

Weekly_MT_20250710

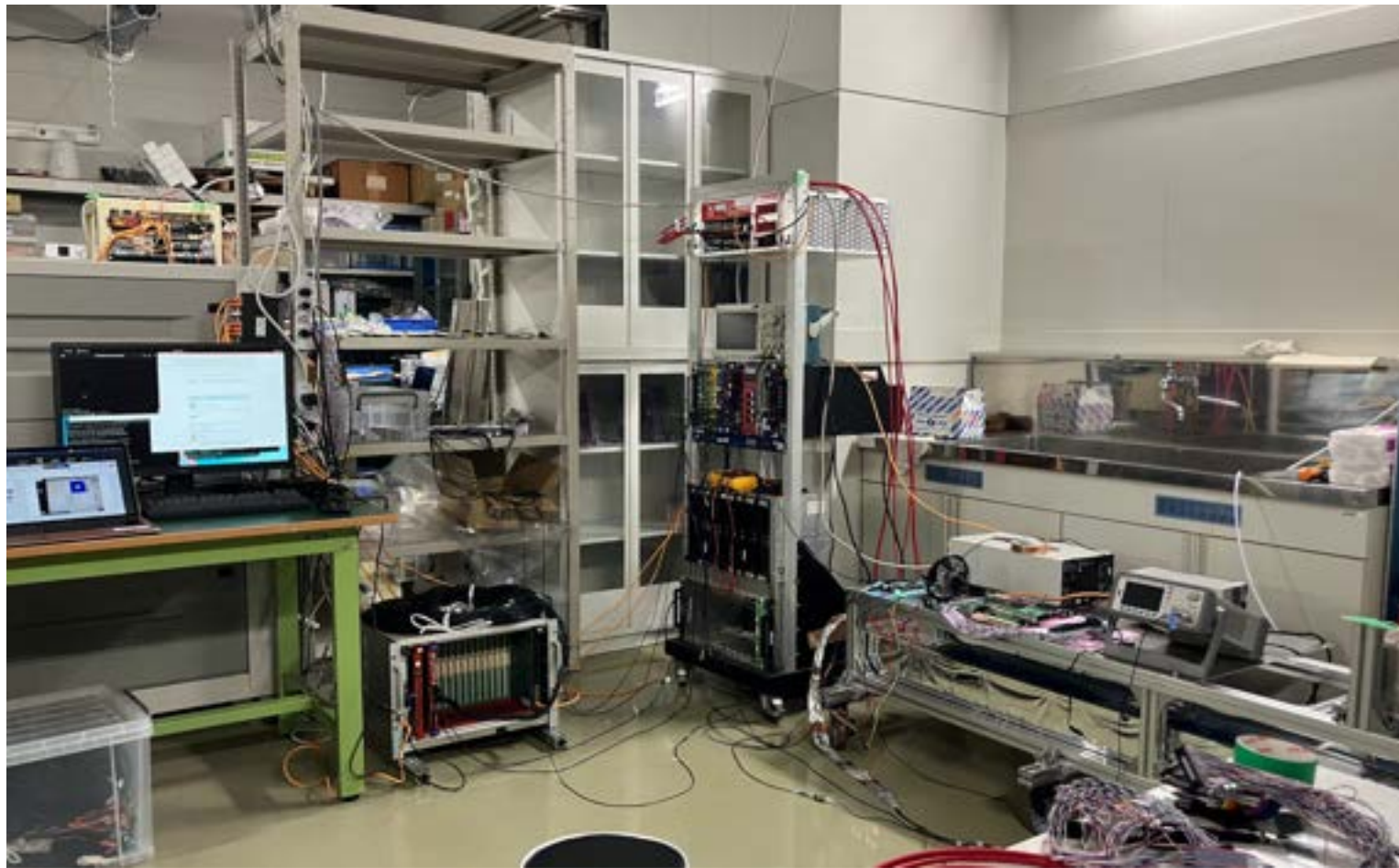
- E80-TC : Transmission speed, QDC and TDC set up
- (E80-CDC : Preparation for HV commissioning and its monitoring system)
- (ASAGI : Review of past materials)
- ToDo

E80-TC

- Work until Obon
 - Transmission speed
 - exchanged to another PC
 - prepared ip, program...
 - QDC(v792), TDC(HUL) set up
 - Gain: QDC: Next week
 - Linear fan in out (NIM) and Amp(NIM) → from J-PARC by Sakuma-san
 - raw
 - analog out
 - Efficiency and ToT: TDC: After QDC
 - ^{90}Sr , at first

E80-TC

RIBF room308 was organized.

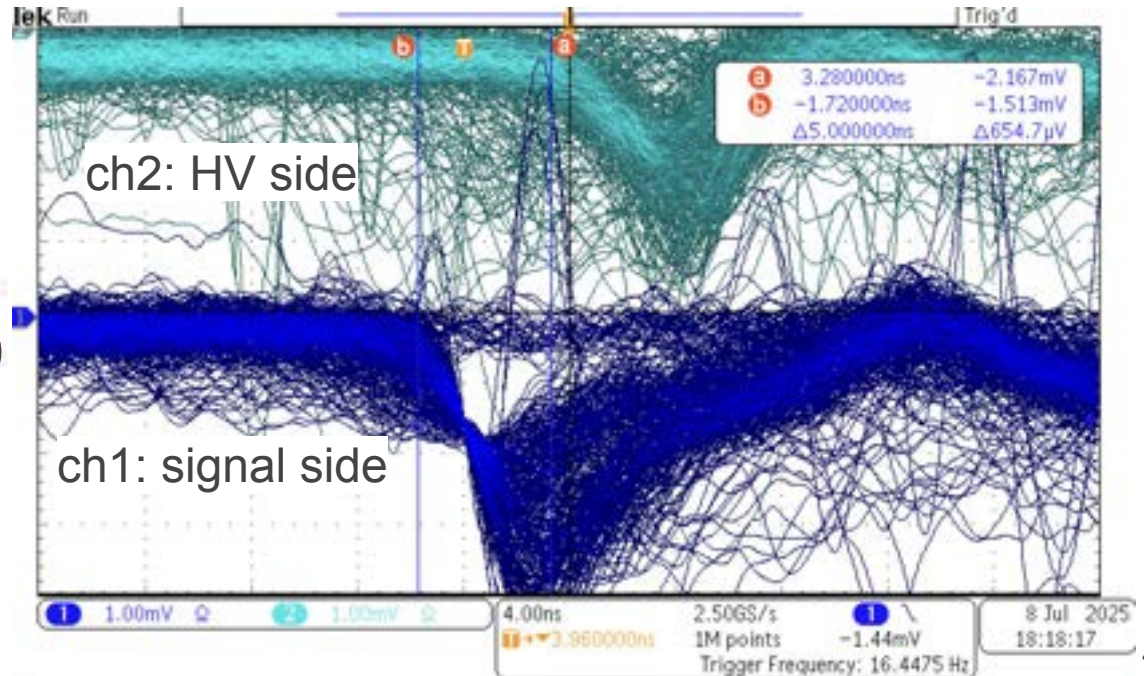
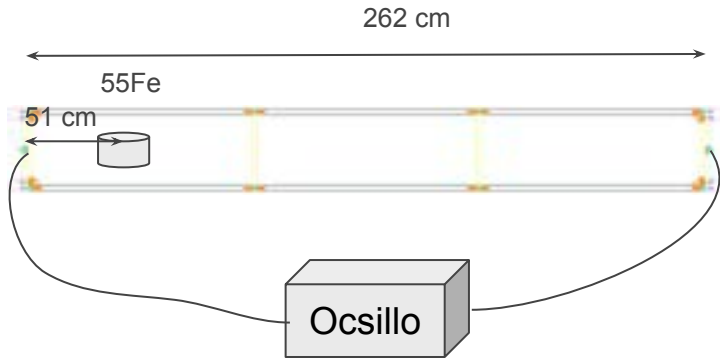


E80-TC: Transmission velocity

- Read the wave forms from both signal and HV side with oscillo

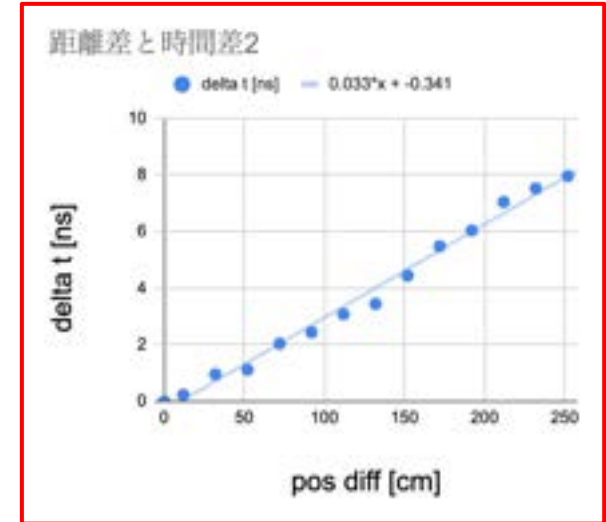
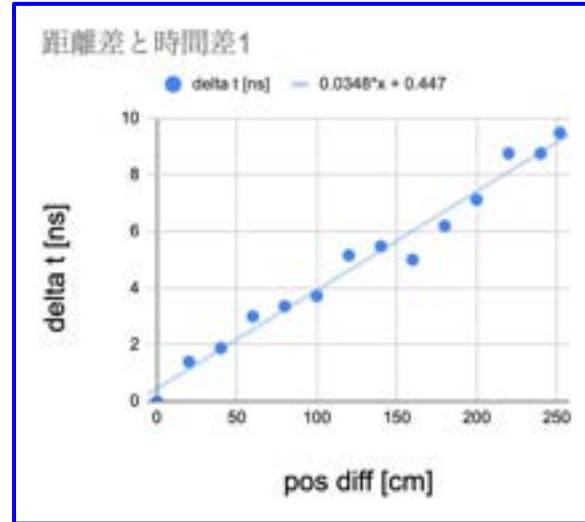
Example:

pos = 51 cm from the edge of signal side



E80-TC: Transmission velocity

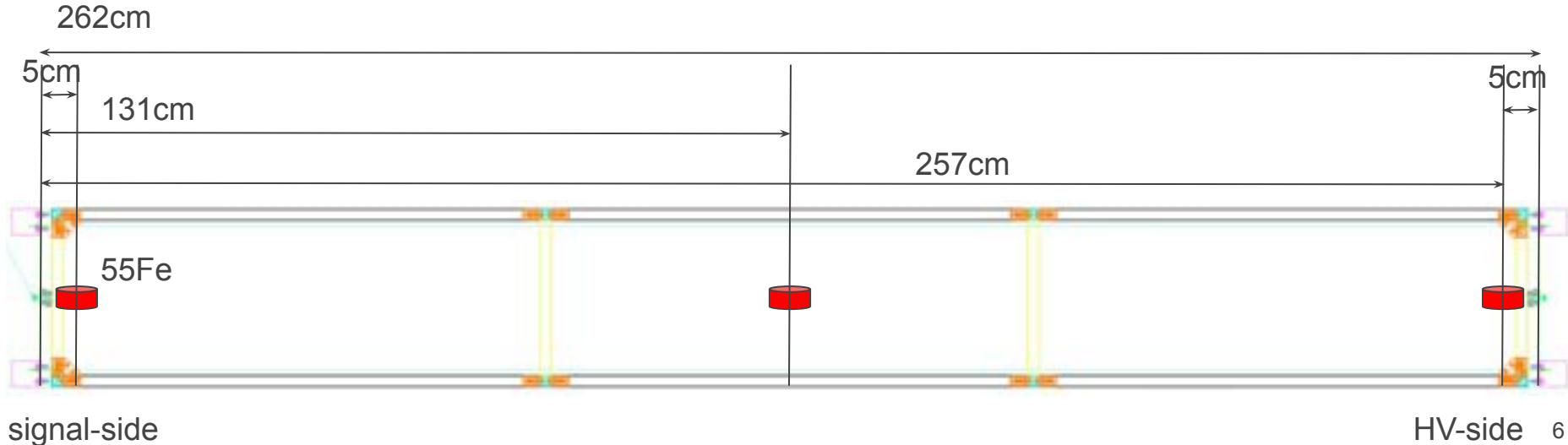
pos [cm]	pos diff [cm]	delta t [ns]
5	252	9.48
11	240	8.76
21	220	8.76
31	200	7.12
41	180	6.2
51	160	5
61	140	5.48
71	120	5.16
81	100	3.72
91	80	3.36
101	60	3
111	40	1.88
121	20	1.4
131	0	0
137	12	0.24
147	32	0.96
157	52	1.12
167	72	2.04
177	92	2.44
187	112	3.08
197	132	3.44
207	152	4.44
217	172	5.48
227	192	6.04
237	212	7.04
247	232	7.52
257	252	7.96



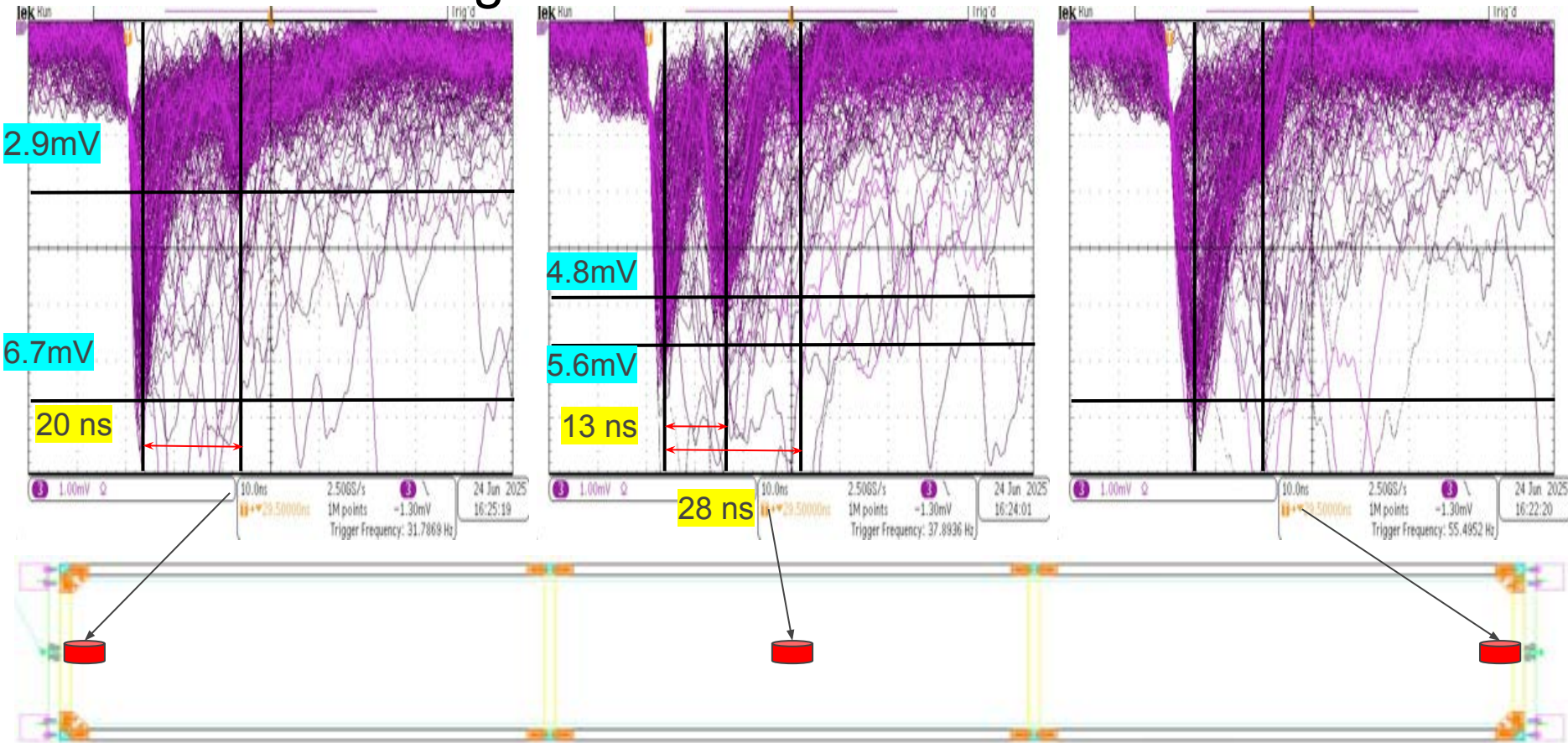
Result: $\sim 0.034 \text{ ns / cm} = \sim 3.4 \text{ ns / m} = c$

E80-TC

- Time discrepancy between first and second pulse
 - case1 “Sig-side” : $3.5 \text{ ns/m} * ((262 + 257) - 5) / 100 \text{ m} = 3.5 \text{ ns/m} * 514 / 100 \text{ m} = \sim 18 \text{ ns}$
 - case2 “Center” : $3.5 \text{ ns/m} * ((262 + 131) - 131) / 100 \text{ m} = 3.5 \text{ ns/m} * 262 / 100 \text{ m} = \sim 9 \text{ ns}$
 - case3 “HV-side” : $3.5 \text{ ns/m} * ((262 + 5) - 257) / 100 \text{ m} = 3.5 \text{ ns/m} * 10 / 100 \text{ m} = \sim 0.3 \text{ ns}$
 - one round trip : $3.5 \text{ ns/m} * 262 * 2 / 100 \text{ m} = \sim 18 \text{ ns}$



E80-TC : Raw Signals from a Sense Wire



signal-side

There seems to be a mismatch in timing...

HV-side 7

E80-CDC

- Plan

- HV conditioning
 - Please recover the system and restart it from - 1000 V
- Obon Ake~?
 - Try to observe the raw signals and the pre-amp output signals.



The screenshot shows a Discord chat interface with a dark theme. At the top, a user named Yuto Kimura (profile picture: a blue robot head) posts a message at 2025/07/03 17:54 titled "E80-CDC HV monitoring 手順 (nuc1 in 準備機2F)". The message contains three numbered steps:

1. Execute the HV-Log-System.
at /home/heates/pytools/caen/

```
./bin/monitoring_wdclog cdc
```
2. Turn On HV.

```
telnet 192.168.1.172 1527
```
3. Run the HV-Monitoring-Programs.
at /home/heates/pytools/caen/e80_cdc/

```
python3 alert.py
```

Below the steps, the user explains: "Now, I set the current threshold for alert "2.0 [A]" in alert.py (lth = 2.0). and for example (Final argument represents "time range [hours]"),

```
python3 monitoring_all.py 6
```

At the bottom of this message, it says: "HV and Current plots are shown in YKimura's homepage "kbarnuc-yu1.net" temporarily. (added)"

A second message from Yuto Kimura at 2025/07/03 18:12 follows, titled "Case1". The text in Japanese says: "CAEN上ではltripは10 uA以上としています。一つでも10 uA超えたら全部落ちるようにしています。その時、原因となったSLayerの番号がここにalertされます (SLayer8 = Guard, SLayer9 = Inner, SLayer10 = Outer)。現場にいる方は上の手順通りにシステム復旧をお願いします。"

A third message titled "Case2." follows, also in Japanese: "どれかが2 uA超えた時も一応alertが来るようにしています。HVが自動でOFFにはなりません。現場にいる方は目安ですが該当のSLayerを-500Vくらいしてもらえば良いかと思っています。"

E80-CDC HV Monitoring Procedure

(nuc1 in J-PARC Hadron Preparation Building 2F)

1. Execute the HV-Log-System.

At /home/heates/pytools/caen/,
`./bin/monitoring_wdcdlog cdc`

本体はここ。E80/CDC commissioning/HVmoni-Procedure
<https://docs.google.com/presentation/d/1HJ1hYuNi9FtDKISZuioD9FRdbySZ3J6QmA8Q4rZIUts/edit?slide=id.p#slide=id.p>

2. Turn On HV. (usr, pw = admin, admin)

`telnet 192.168.1.172 1527`

3. Run the HV-Monitoring-Programs.

At /home/heates/pytools/e80_cdc/,
`python3 alert.py`

Now, I set the current threshold for alert "2.0 [A]" in alert.py (lth = 2.0).
And for example (Final argument represents "time range [hours]"),

`python3 monitoring_all.py 6`

HV and Current plots are shown in Y.Kimura's homepage "kbarnuc-yul.net" temporarily.

ASAGI

- Updated the manual
- Understanding previous investigations
 - Have checked the chats on mattermost and Shirotori-slide
 - Will summarize it by tomorrow

ToDo

- E15-TC: Investigation of the high current
 - what did I do? what will I do?
 - how?
- E80-TC: QDC and TDC with e80-tc (and E15-TC)
- ASAGI: Summary of past materials
- JPS abst(detector session), ~ Aug. 12
- Summary of the gas study: waiting for comments
 - ver. 0 → shared in Discord

Schedule 7/16(Wed) ~7/18(Fri): Sendai@集中講義
8/4(Mon) ~8/8(Fri): Sendai@集中講義