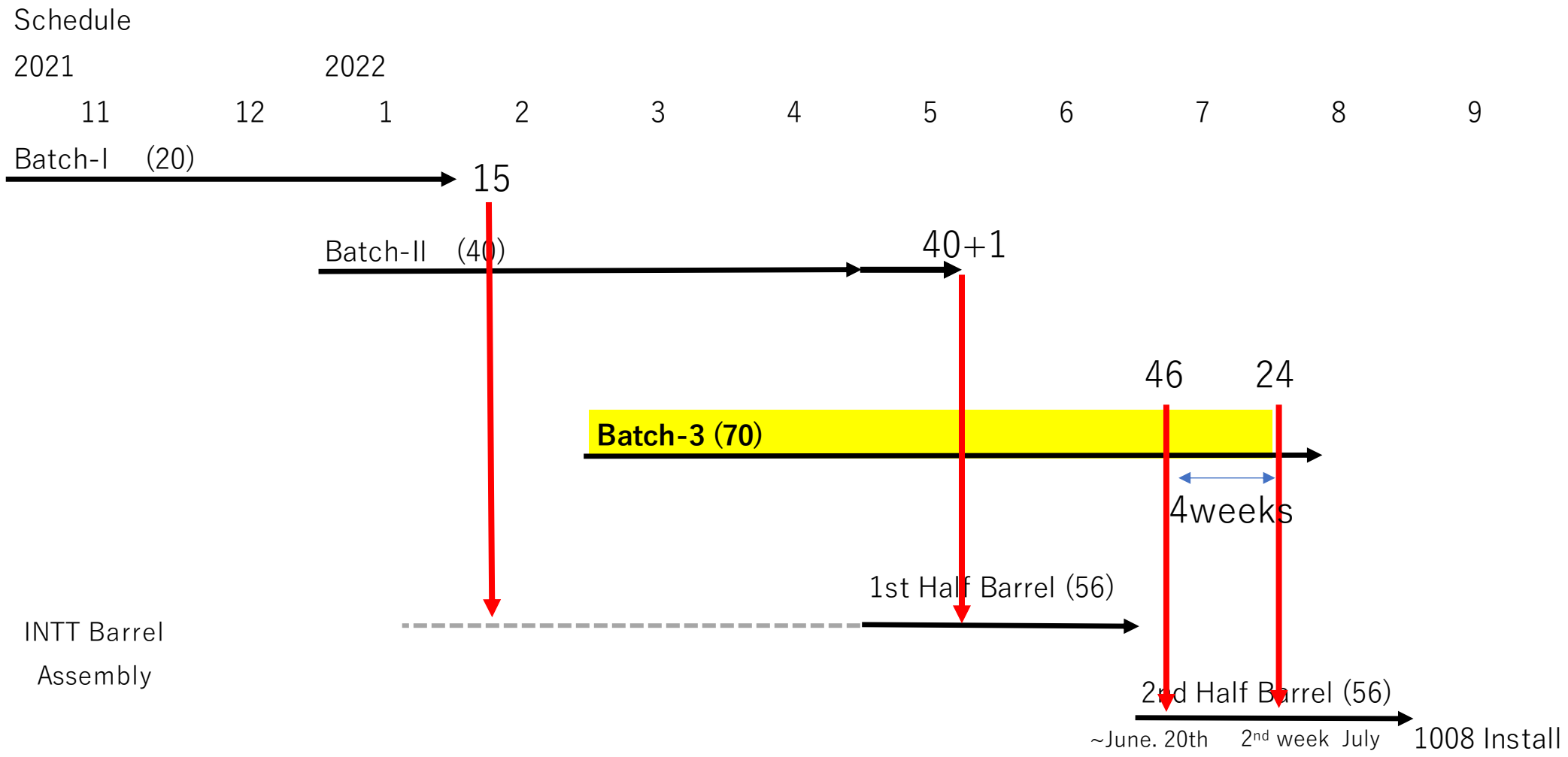
Production Status

RIKEN/RBRC

Itaru Nakagawa

Bus Extender Production Batch-II, III



Total Qty. in BNL	15	56	102	126

INTT Production Status

Today

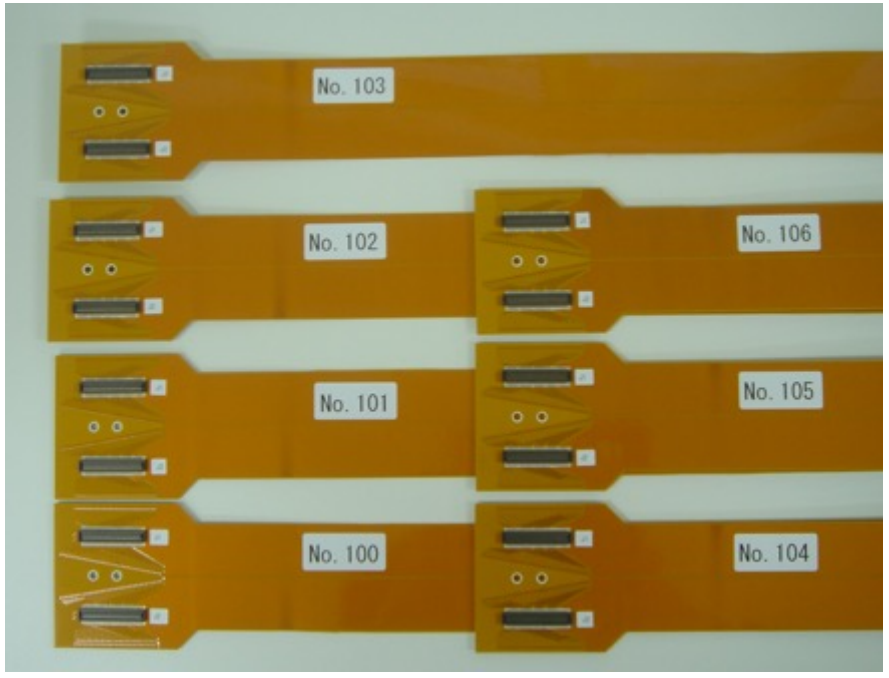
* Beyond 112 are spares

2022	1	2	3	4	5	6	7	8	Qty*	Status
Silicon									135	Done
HDI									176	Done
Stave									204	Done
Bus Extender	Batch-1(20)		Batch-2(40)				Batch-3(70)		130	Production
		Contract								
Conversion Cable	Prototype-1		Contract	Prototype-2		Test	Production (130)		130	Prototype
Beam Clock Board	Design		Public bid	Preproduction(2)			Test	Production(18)	20	Prototype
				Parts procurement		fabrication				
Barrel Assembly										

- 46 BEX are to be delivered in week of June 20th.
- Finalize design of the conversion cable for production.
- To be delivered beam clock board by the end of of June. Cables need to be prepared

3rd batch bus extender LOT-1

- There are 46 (serial No. 61 ~ 106) good BEX were delivered to RIKEN on June 21st and picked up for export on 22nd as scheduled.
- Expected delivery to BNL is June 28th.



ROC Boards Testing

- Received 4 ROC boards from BNL.
- Will inspect DF18 connectors or chips if there are any damaged ones. Then these boards are handed to Hayashi-REPC co. for the regulator upgrade and repair (June ~ July).

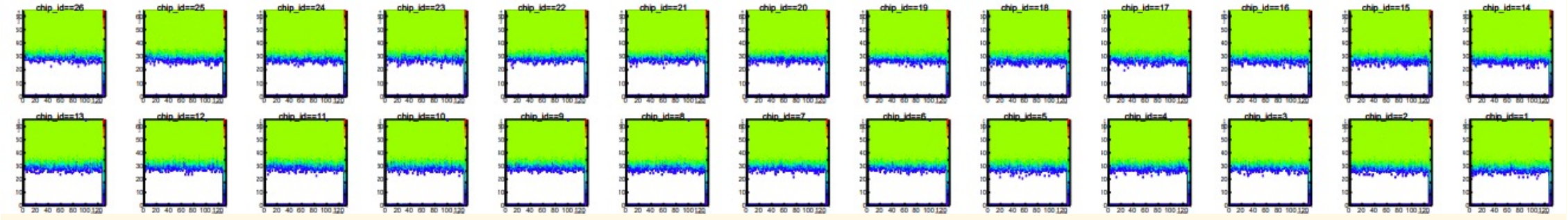
Concern towards Production

Partially dropped data observation in D3 port

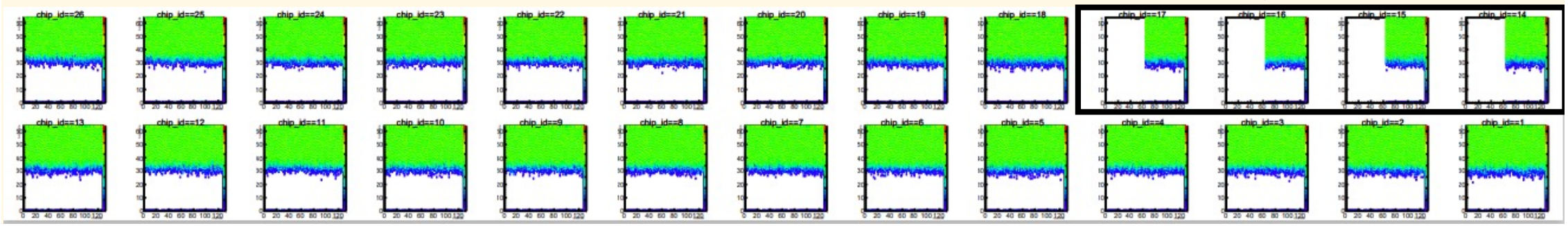
Partially Dropped Data in Calibration

Study by Hikaru Imai

Perfect calibration in B-ports (B1, B2, B3)

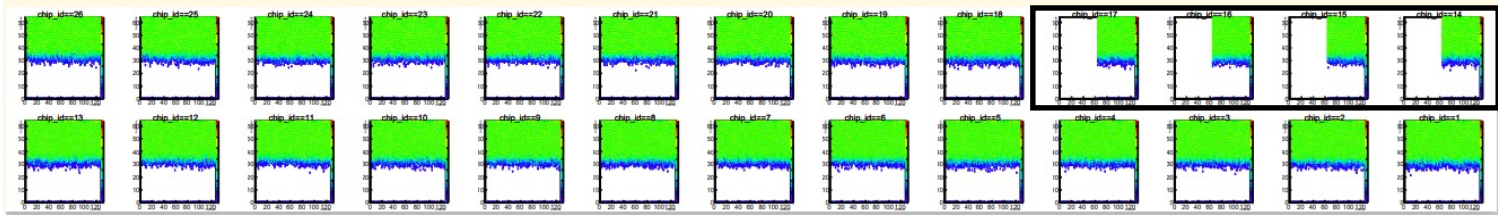


Occurs particularly in D-port of ROC.
Worst in D3 port.

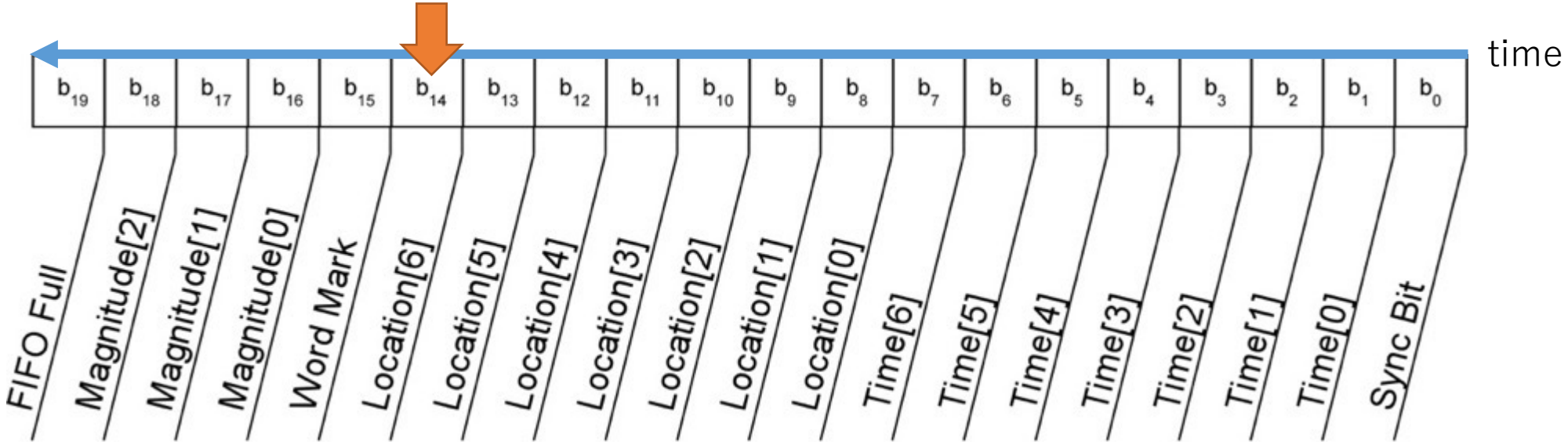


Typically, missing data strip#0~64 of Chip 14 ~17

Strategy



1: Strip #64 ~ 127
0: Strip #0 ~ 63



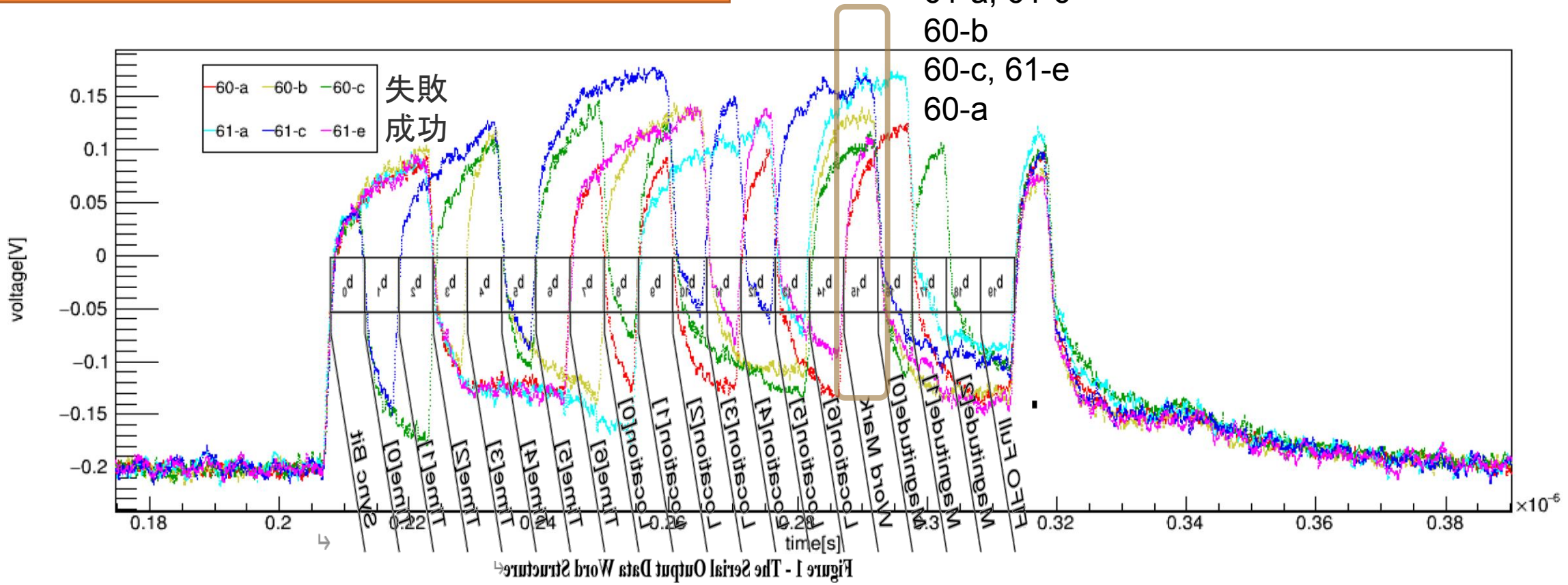
Note that in time order, the Sync bit comes out first and the FIFO full bit comes out last.

- If we observe data pattern b14=false, then the problem is in down stream, i.e. data is healthy. The problem is in the ROC.
- If we don't observe data pattern always b14=true, then the problem is in upstream. Most likely the initialization failure of FPHX chip. Slow control transmission issue of μ-Coax?

Word Mark

2021 Half Entry Debugging Example

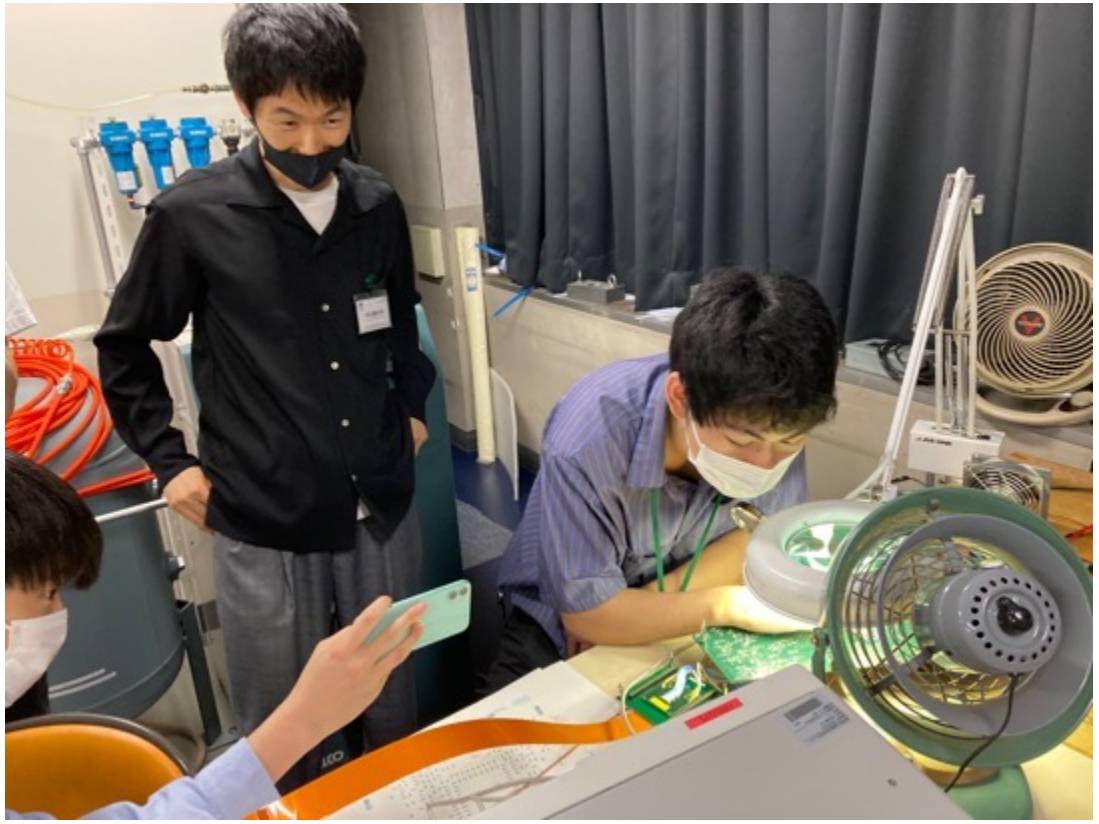
Word Maskの高さは
高い位置から順に
61-a, 61-c
60-b
60-c, 61-e
60-a

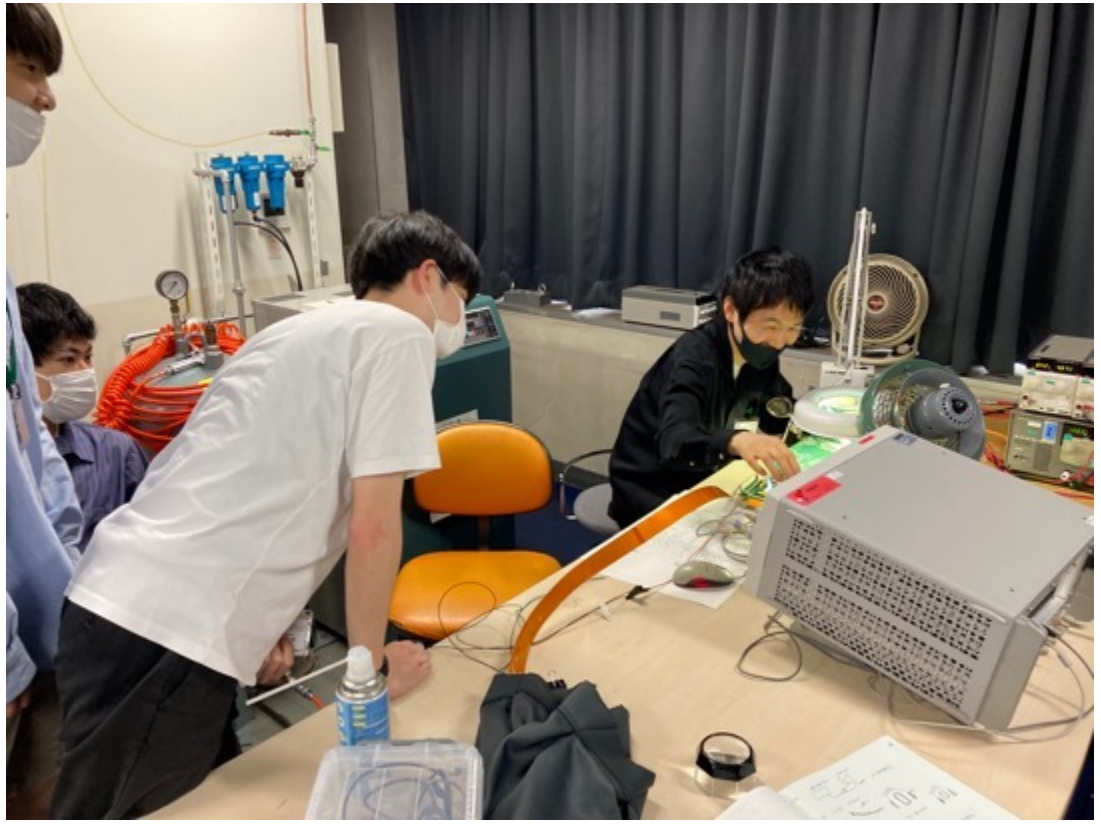


前回の20bitデータ測定(今回の条件ではこれよりも信号がはっきりしているはず。)

Signal Observation @ D3 Port (1)

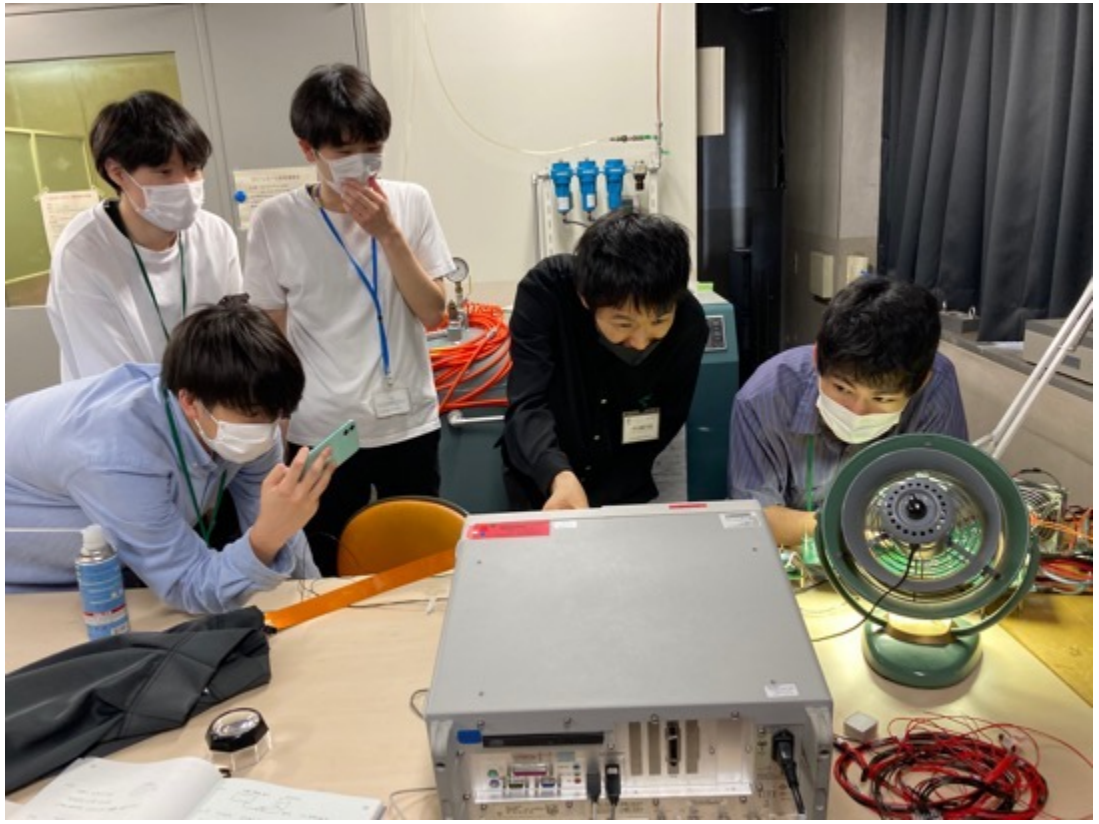
With BEX + 25cm Micro-Coax Conversion Cable



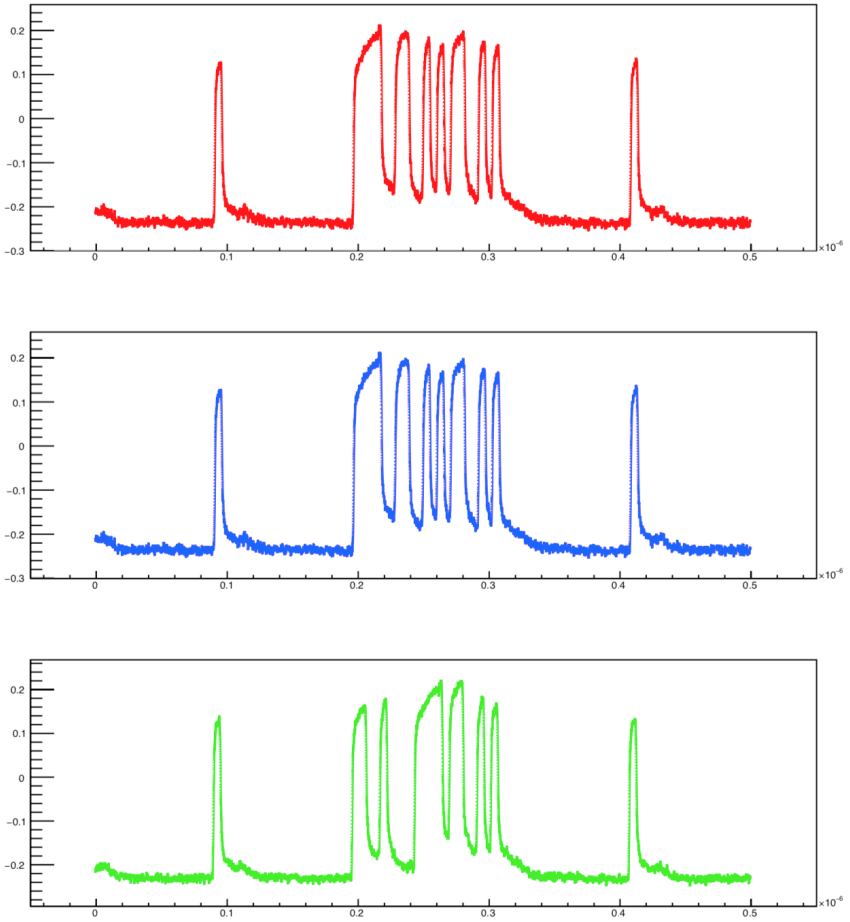


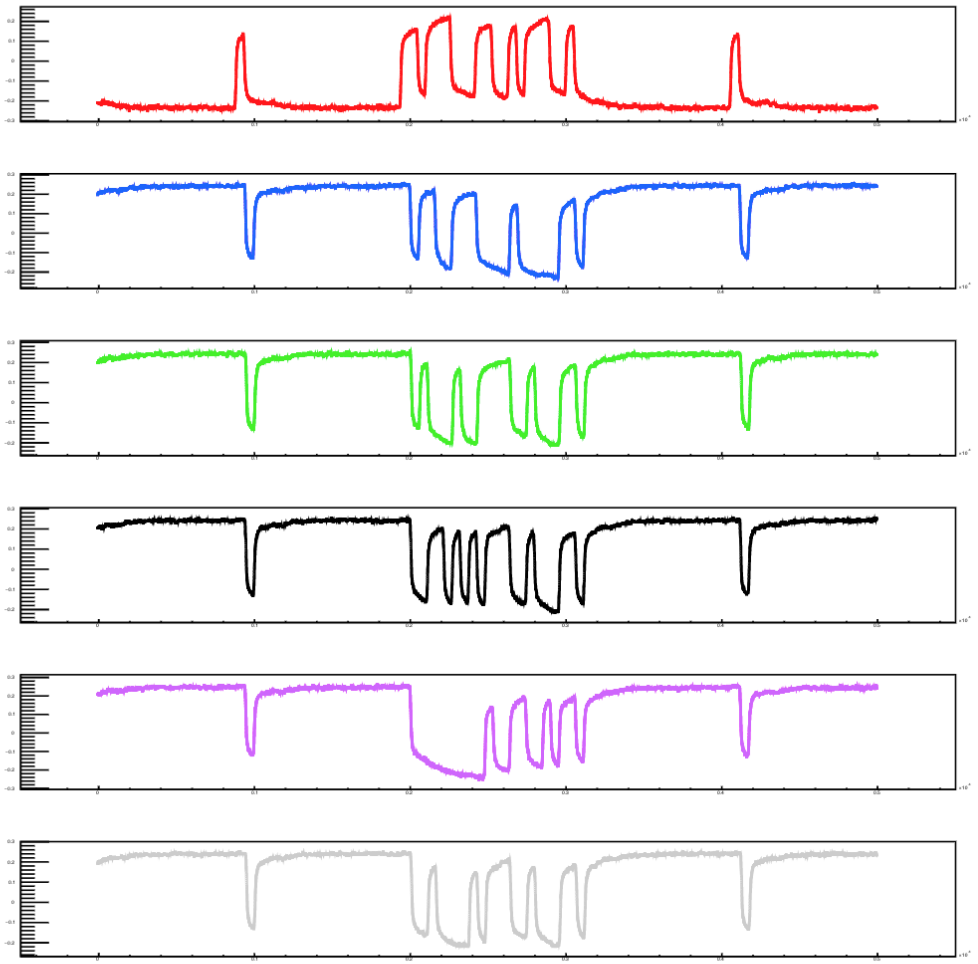
Signal Observation at D3 port (2)

With BEX + 25cm Micro-Coax Conversion Cable



Observed Wave Form





Plot by Hikaru Imai

Analyses are underway by Rikkyo undergrads

INTT Collaboration Meeting

INTT Collaboration Meeting in BNL

- Many members are going to travel to BNL this Summer.
- I would like to propose a collaboration meeting in August at BNL
- Review activities in each institutes to understand each other's work and figure out if there is anything overlooked.
- Discuss plans and schedules for this Fall and Winter.