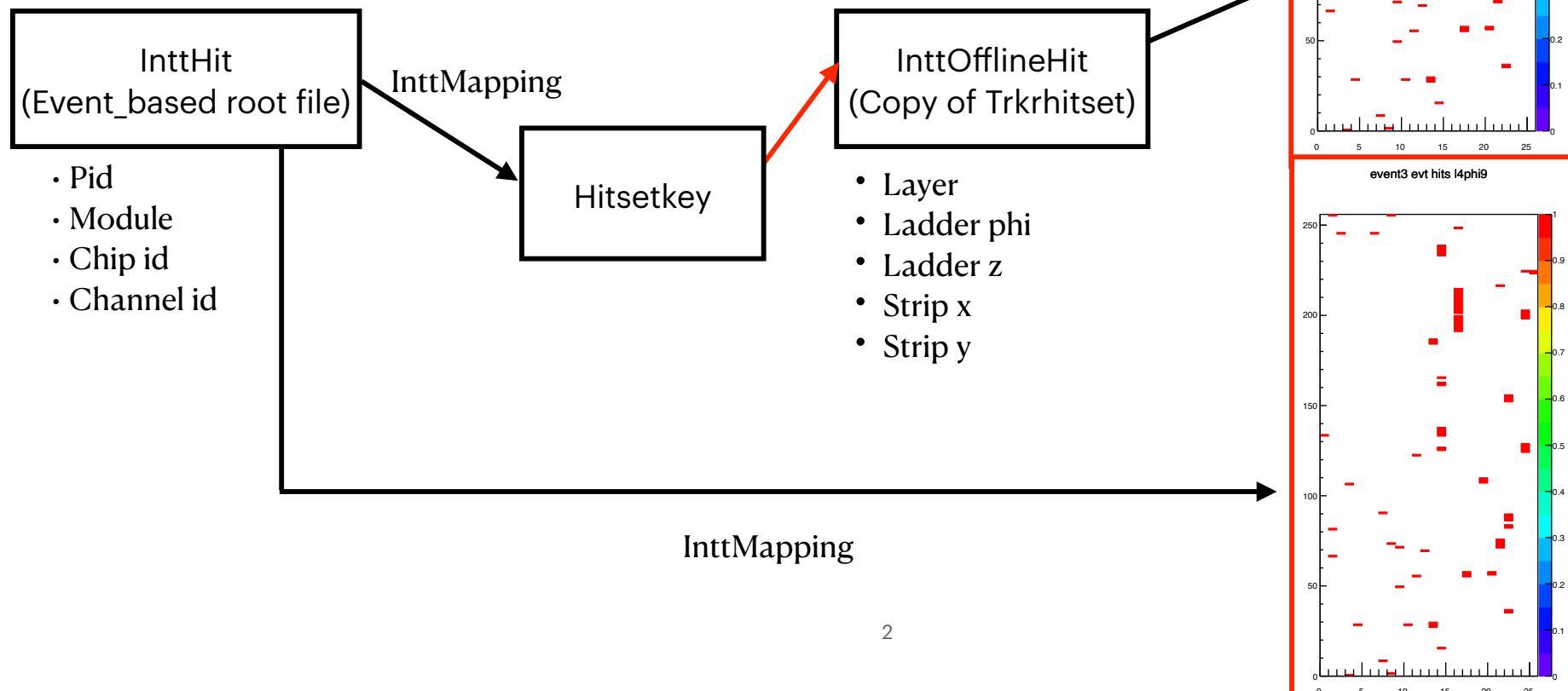


Checking Data Conversion and QA of Clustering

2023/12/13 Weekly INTT Meeting
NWU M1 Manami Fujiwara

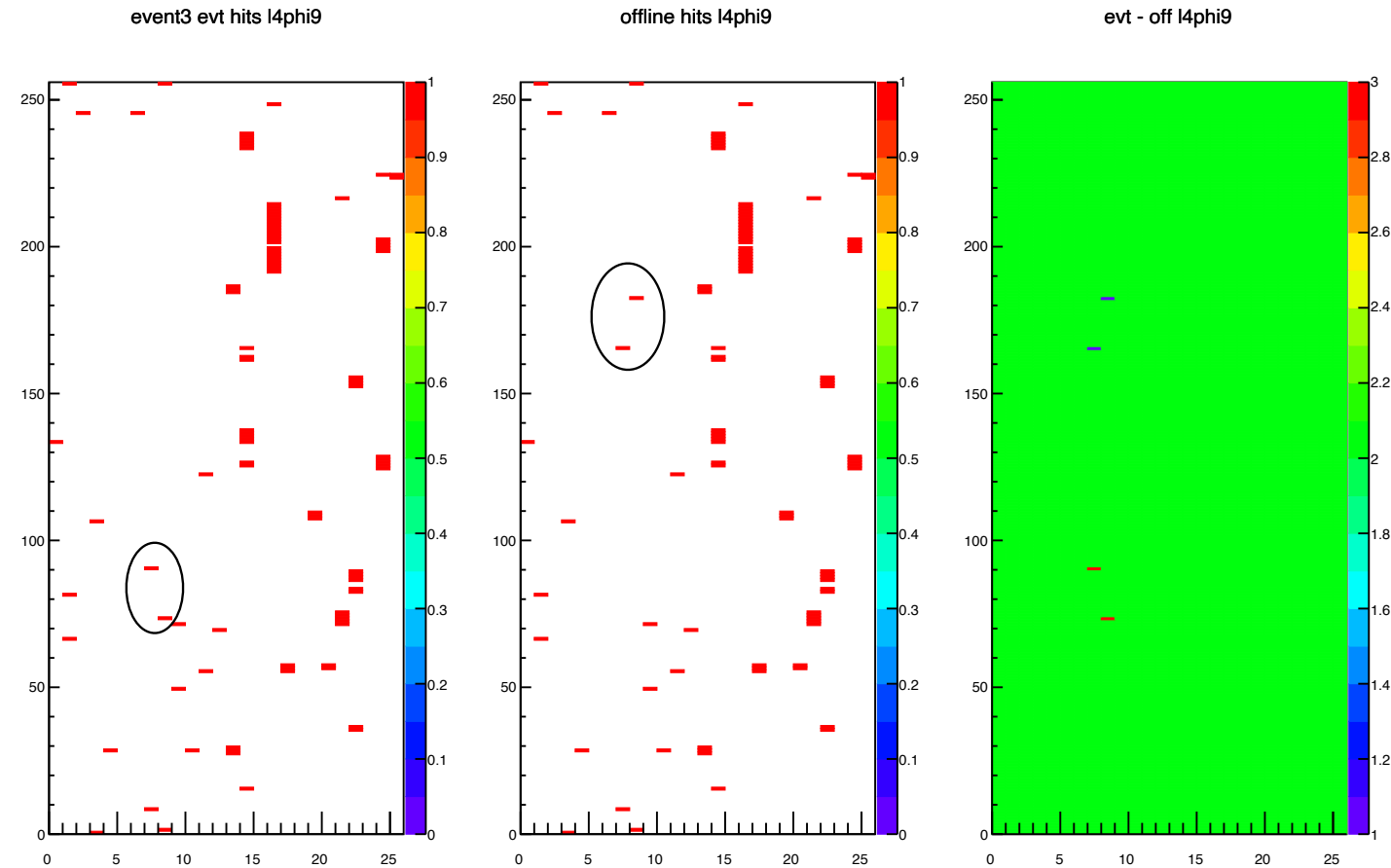
Data conversion flow



Compare with Evt and offline hit

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

Note: All bin of evt -offline hist added 2

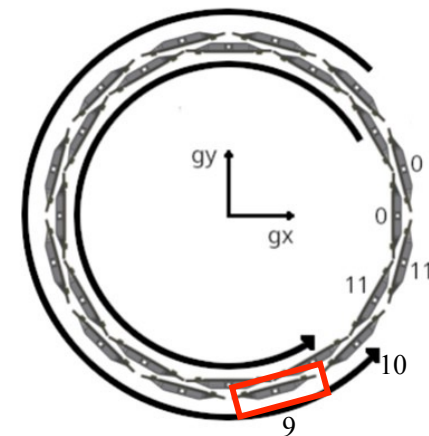


Bug occurring ratio

- This bug occurred only a ladder which layer =4, lad_phi =9.
- This bug occurred 5837/10000 events

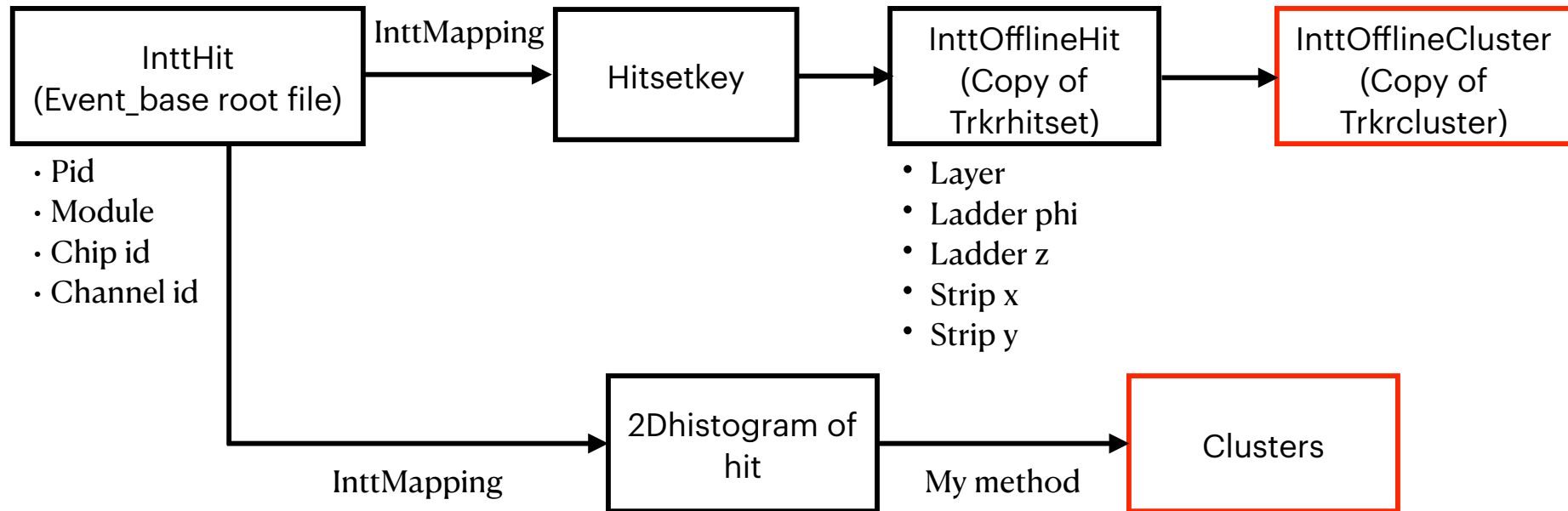
Event number	Ladder Layer	Phi			
856	4	9	1	-1	0
857	4	9	1	-1	1
859	4	9	1	-1	-1
863	4	9	1	-1	0
864	4	9	1	-1	0
871	4	9	1	-1	0
874	4	9	1	-1	0
876	4	9	1	-1	1
877	4	9	1	-1	0
879	4	9	1	-1	0
880	4	9	1	-1	0
881	4	9	1	-1	0
883	4	9	1	-1	1
884	4	9	1	-1	0
885	4	9	1	-1	0

Ladder_phi (Layers 3 & 4)



Clustering

Data conversion flow

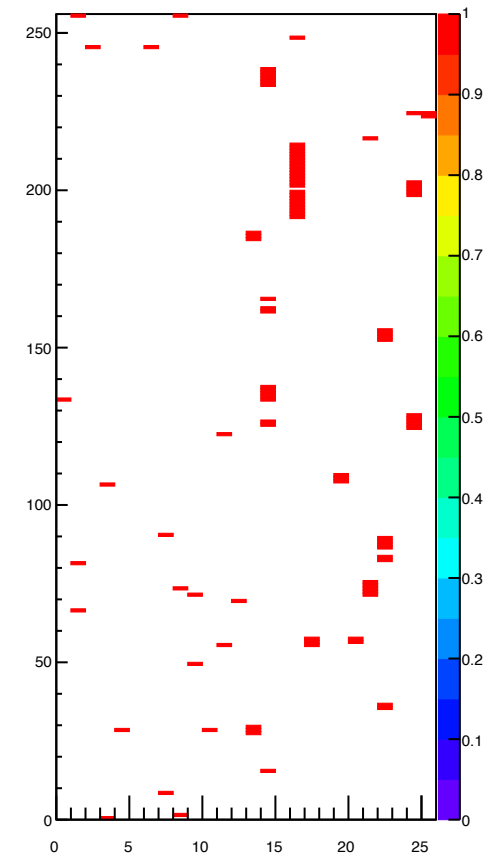


Clustering without weighting

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

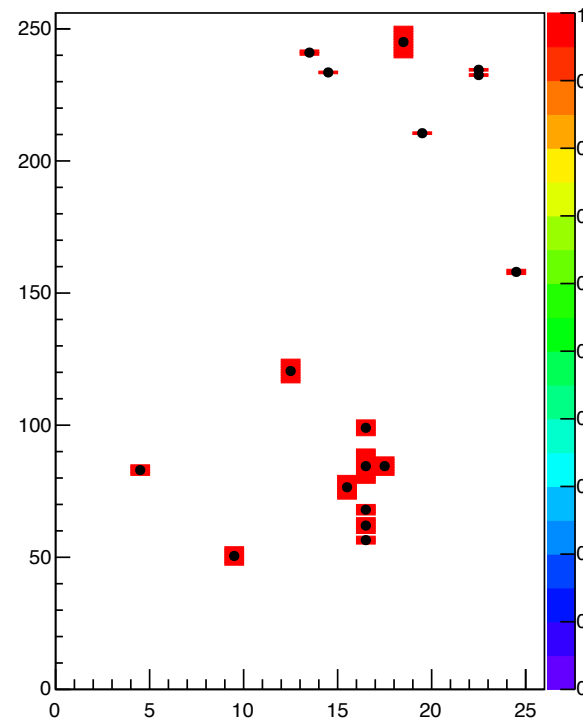
event3 evt hits l4phi9



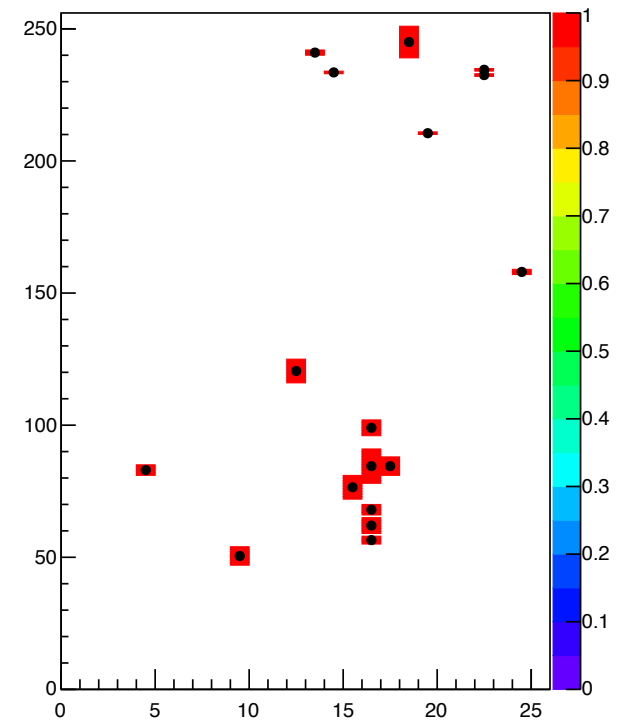
Clustering

- 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

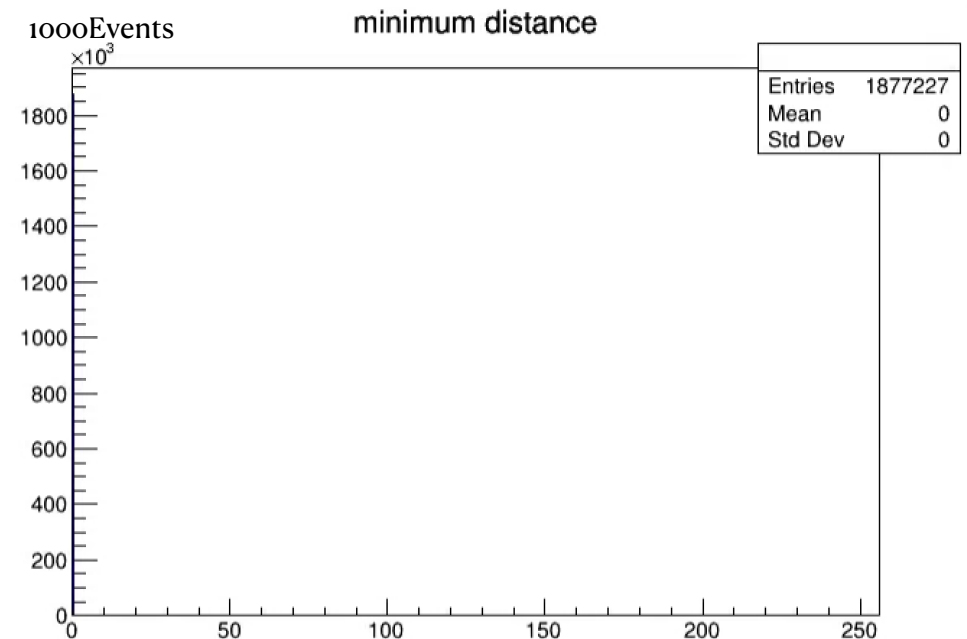
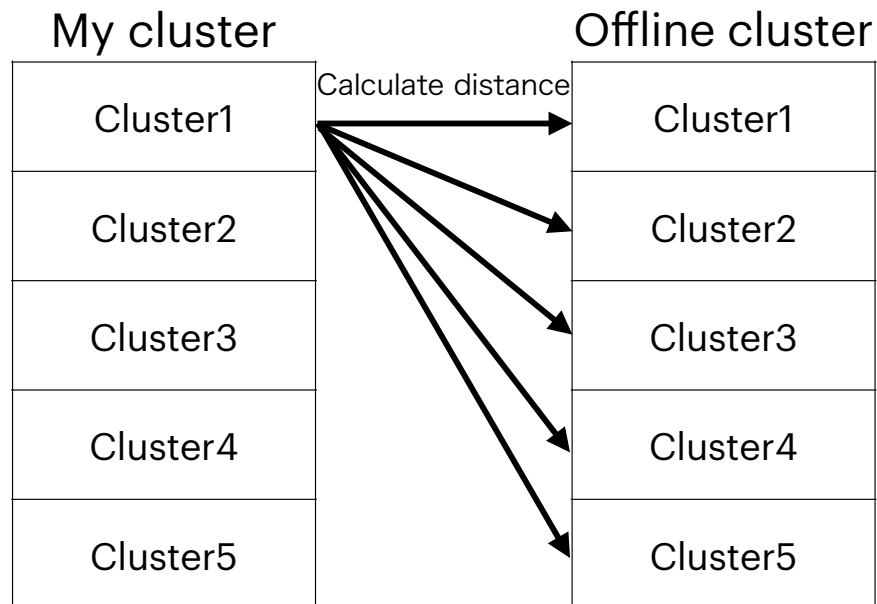


offline hits l3phi3



Comparing of Clustering

- Compare clusters without clusters on the ladder which has problem
- Fill minimum distance to histogram



Summery

- Finish debug of hit conversion and clustering QA
 - Hit conversion is succeeded without one ladder
 - Clustering is identical with clustering without weighting

Back Up

Renumbering Chip ID

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

