

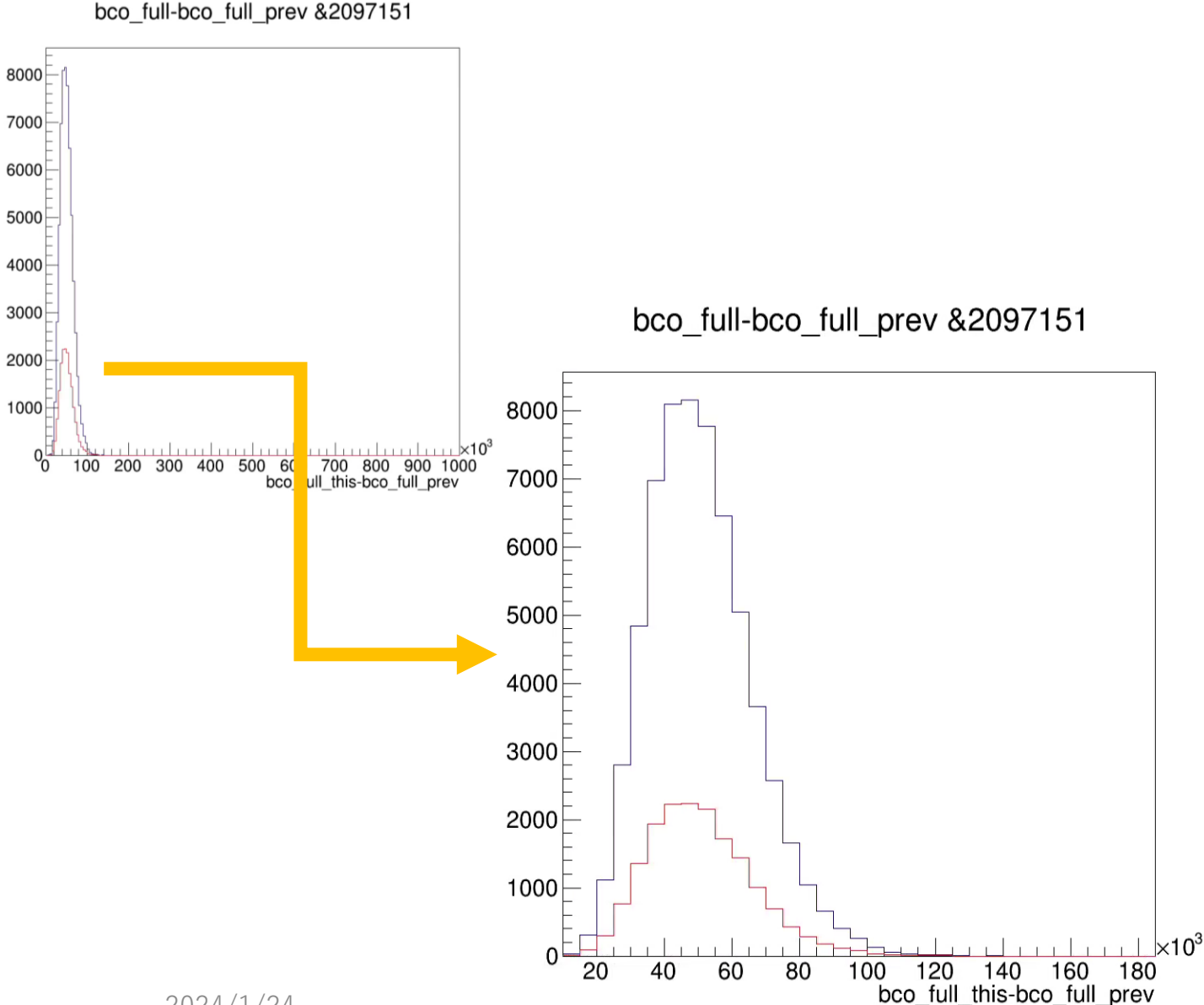
Event Mixup

2024/01/24

NWU

Mai Kano

Collision interval All event and Mixup event

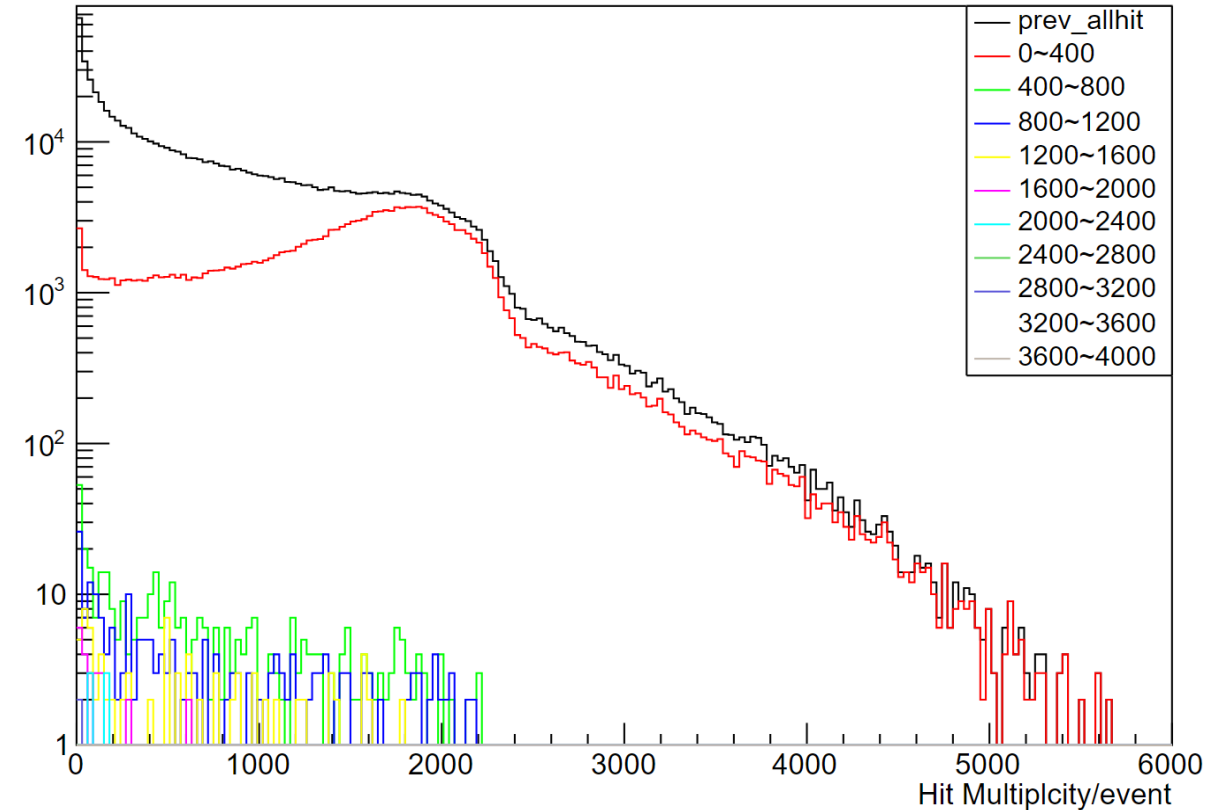


- To examine collision interval dependence, The interval distribution of the Mixup Event and the previous Event was checked.
- Results showed no change in peak position between Mixup events and all events
→ Mixup does not change with interval width

Hit Multiplicity

- First, I divided the number of Mixups from 1 to 4000 into 400 each and plotted the Hit Multiplicity of the previous event at that time for each of them.
- The results were found to be mostly concentrated in the 0~400 range.
- Next, the 1~400 range was examined more closely.

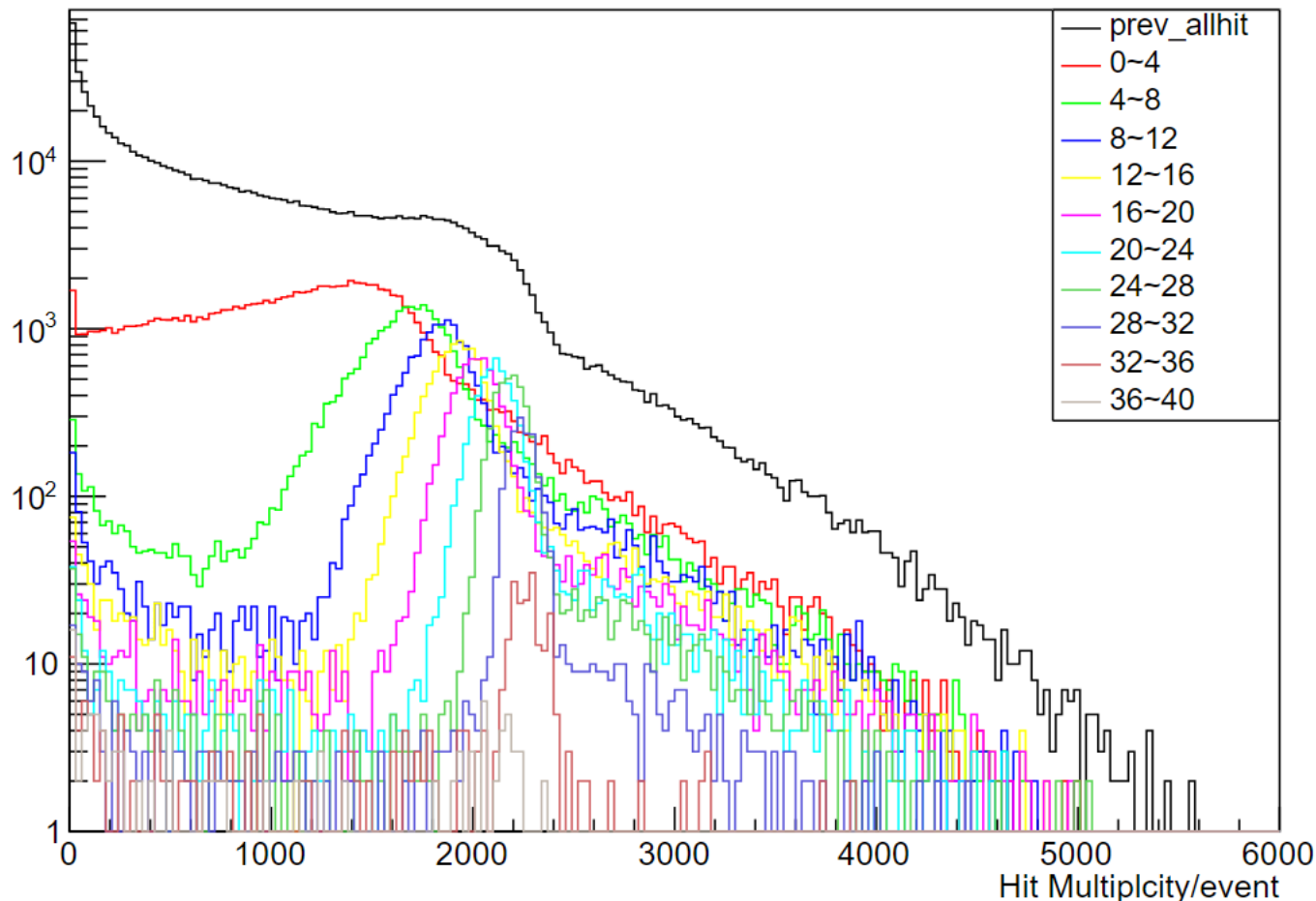
Mixup Multiplicity 20708



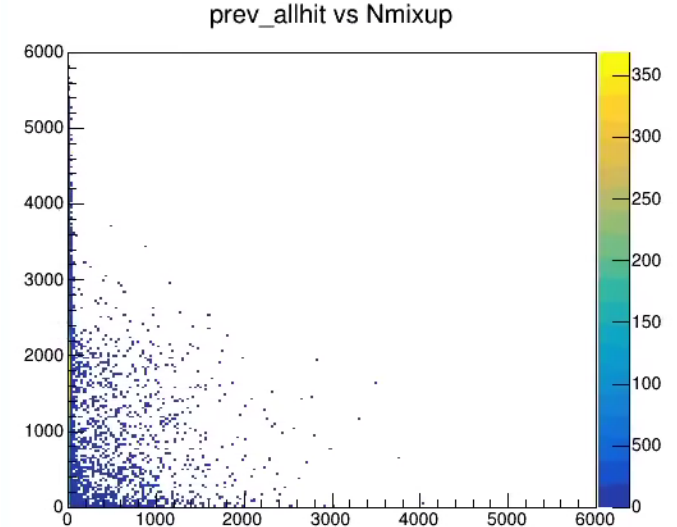
Hit Multiplicity

- I examined the 1~40 range in detail.

Mixup Multiplicity 20708

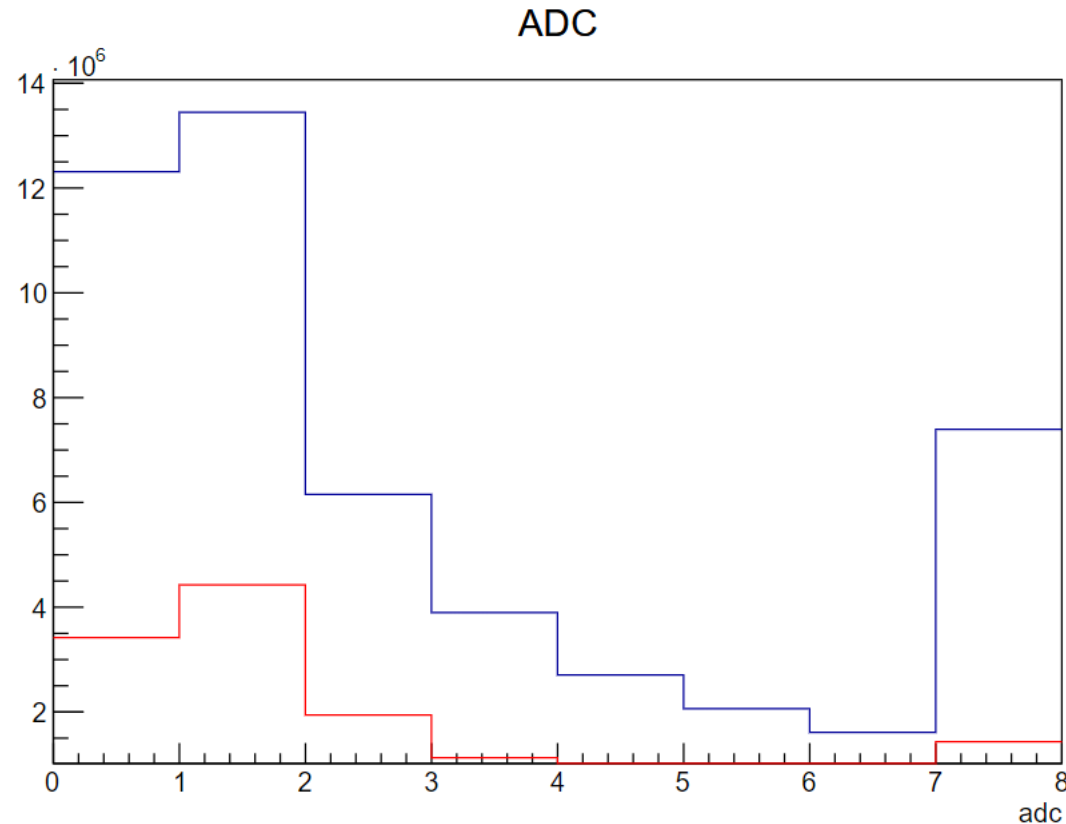


20708



- The above figure, which I have shown before, plots the number of Mixup on the x-axis and the Multiplicity of the previous event on the y-axis.
- From here, I thought there was no correlation between the Multiplicity of the previous event and the number of Mixup hits.
- However, the Multiplicity distribution shown on the left indicates the Multiplicity of the previous event seems to be correlated with the number of hits for Mixup .

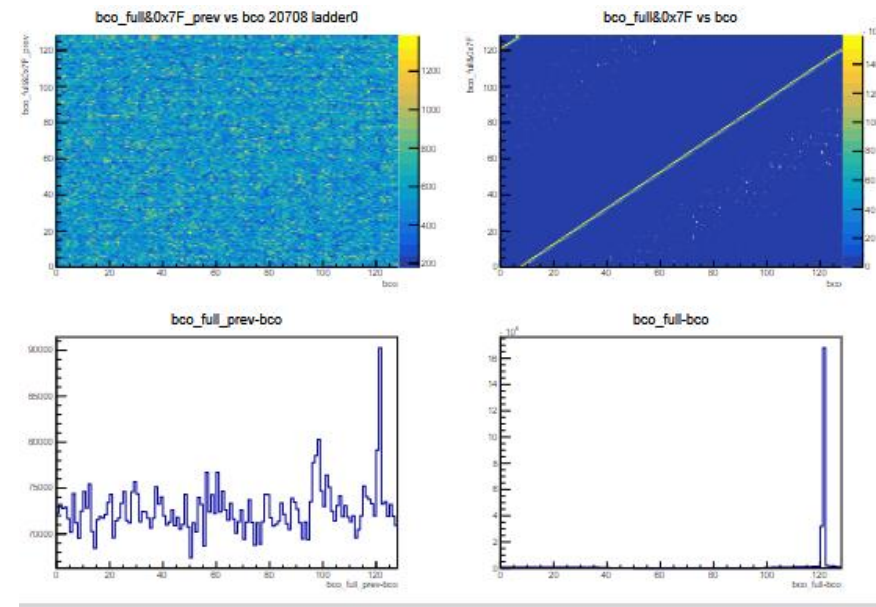
ADC and Mixup



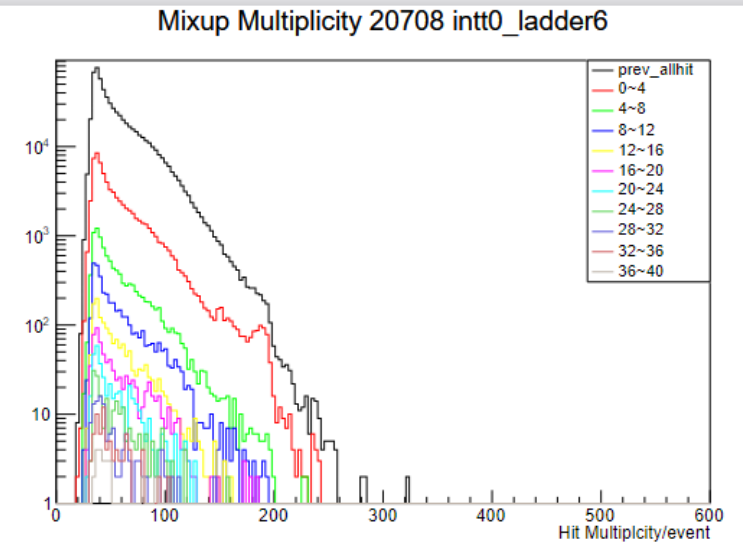
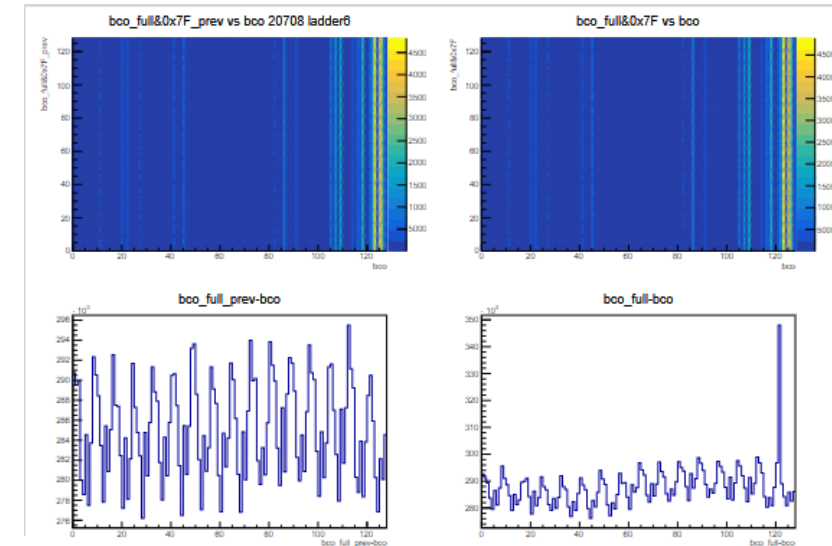
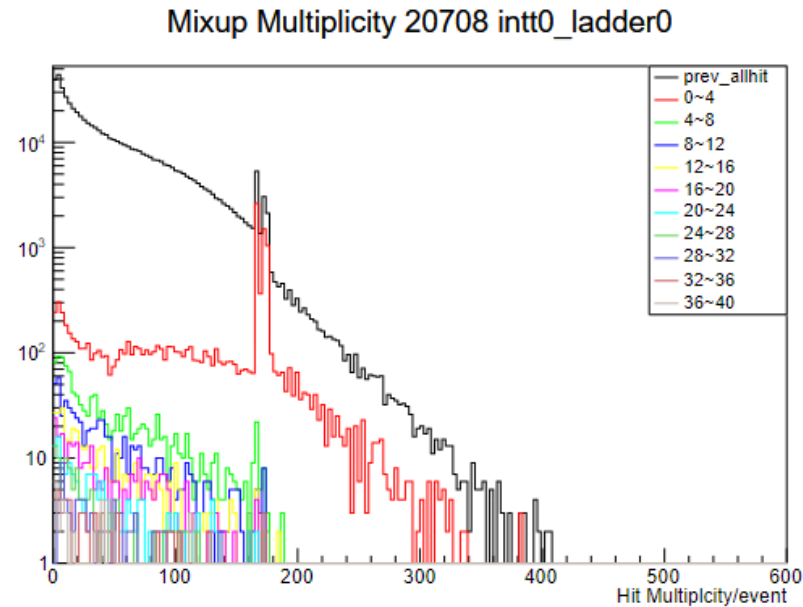
- To determine if there is a relationship between Mixup hits and ADC, I made an ADC distribution of Mixup hits.
- The left figure examines 10% of all events (Run20708intt5).
- Blue is the ADC distribution of all hits and Red is the ADC distribution of Mixup hits.
- Since there is no significant difference in the shape of the distribution from this result, I think that Mixup and ADC are not related.

Mixup ladder

- I have examined the mixup ladder by ladder.
- I found different plots in some ladders. But I do not think it has anything with mixups. Because the BCO_Full-BCO plots for the same event are different. This is a different state of collision data.



Most ladders state



Some ladders

My next step

- Correlation between clone events and Mixup (I'm working on it)
- Check if there have correlation in plot of previous event multiplicity vs Number of Mixup
- Correlation Hot channel between Mixup
- Mixup with cosmic ray data