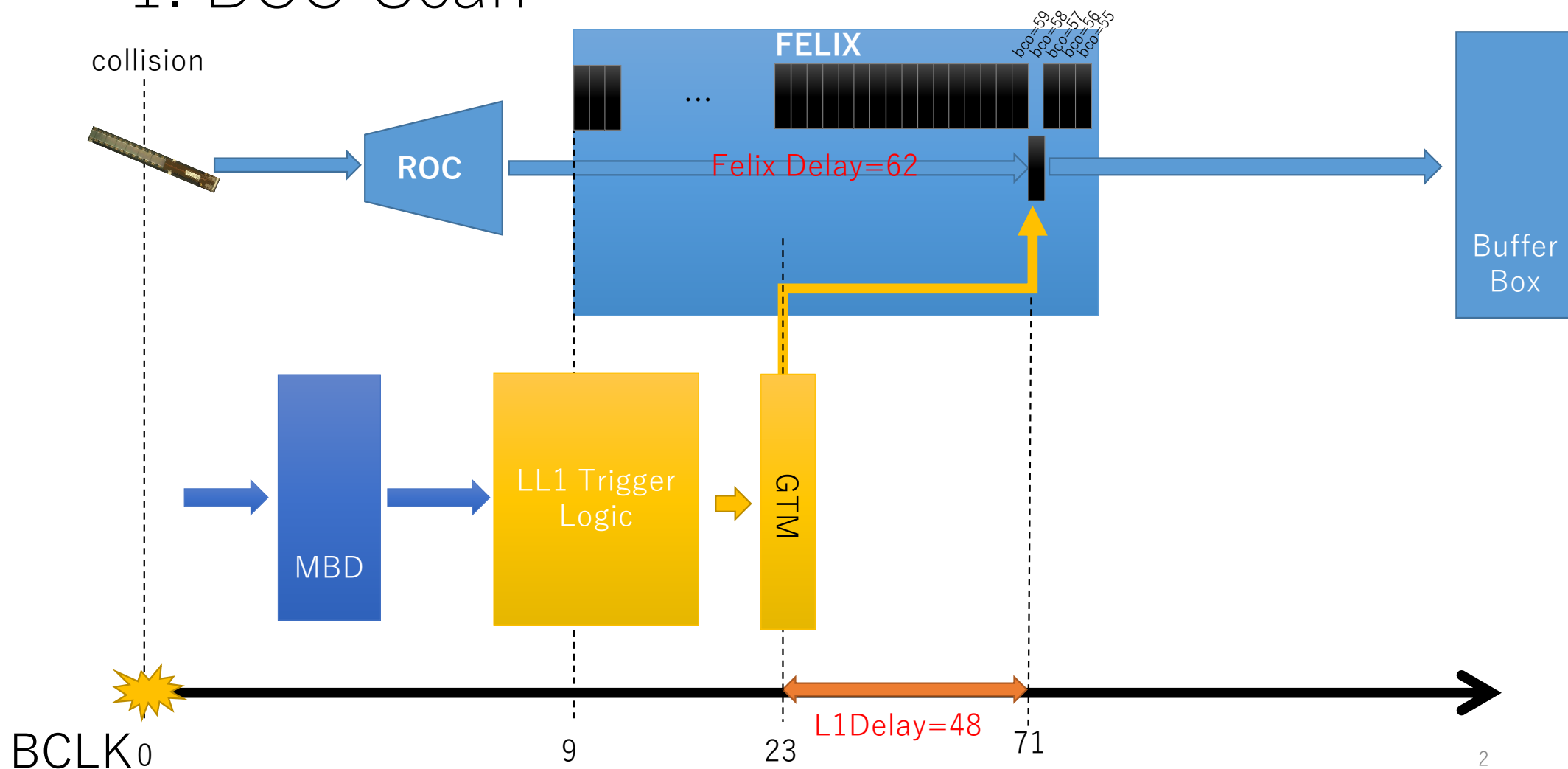


INTT Felix Time-In Summary

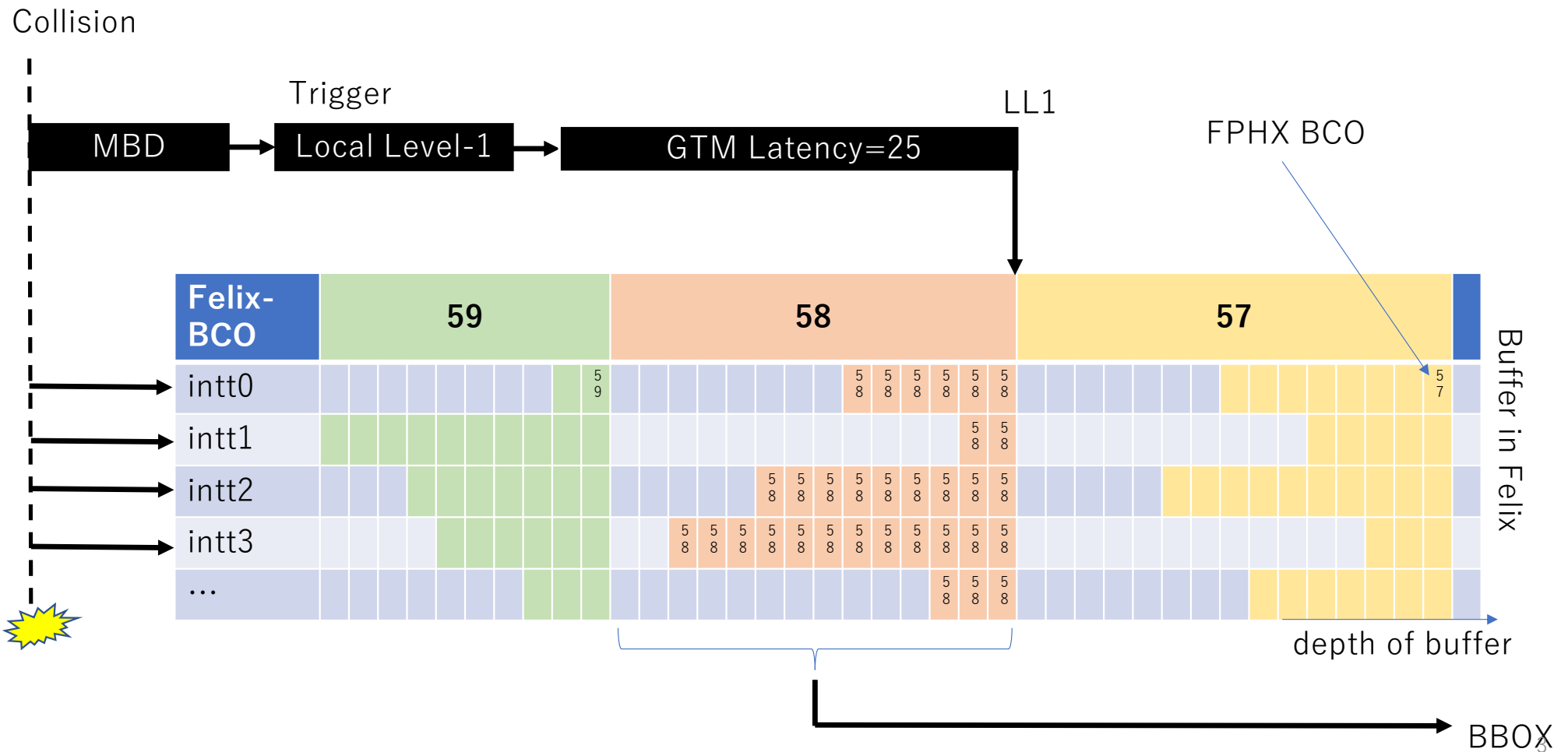
RBRC/RIKEN

Itaru Nakagawa

1. BCO Scan



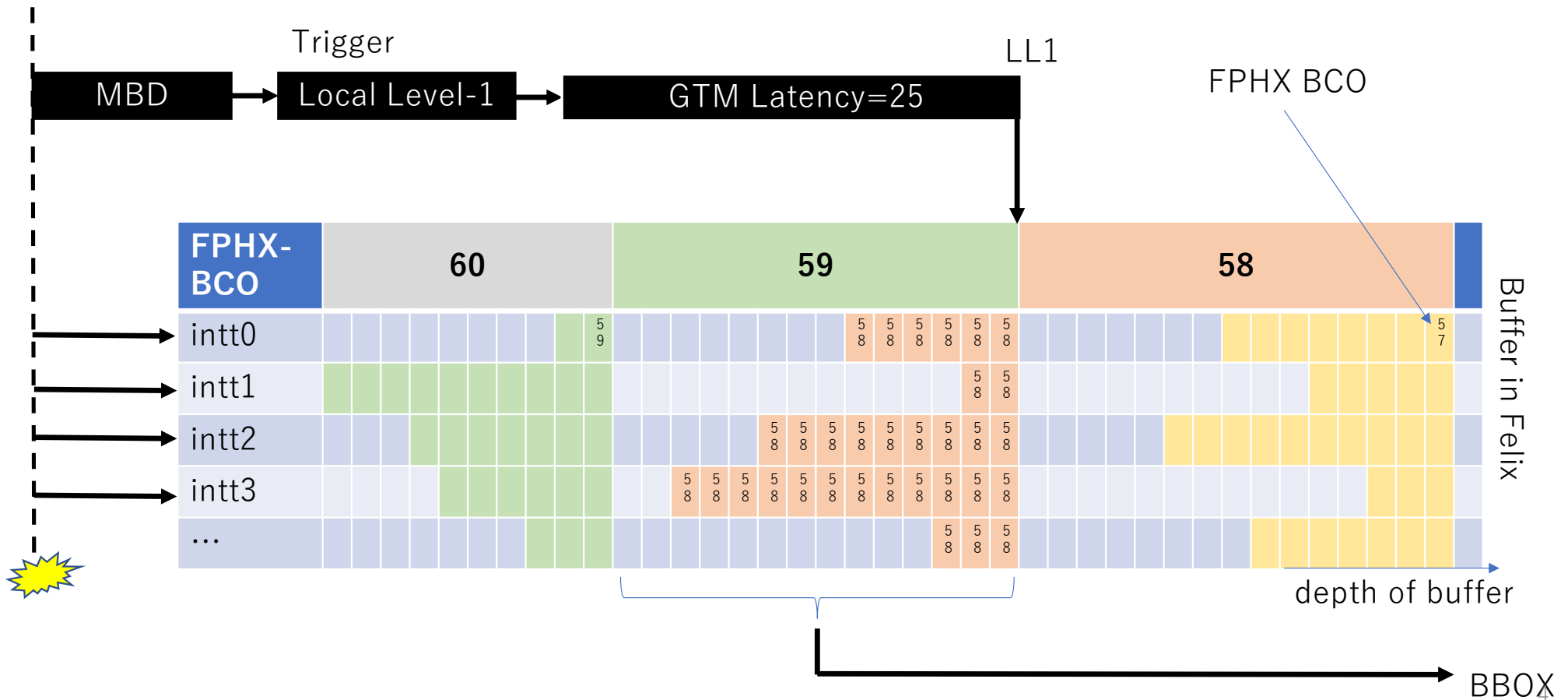
Modebit Offset



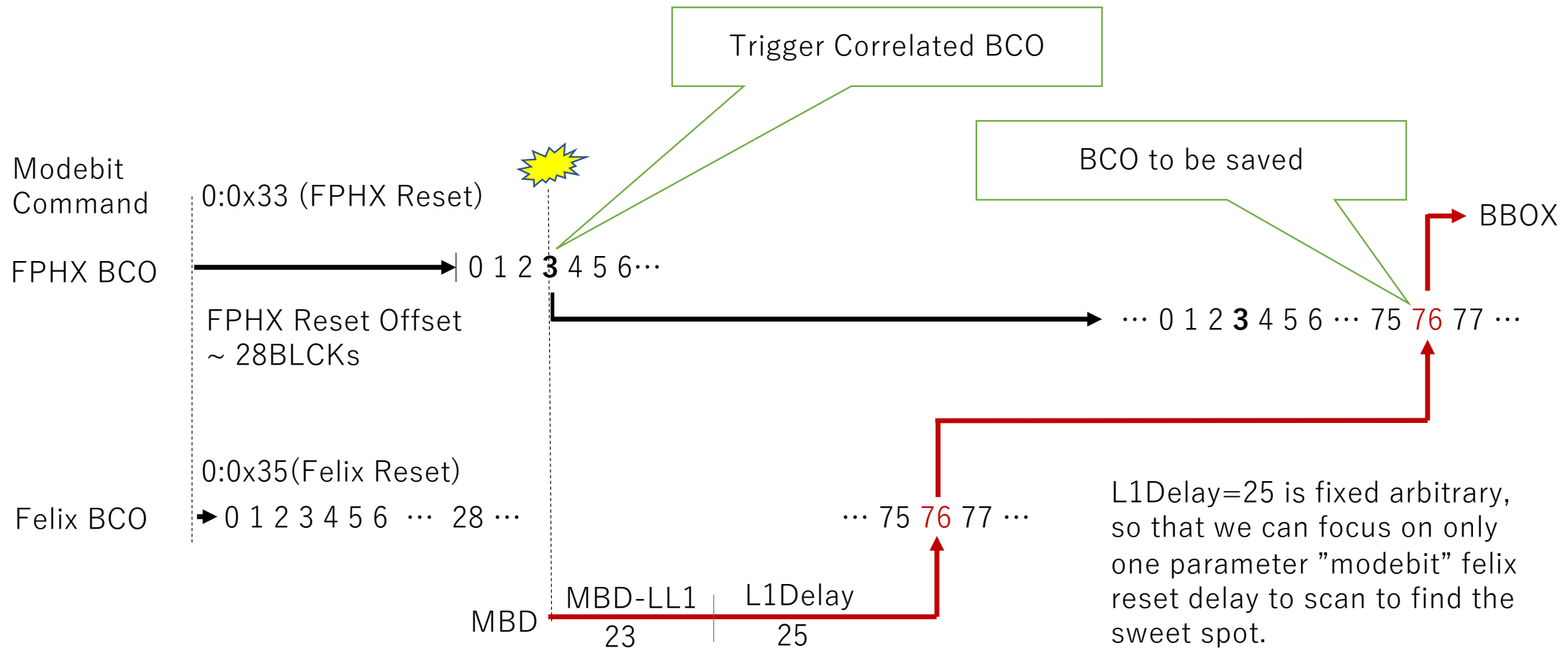
Modebit Offset

~ Mismatch between Felix-BCO and FPHX-BCO~

Collision

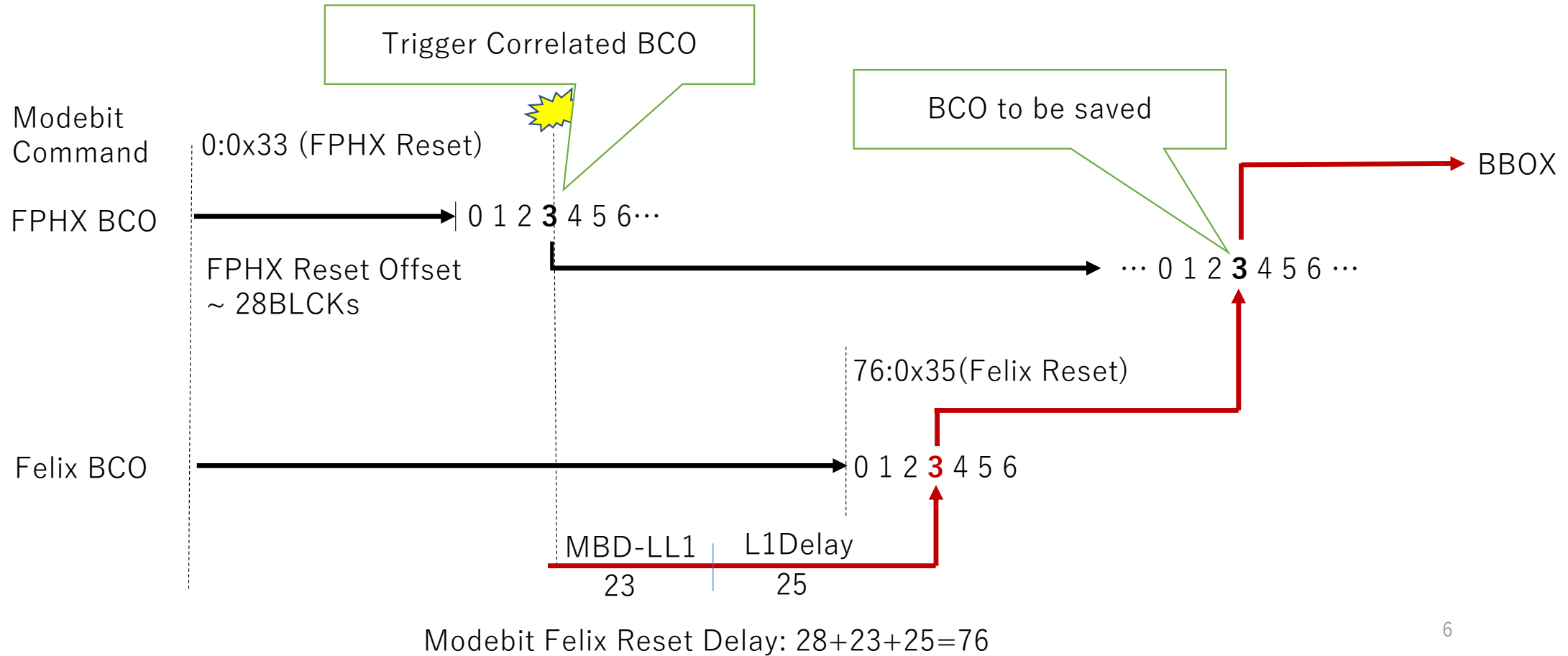


Why mismatch between FPHX and Felix BCO?



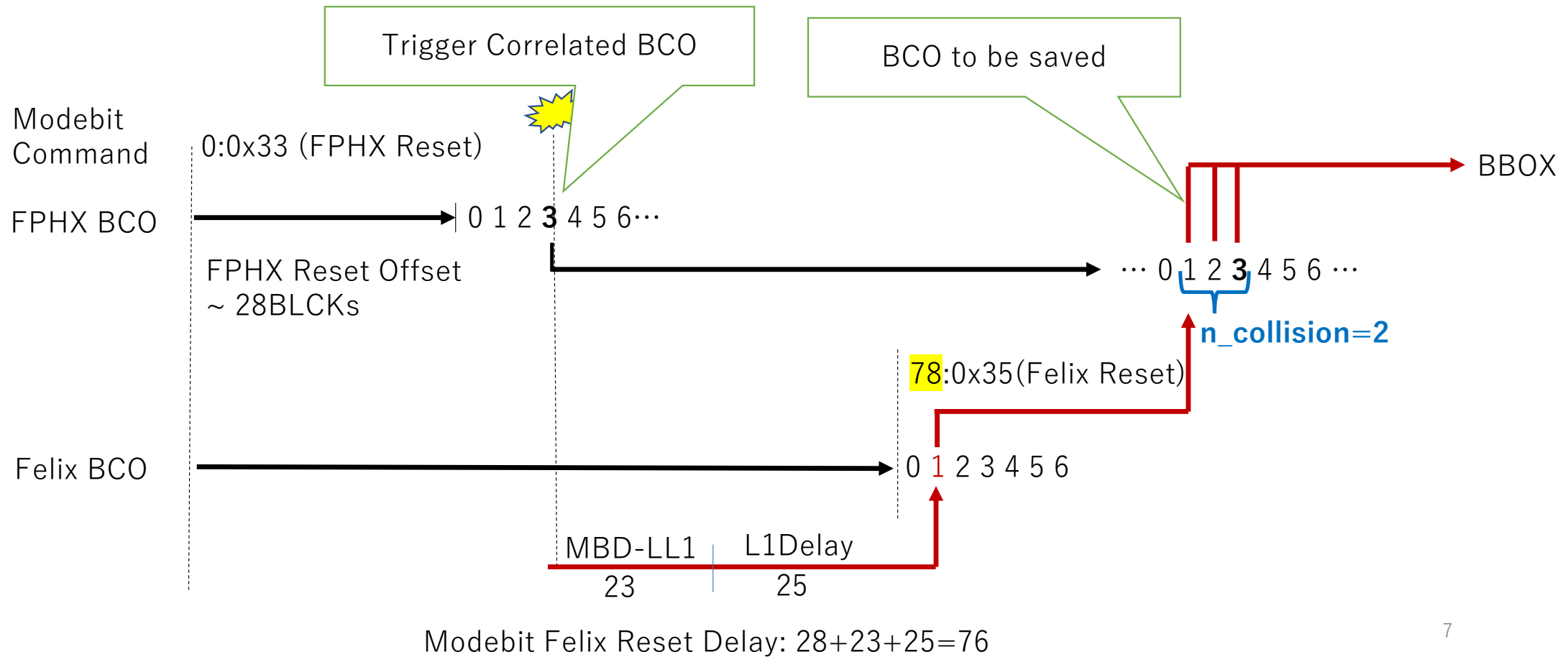
Solution : Modebit Offset

INTT (felix-2) was timed-in successfully through the modebit scan. The sweet spot of felix BCO counter reset command issue timing was found at 76 BCLKs after FPHX BCO counter reset issue.



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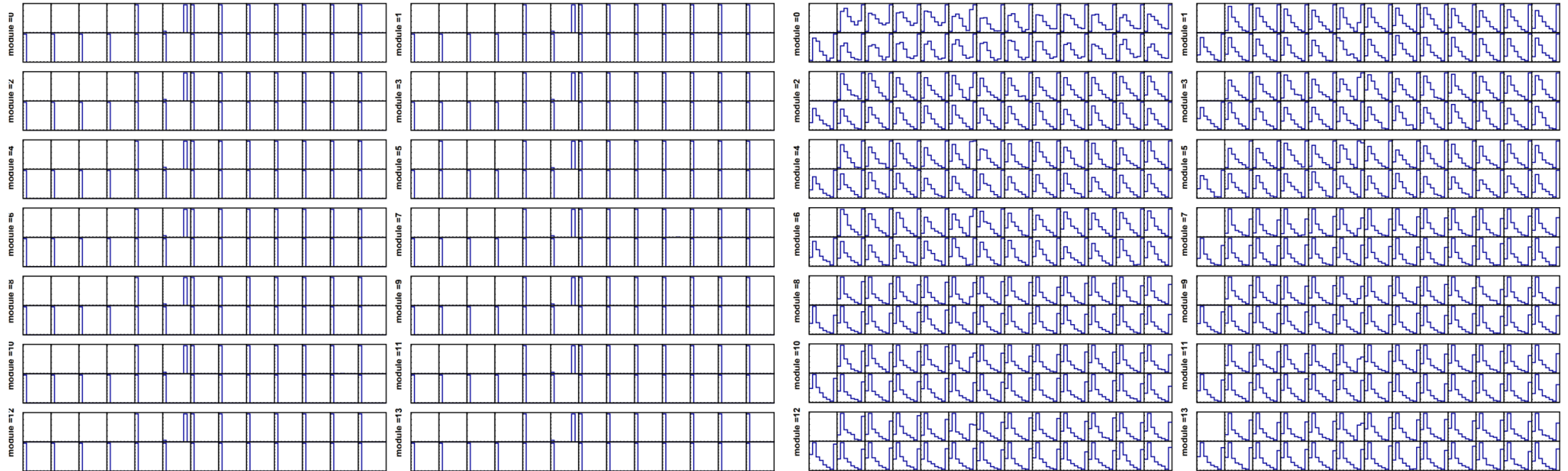
Modebit Scan

The ADC distribution on the right shows the signal from the collision.

The ADC distribution on the left is for out of collision.

In the plot shown in the next slide, I made it from chip1~13 (bottom row) for all modules.

Time in plots in next page were made based on integrated average of hits in chips1~13



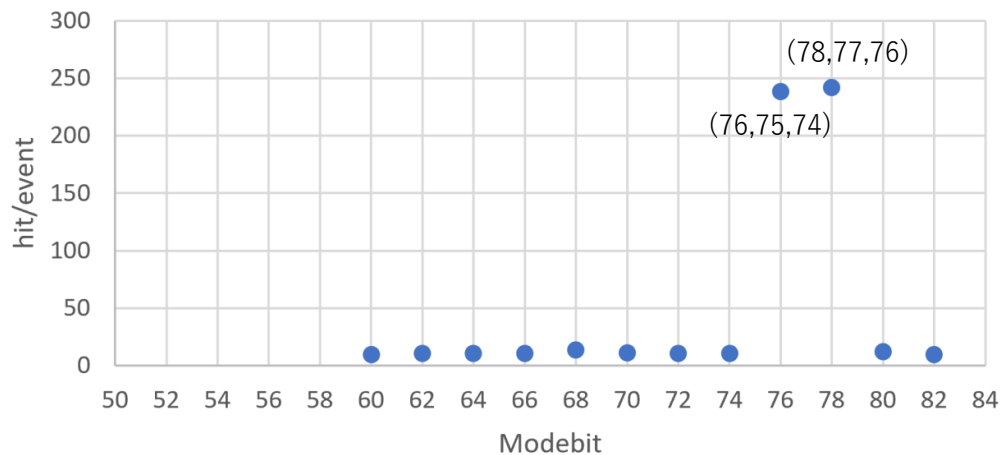
Run#8117(Modebit=78,n_collision=0)

Run#8118(Modebit=76,n_collision=0)

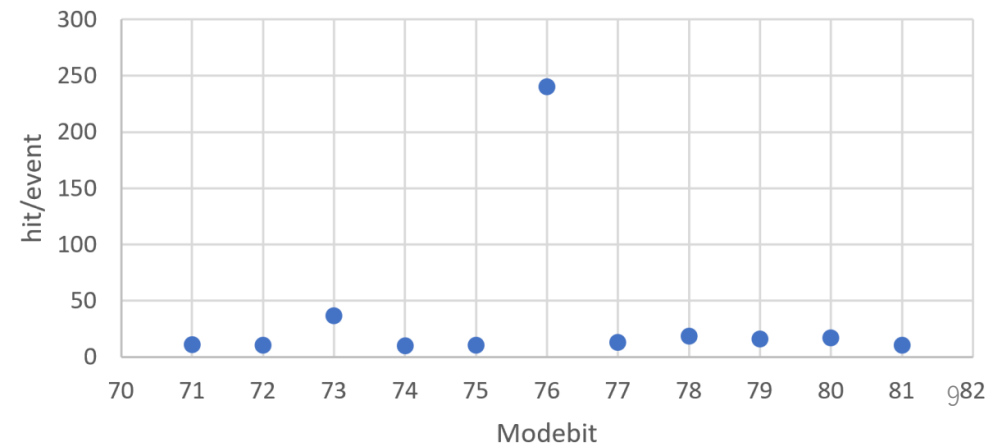
- The figure was created from the ModebitScan results. The horizontal axis is Modebit and the vertical axis is average hit/event.
- The left figure shows ModebitScan between 60~82 with $n_{\text{collision}}=2$, and it is confirmed that there is peaks at Modebit=76,78.
- Next, we changed the range to 71-81 to match the peak and scanned with $n_{\text{collision}}=0$. The right figure shows the result, and it is confirmed that there is a peak at Modebit=76
- When scanning with $n_{\text{collision}}=2$, Modebit=78 had BCOs taking data at 78,77,76, and Modebit=76 had BCOs taking data at 76,75,74, so the both data show similar hits at 78 and 76.

This result suggests that the time in at Modebit=76.

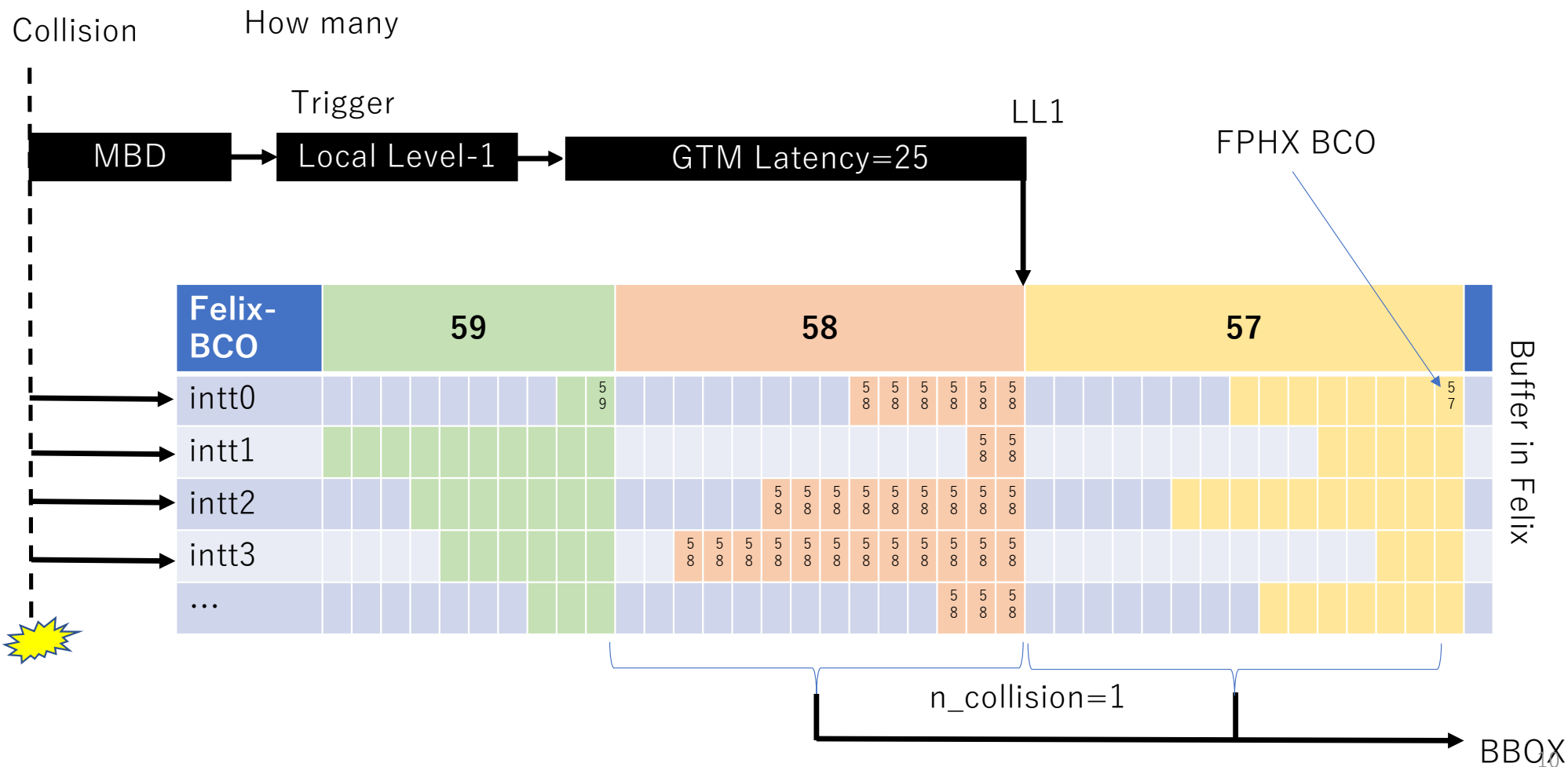
Modebit Scan with quater ladders
 $n_{\text{collision}}=2$



Modebit Scan with quater ladders
 $n_{\text{collision}}=0$



n_collision Definition



Open Time Definition

Collision

How long a felix wait for hits to be received for a given FPHX BCO tag.

