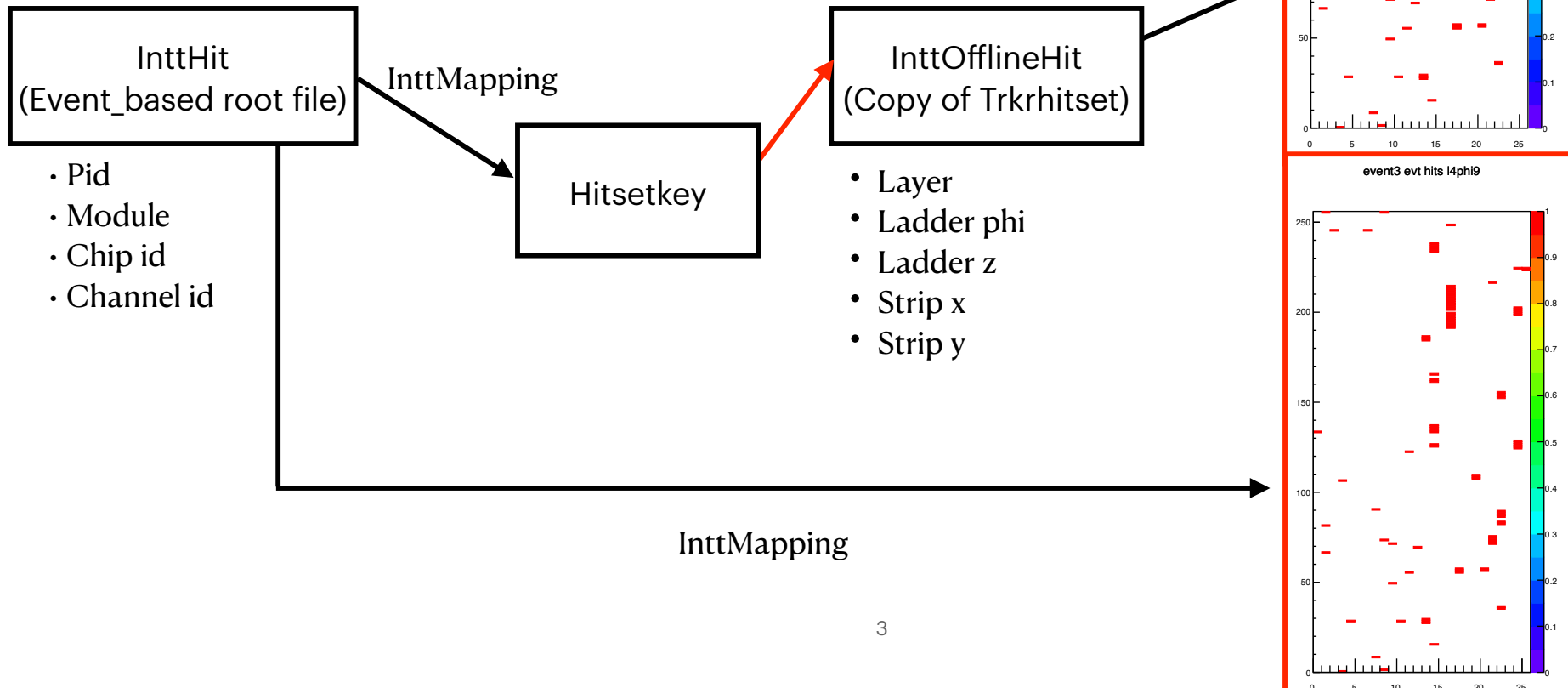
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**Goal in this workshop:** Checking data, debug offline clustering process

### My To-Do List

- Checking that there is no difference between evt hit and offline hit
  - I already developed code which compare evt hit with offline hit.
  - Number of hits is difference because evt hit has clone hit. I have not found any hits that are only on evt or offline hit.
  - I checked one run. I will check the other runs.
- Checking offline cluster
  - Develop clustering code
  - Compare between offline clusters and clustering by myself

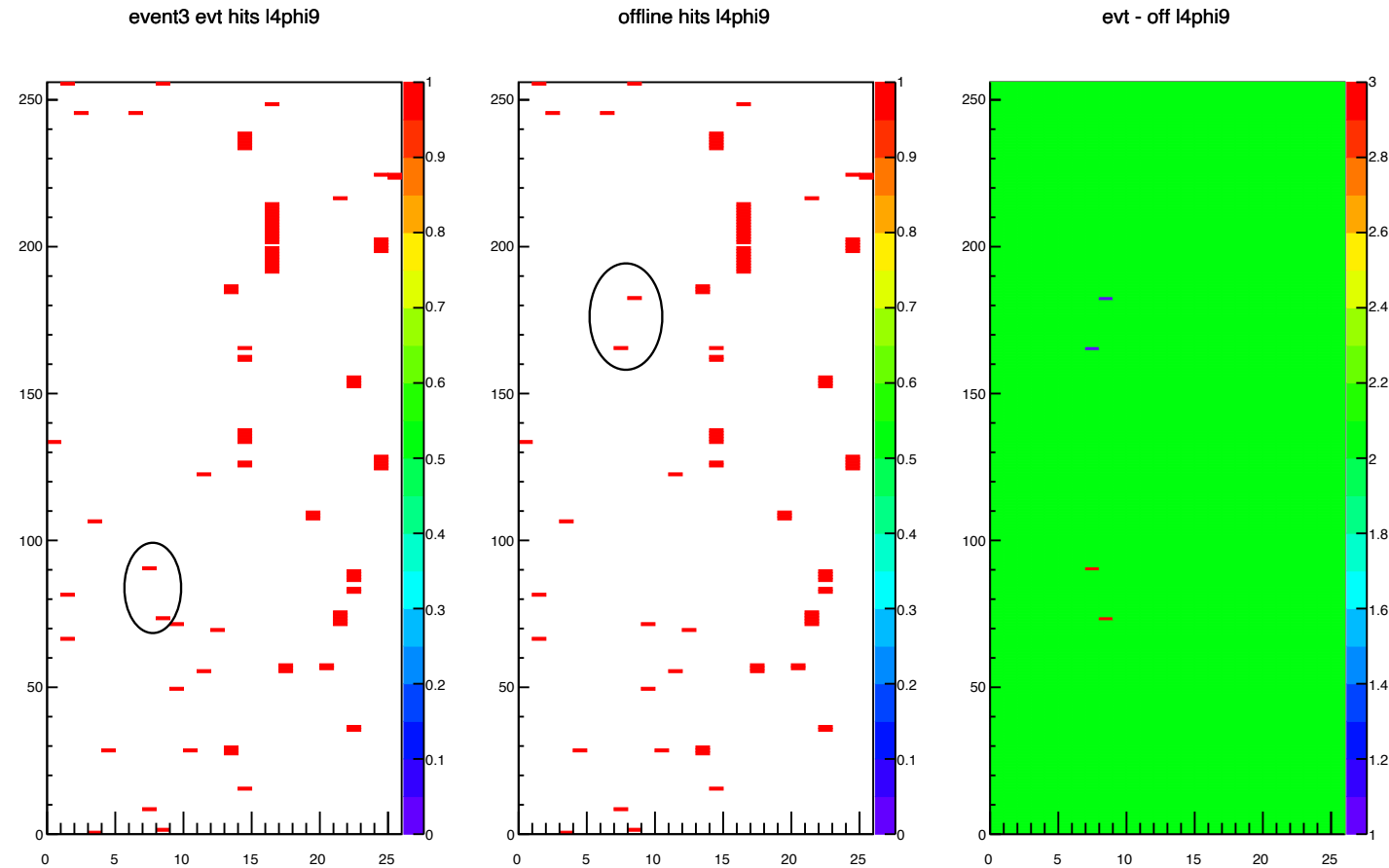
# Data conversion flow



# Compare with Evt and offline hit

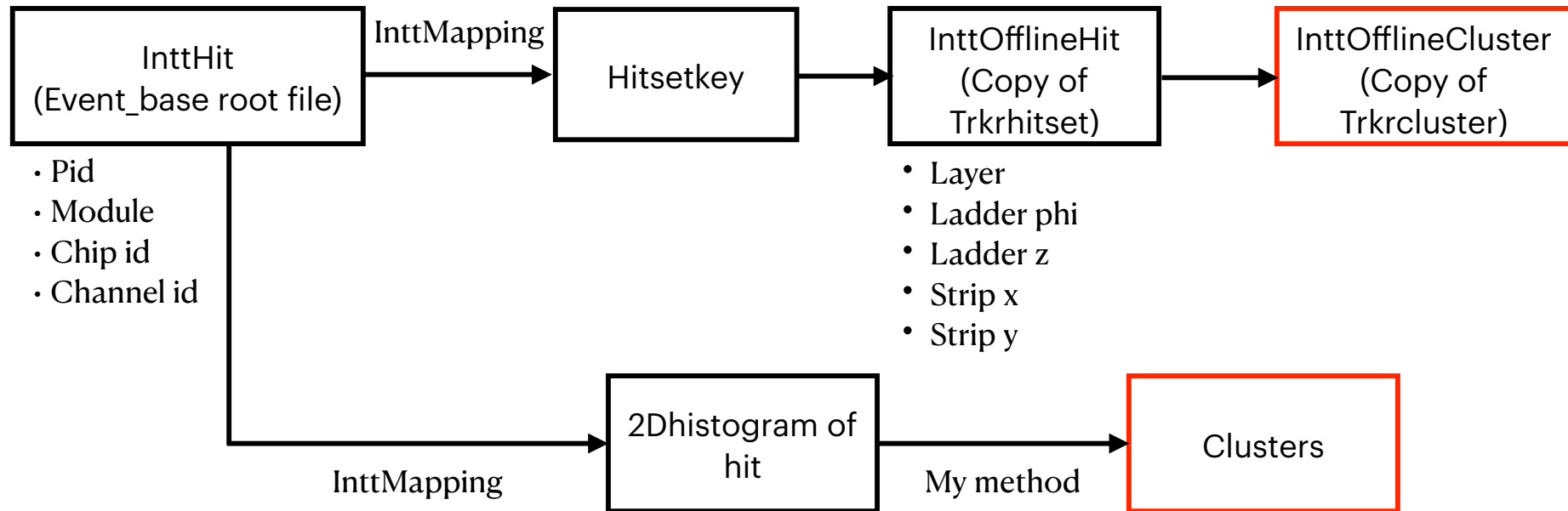
- It is sometime different evt between offline hit.
- X axis : chip
- Y axis : chan
- Run20869
- Event number : 3

Note: All bin of evt -offline hist added 2



# Clustering

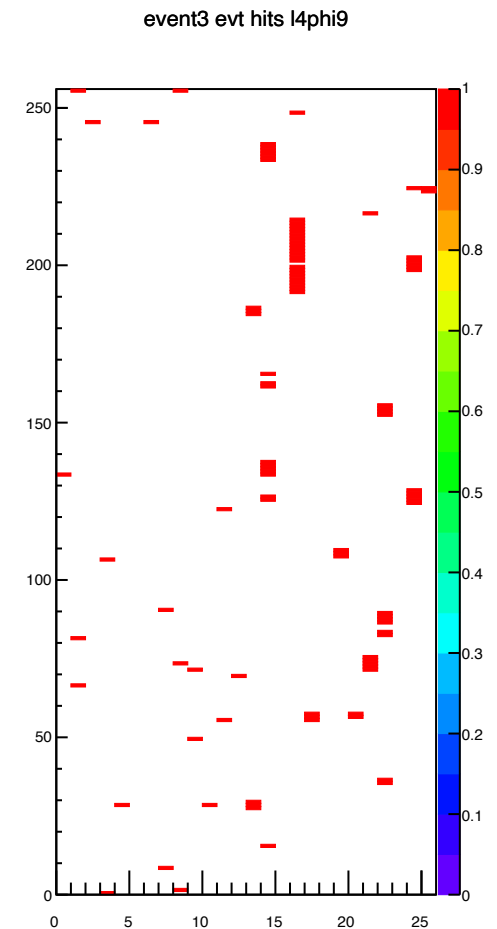
## Data conversion flow



# Clustering without weighting

## My method

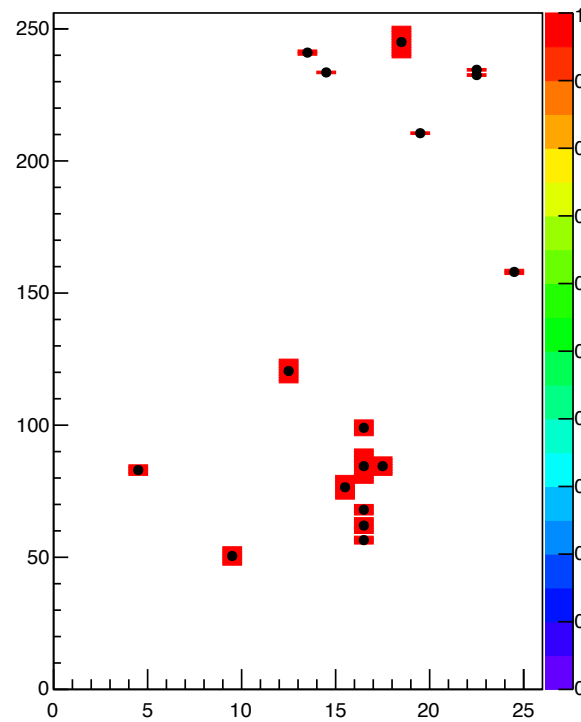
1. Make 2D hit histogram, chip vs channel
2. Read 2D histogram along x axis
3. If adjacent channel has hit, calculate sum of value of channel
4. If next channel has no hit, calculate sum of value of channel / number of adjacent channel



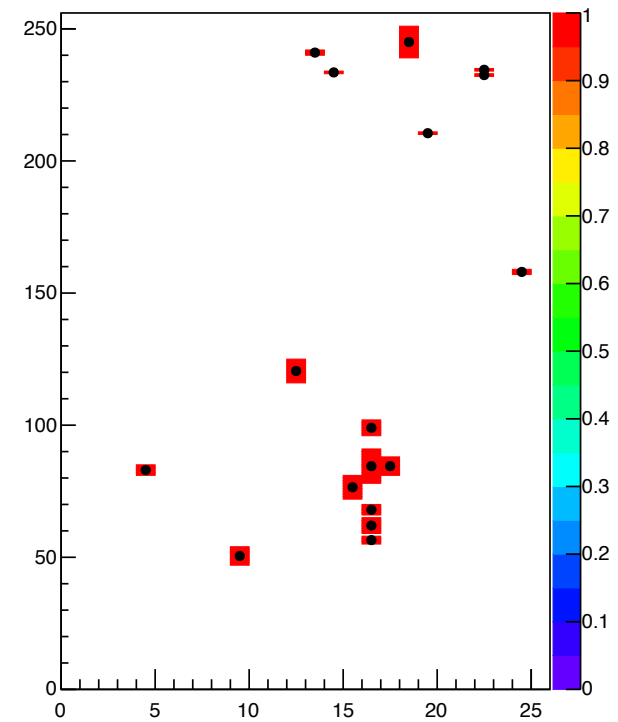
# Clustering

- Left : event base root file and clusters by myself
- Right : InttOfflineHit and InttOfflineCluster
- 2Dhist : hit
- Black points : cluster
- X axis : chip
- Y axis : chan

event0 evt hits l3phi3



offline hits l3phi3



# Summary

- Debugging of data conversion flow is still ongoing
- Finish developing my clustering code
  - Next to step is compare with offline clusters and clusters by my code

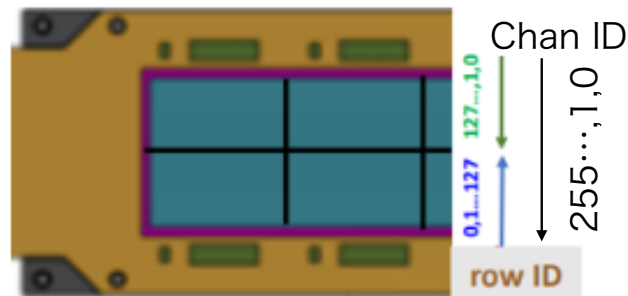
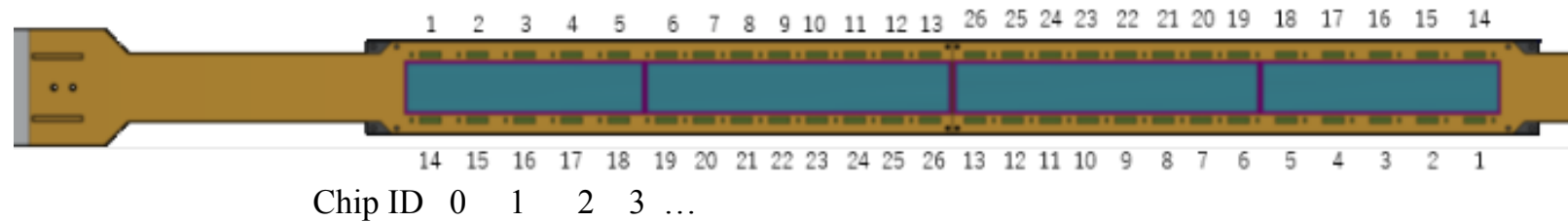


Back Up

# Renumbering Chip ID

- Renumber chip id for plot
- Channel id is same as offline strip y

Hardware definition ChipID



- ChipID starts from 1.
- Channel ID is as it is.