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

“TC” = “Test Chamber”

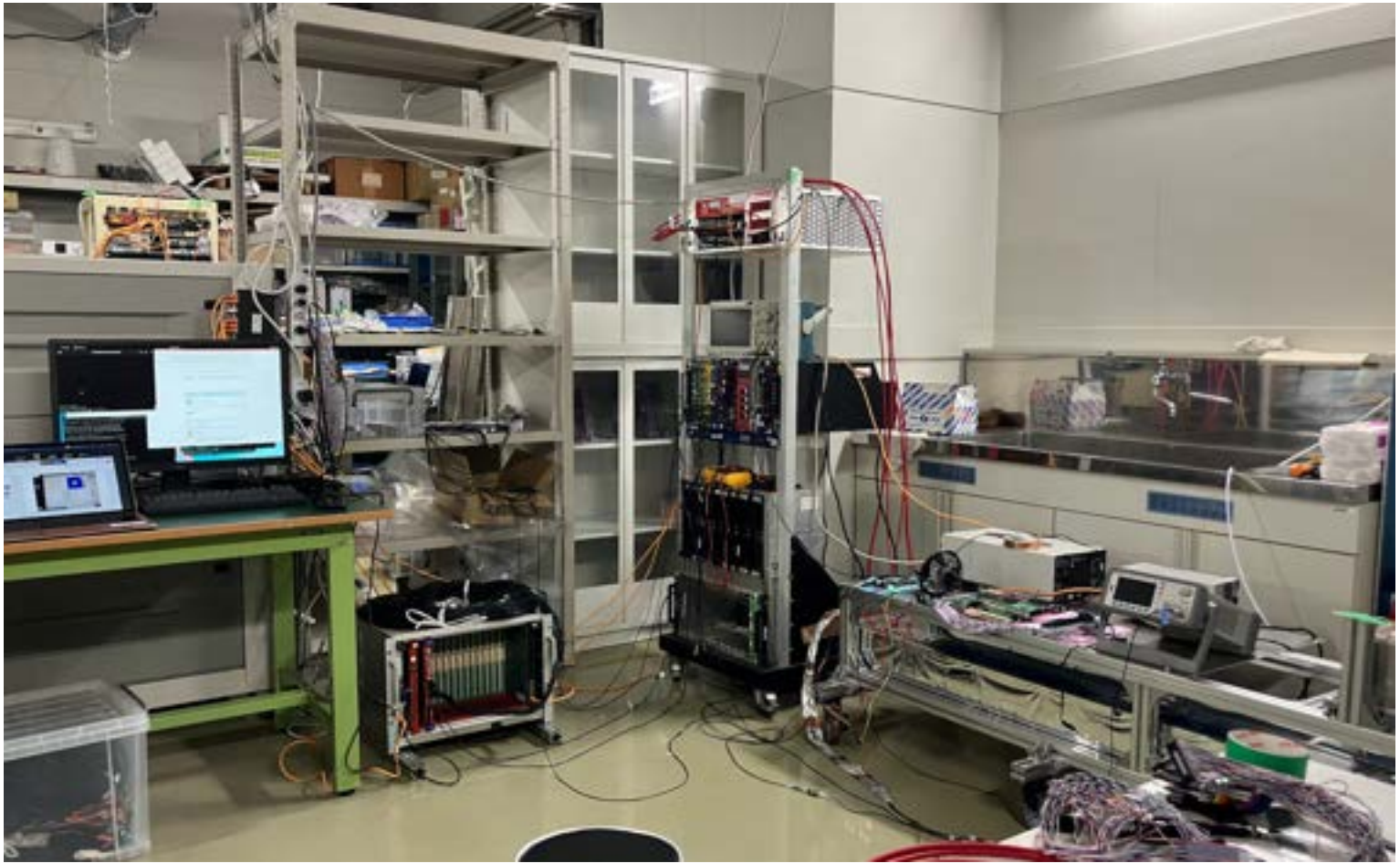
Yuto Kimura (Tohoku, D1)

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
    - 90Sr, at first

E80-TC

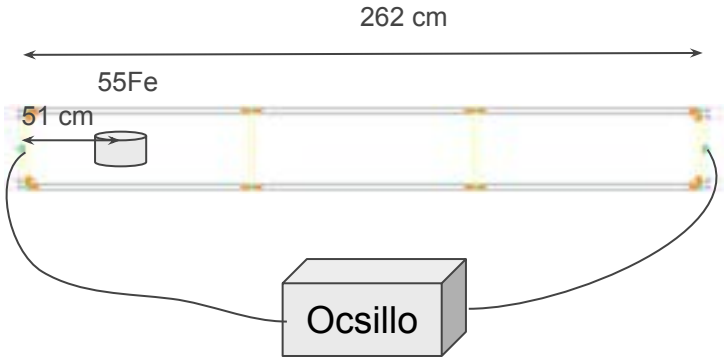
RIBF room308 was organized.

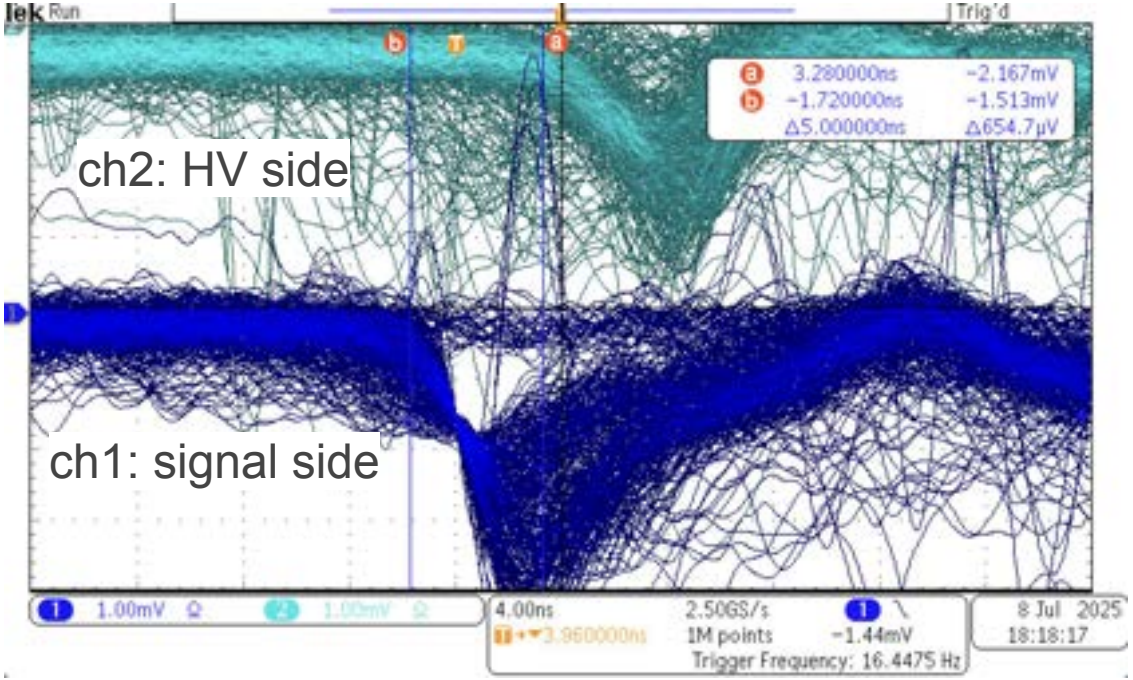


E80-TC: Transmission velocity

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

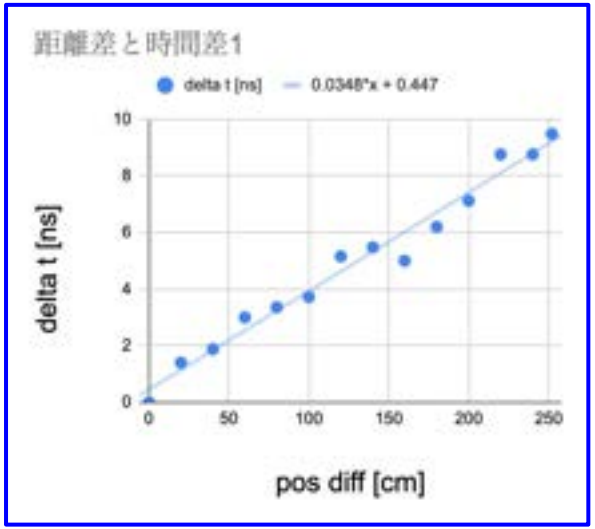
Example:
pos = 51 cm from the edge of signal side

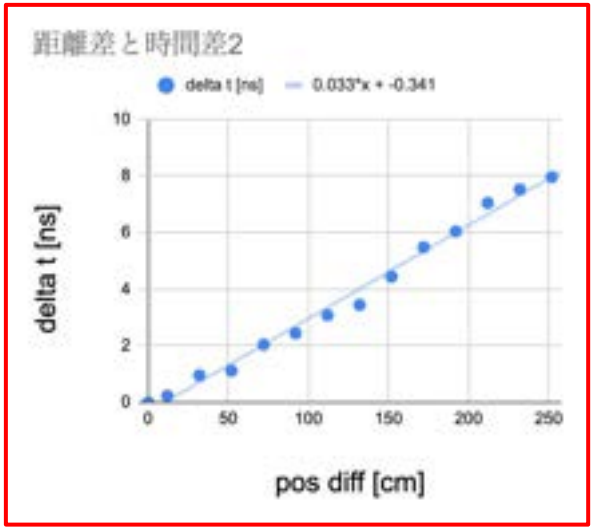




E80-TC: Transmission velocity

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

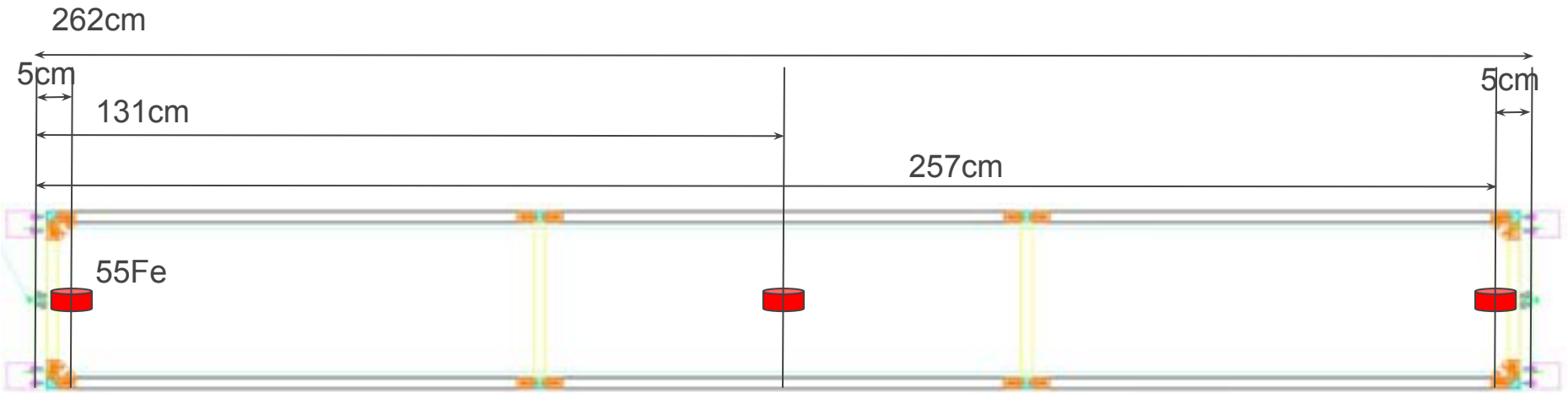




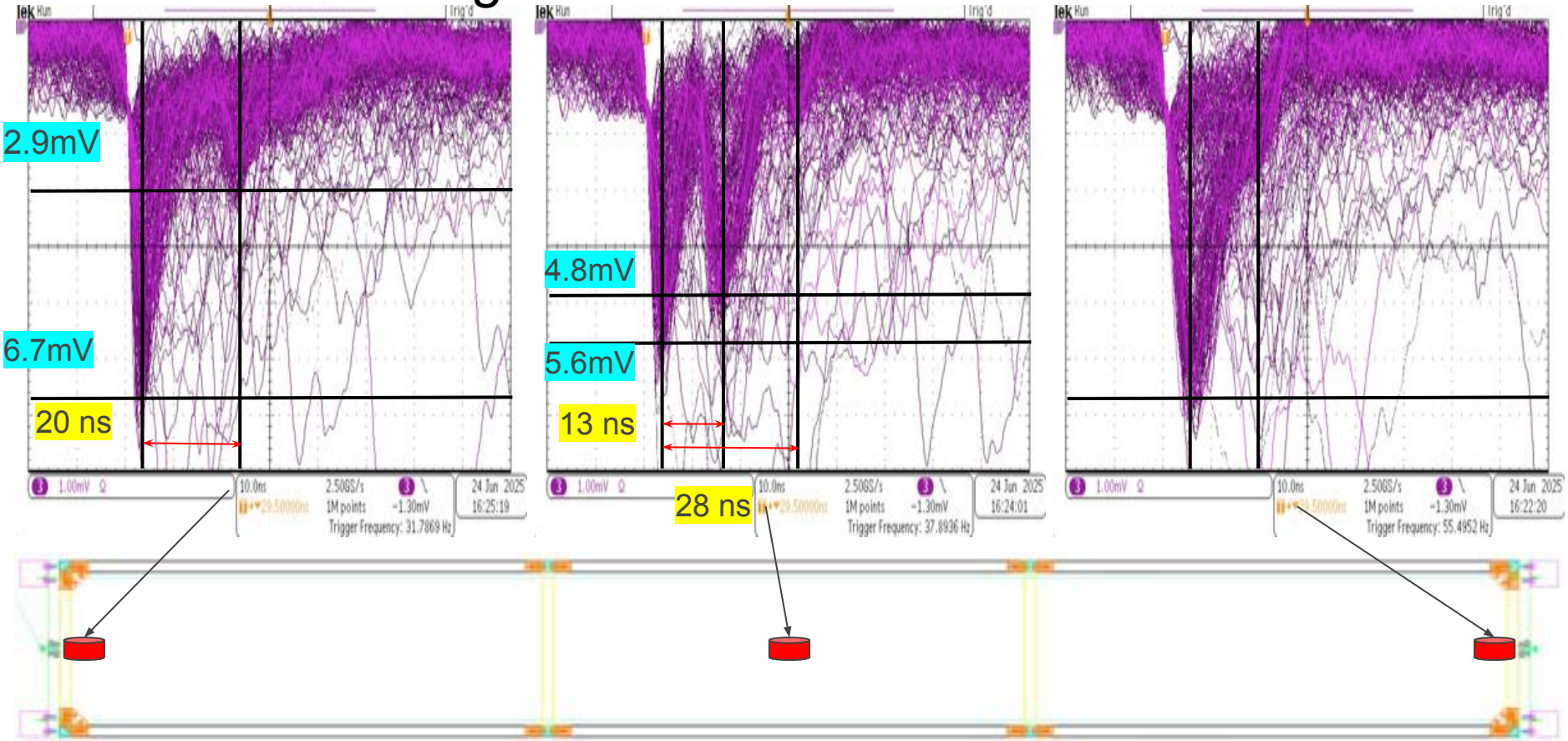
Result: ~ 0.034 ns / cm = ~3.4 ns / m = c

E80-TC

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



E80-TC : Raw Signals from a Sense Wire



signal-side

There seems to be a mismatch in timing…

HV-side

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.

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/monitorring_wcdclog cdc
   ```

本体はここ。E80/CDC commissioning/HVmoni-Procedure
https://docs.google.com/presentation/d/1HJ1hYuNi9FtDKISZuioD9FRdbySZ3J6QmA8Q4rZlUTs/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 (Ith = 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 tommorow

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