

20170720 STATUS REPORT

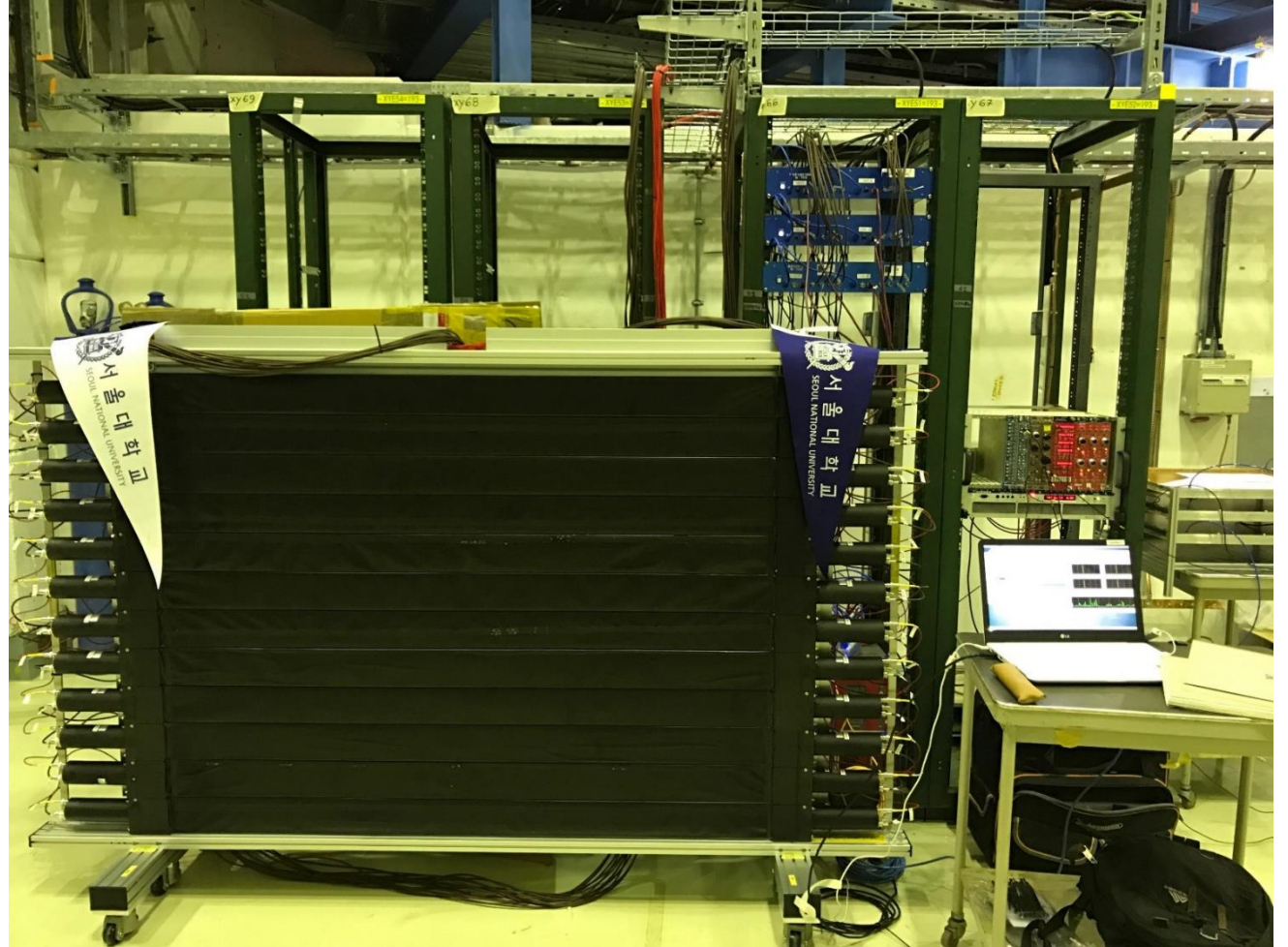
Ahram lee

TOF Status

: It has been installed and tested

- ✓ Box unpacking
- ✓ Support assembly
- ✓ Counter assembly
- ✓ Light leak check
- ✓ DAQ connection & check
- ✓ Cabling & Labeling
- Cosmic ray test
- Anti-proton test

Now we can use 12 counters
6 FADC + TCB (24ch)
2 HV modules (24ch)



TOF Status

DAQ notice – high rate error

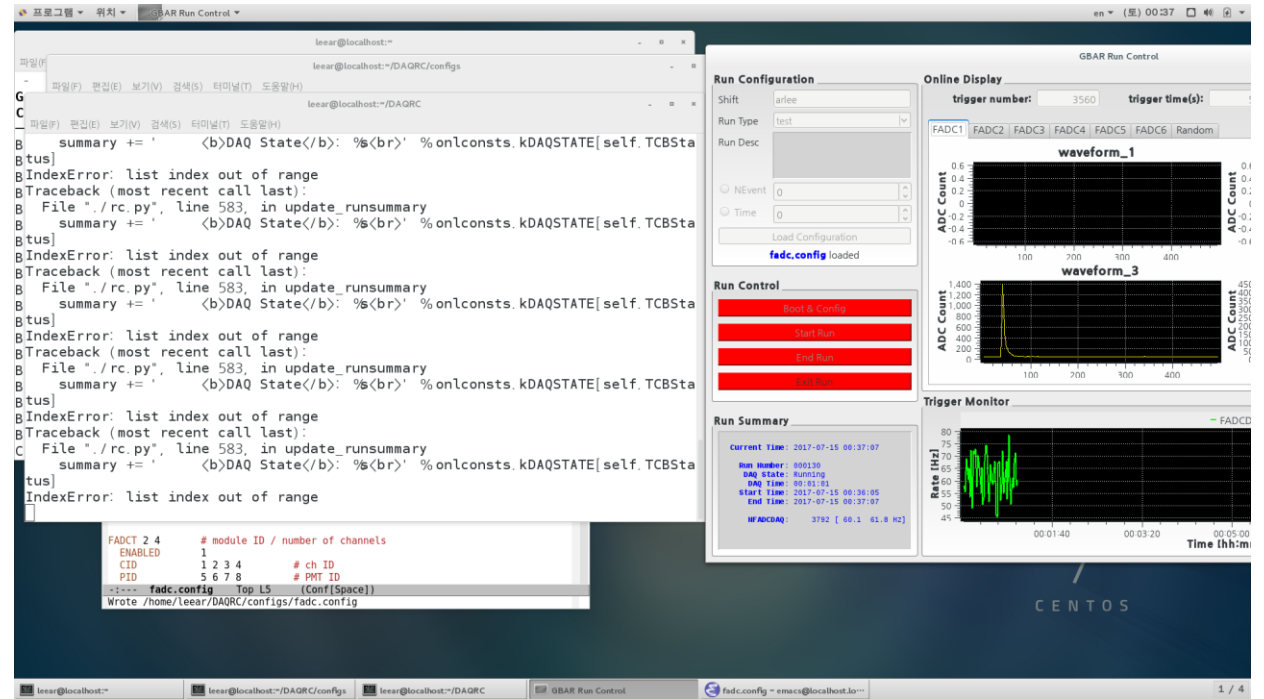
Module set : 1 2 3 4 (FADC 001)

Configuration

- coincidence = $1 \times 2 + 3 \times 4$
- mthr = 2
- (- default deadtime = 0 [ns])

∴ After 3560 trigger,
DAQRC was stopped by error

∴ If two triggers are too close, a signal of a module cannot be saved → **ERROR!**
Dead time should be set during high rate experiments.



TOF Status Connection & Labeling

FADC 001

1	2	3	4
1	2	3	4

(BAR 01) (BAR 02)

FADC 002

1	2	3	4
5	6	7	8

(BAR 03) (BAR 04)

← MID
← CID
← PID

FADC 003

1	2	3	4
9	10	11	12

(BAR 05) (BAR 06)

FADC 004

1	2	3	4
13	14	15	16

(BAR 07) (BAR 08)

FADC 005

1	2	3	4
17	18	19	20

(BAR 09) (BAR 10)

FADC 006

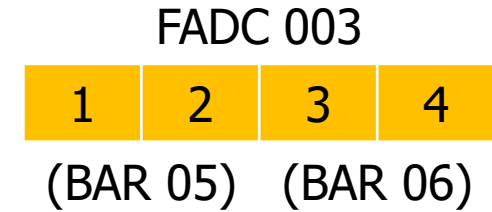
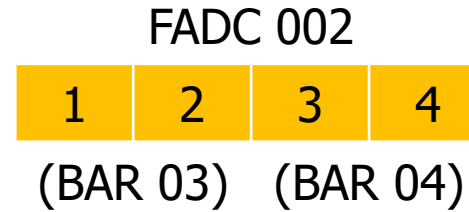
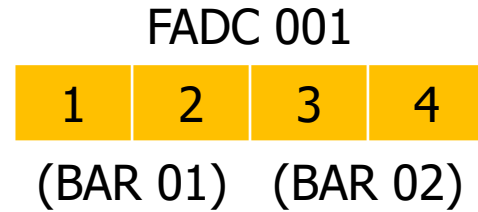
1	2	3	4
21	22	23	24

(BAR 11) (BAR 12)

TOF Status

6bar test

Module set :



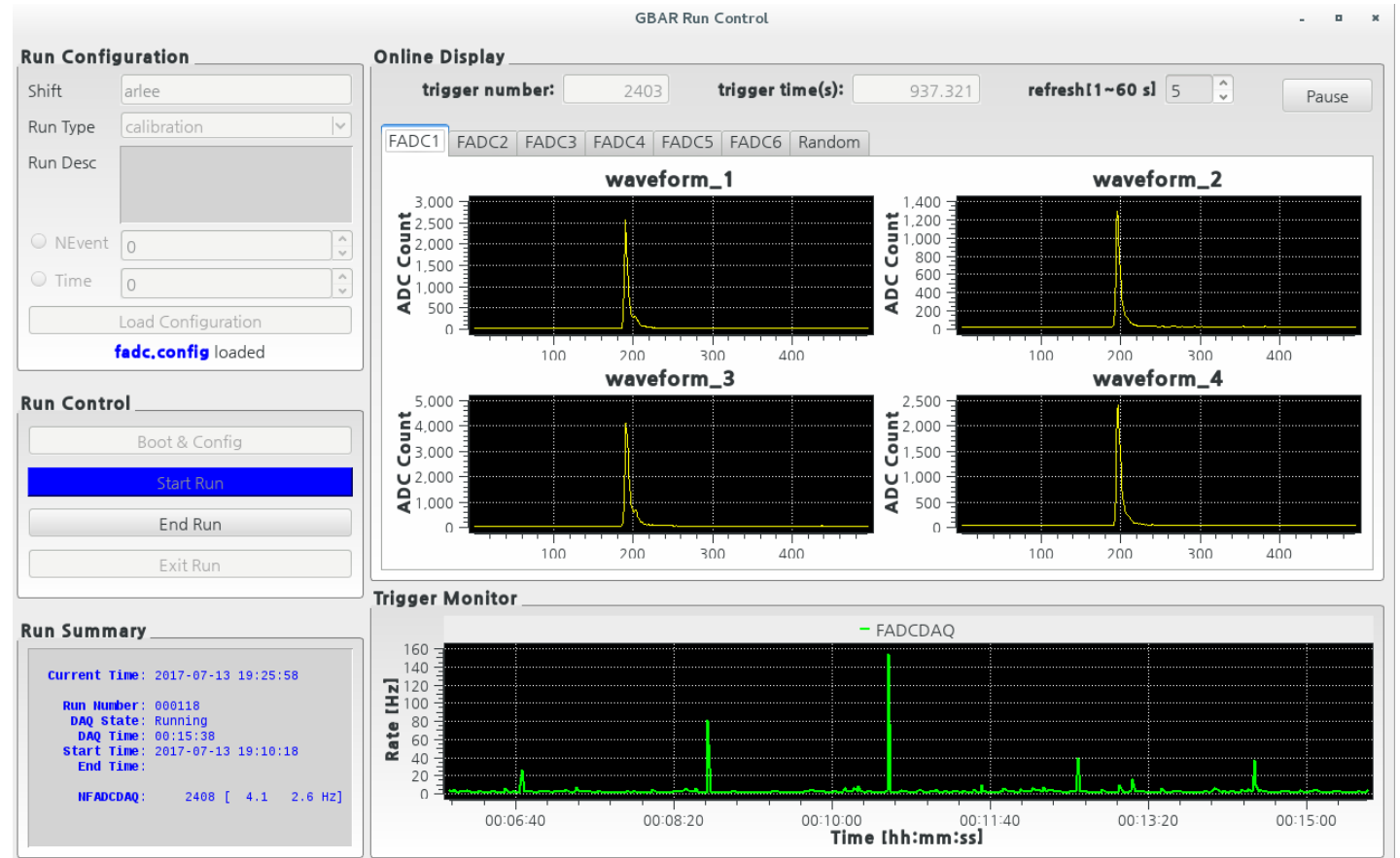
Configuration : coincidence = 1x2x3x4 for each FADC
mthr = 12

TOF Status

6bar test (FADC_000119)

Periodic source

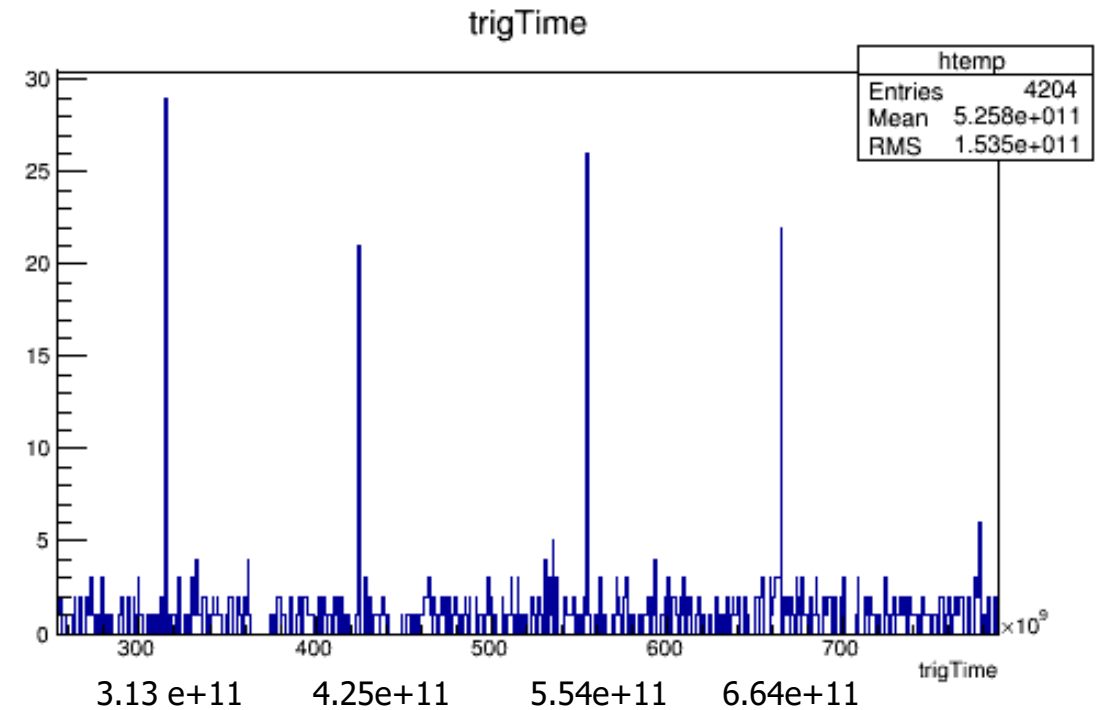
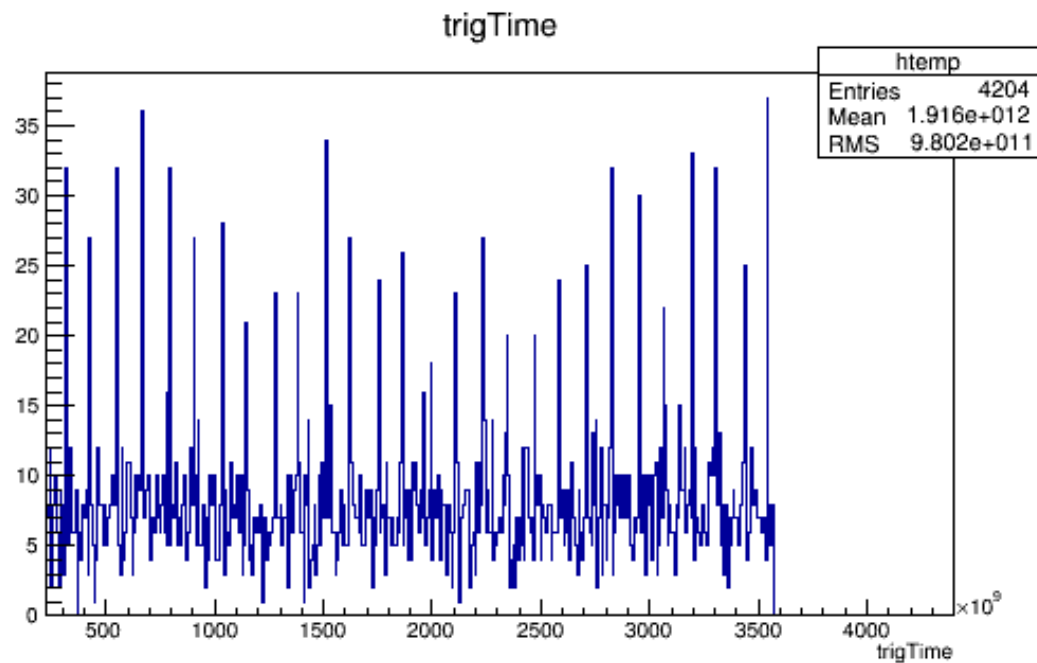
There is a source which makes periodically high trigger rate.



TOF Status

6bar test (FADC_000119)

Periodic source – trigTime histogram



trigTime [ns]
= When a signal exceeds the threshold

Period ~ 100 -110 sec

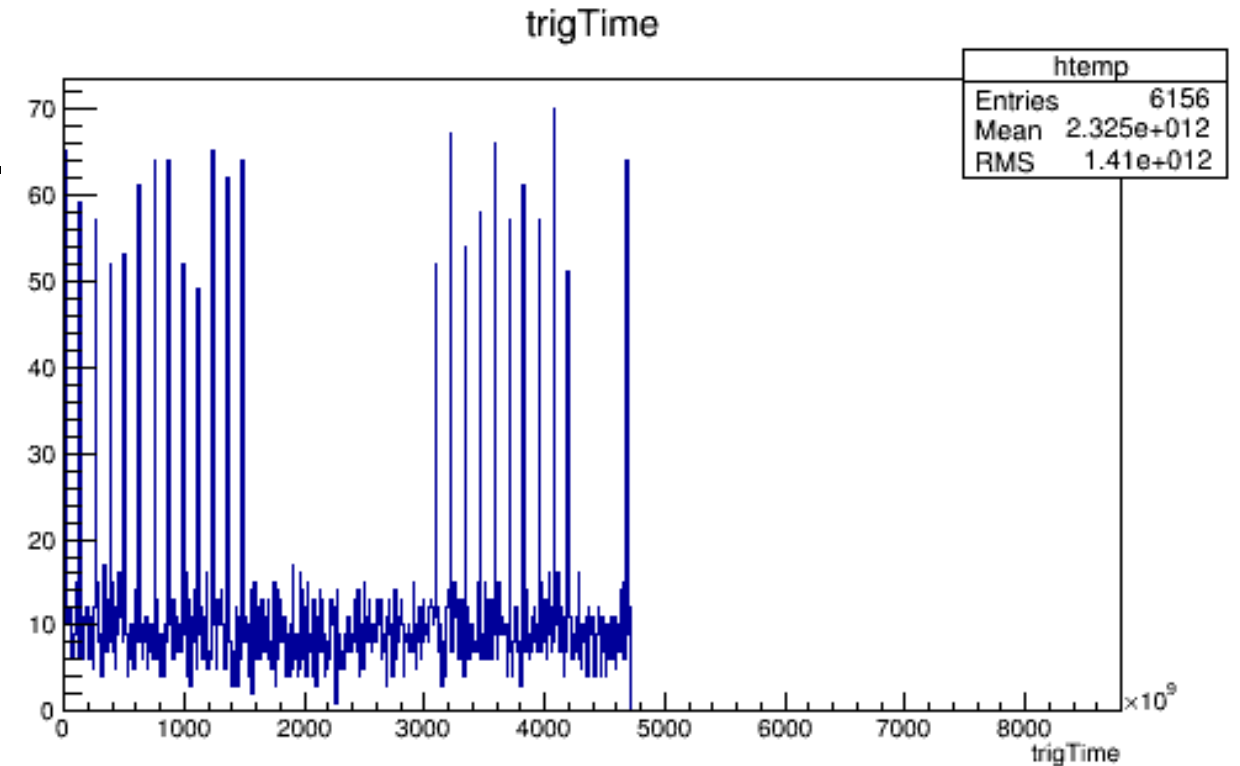
TOF Status

6bar test (FADC_000120)

Periodic source – trigTime histogram

In subsequent experiments,
There is a region where the signal disappears.
→ signal from outside

→ ELENA magnetic kicker $\sim 90\text{sec}$

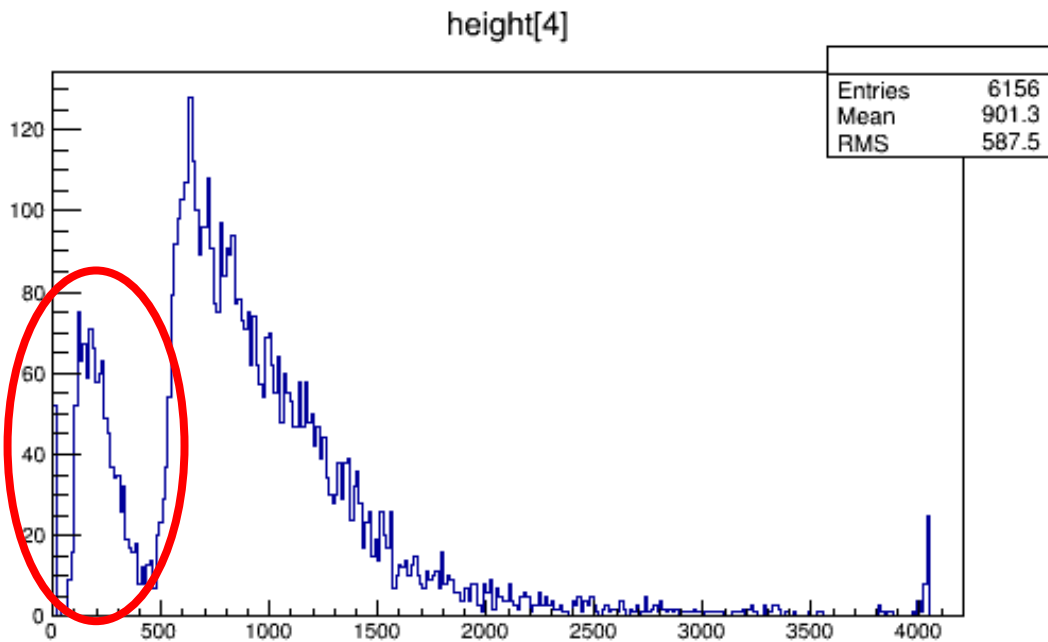


TOF Status

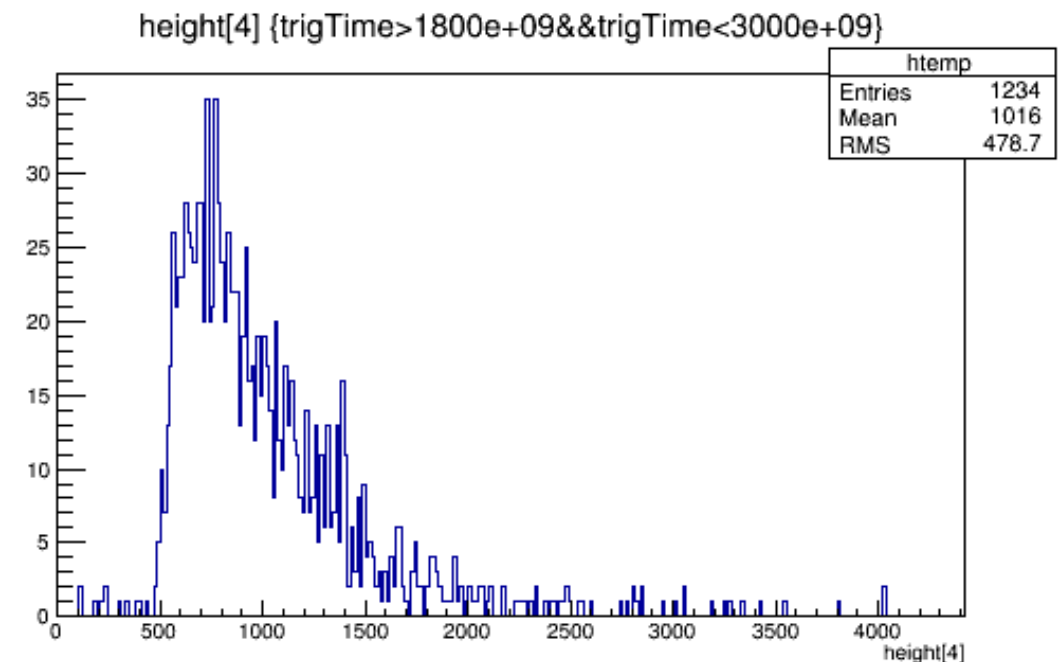
6bar test (FADC_000120)

Periodic source – height distribution

Full range



Without periodic source

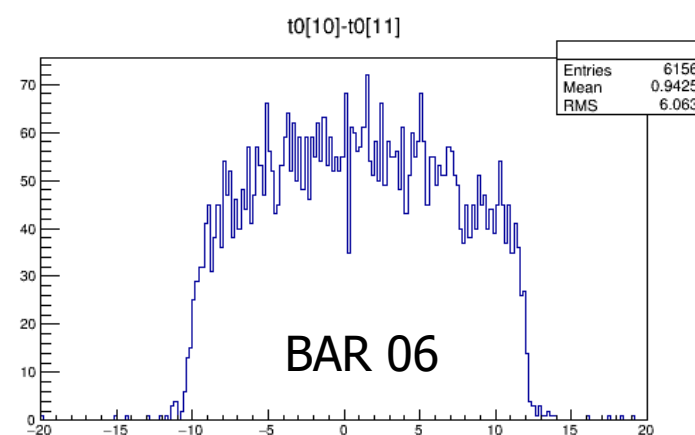
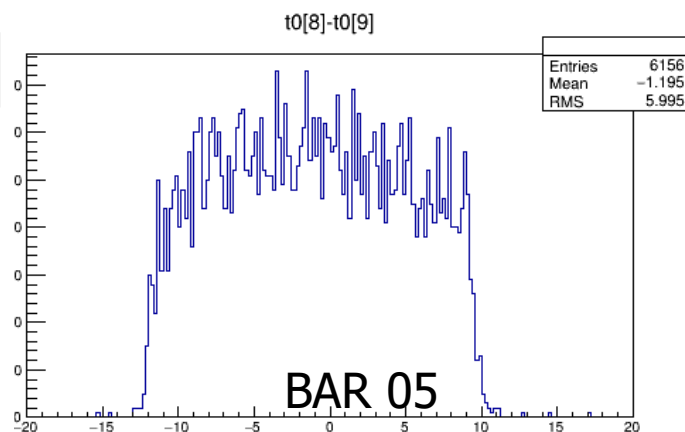
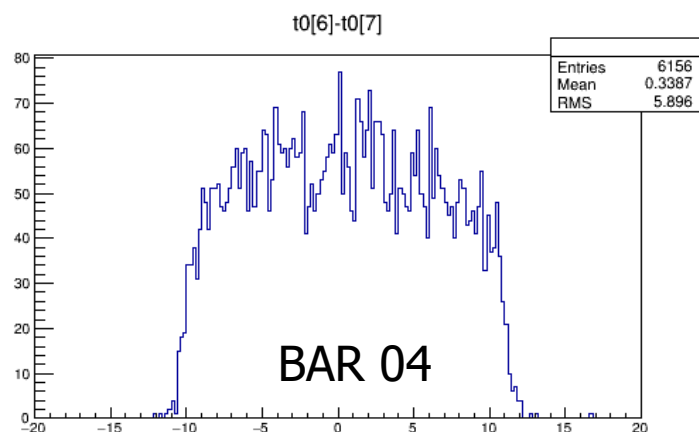
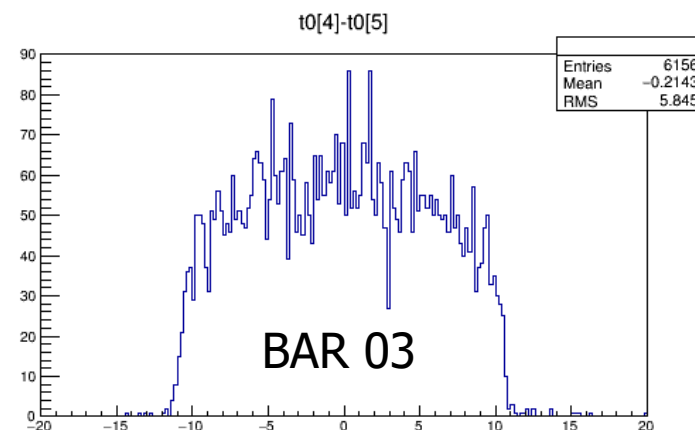
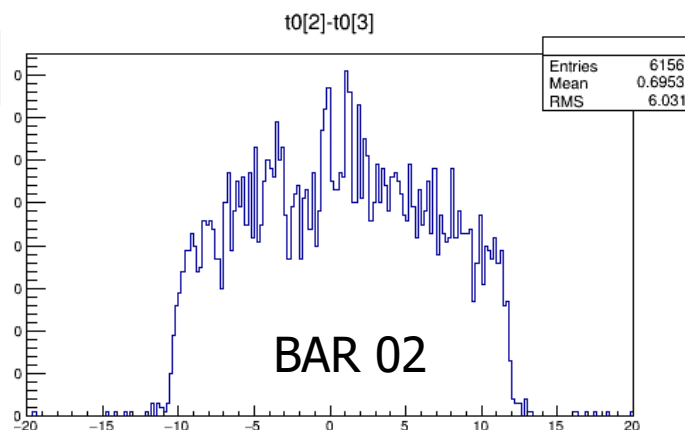
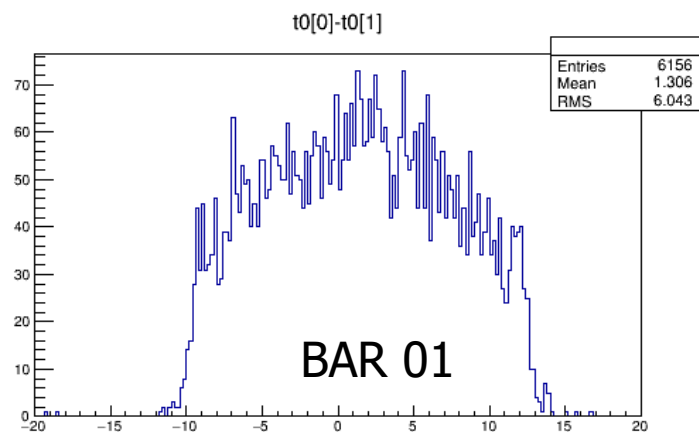


⇒ Periodic source makes small signals

TOF Status

6bar test (FADC_000120)

Time difference



TOF Status

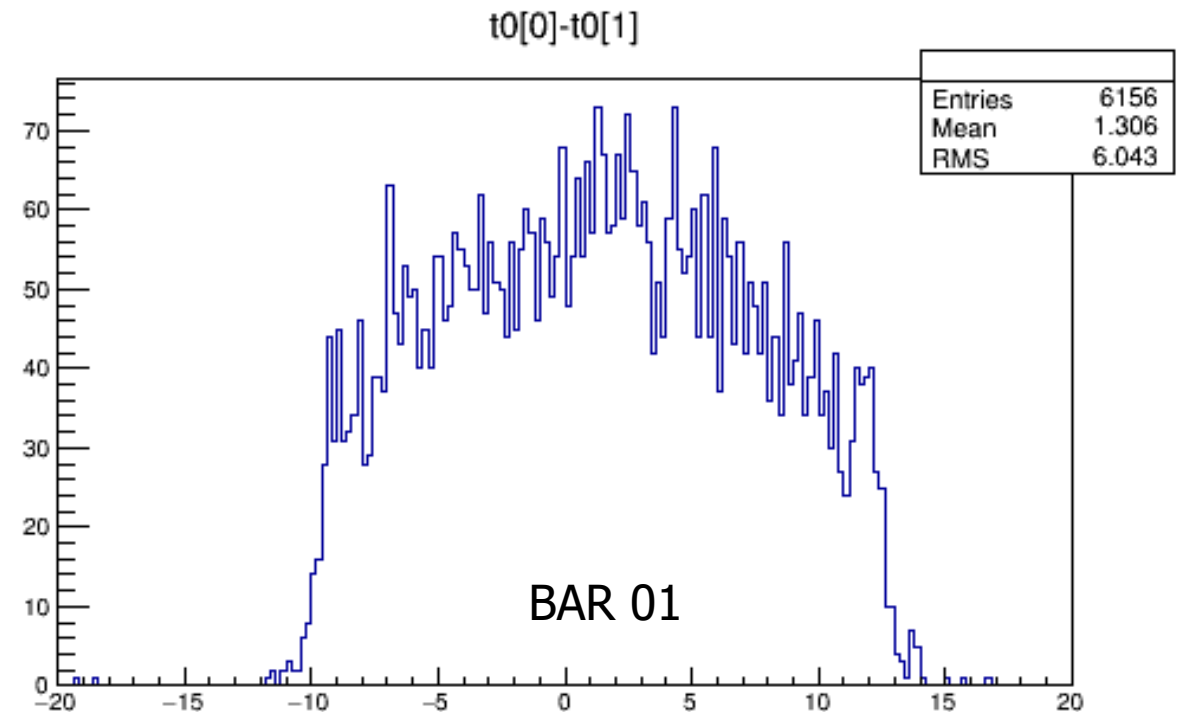
6bar test (FADC_000120)

Time difference

$170 [cm] \sim 14 [ns]$

$17 [cm] \sim 1.4 [ns]$

$light\ speed\ in\ (BAR01) = 1.2 * 10^{10} cm/sec$



TOF Status

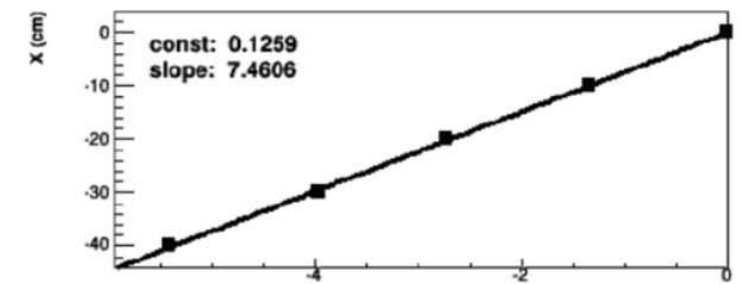
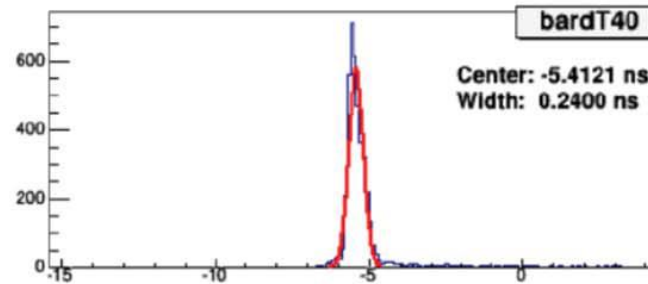
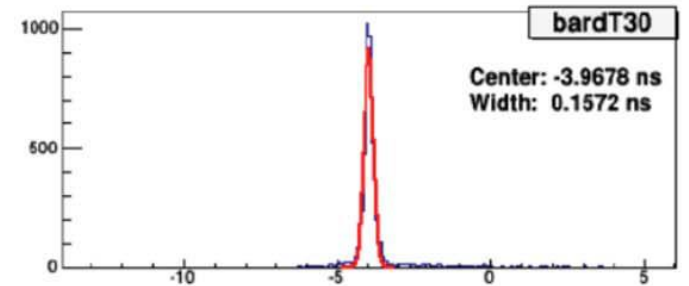
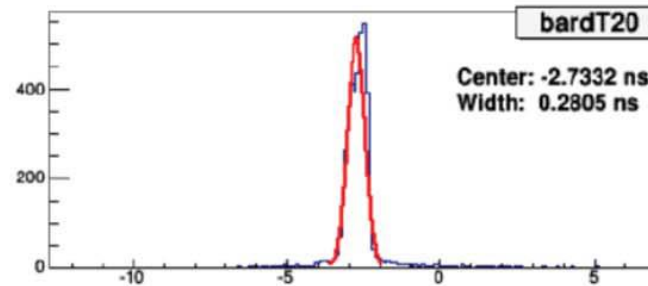
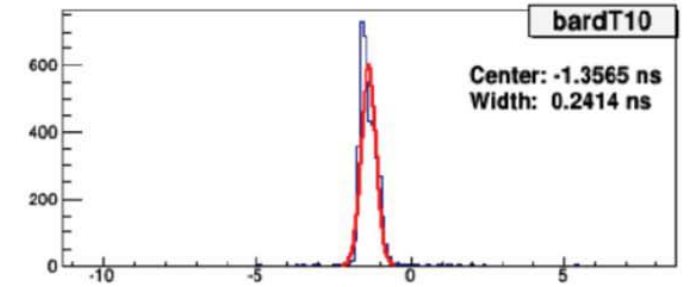
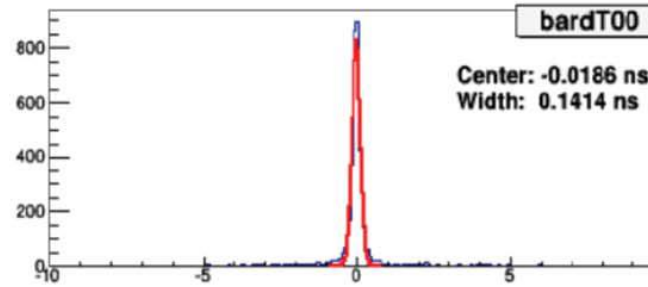
6bar test (FADC_000120)

Time difference

NOTE : 2bar2tirg test
Time – Position conversion factor

$$7.5 \text{ [cm]} \sim 1 \text{ [ns]}$$

$$\text{speed} \sim 7.5 * 10^9 \text{ cm/sec}$$



TOF Status

Test & analysis plan

1. Gain check
BAR 01~06 done – large variation of MPV...
BAR 07~12 on going
2. 12 bar test
FADC_000145 on going

TOF Status

EDH purchasing list

[S'identifier](#)
[Créer un compte](#)0,00 €

[Tous les produits](#) [Nos marques](#) [Nouveaux produits](#) [Mon compte](#) [Services](#)

**Nous vous proposons une offre de 600 000 produits.****Livraison gratuite dès 30€ HT d'achat en ligne.**

[Accueil](#) > [Connecteurs](#) > [Connecteurs coaxiaux et RF](#) > [Adaptateurs coaxiaux et RF](#)
Adaptateur RF Fiche BNC vers Prise SMA, Droit, 50Ω, 0 → 4GHz, Nickel
Code commande RS **112-3788**
Fabricant **Telegartner**
Référence fabricant **J01008A0017**



**99 pour livraison dès le lendemain (stock France)**

**197 Sous 2 jour(s) (stock Europe)**

11,86 €
Prix HT pour la pièce

Unité	Prix par unité
1 - 9	11,86 €
10 - 49	11,17 €
50 - 99	10,46 €
100 - 249	9,75 €
250 +	9,05 €

Quantité **Unité**  **Commander**

[Vérifier le stock en temps réel](#) [Ajouter à une nomenclature](#)

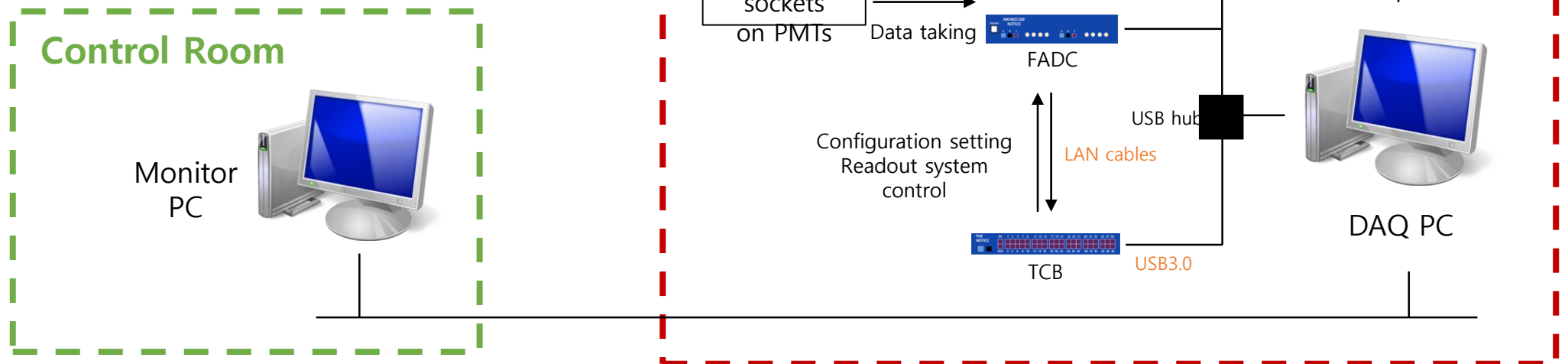
- 2.5meter Power cables
- LEMO terminators
- Module fixing screw
- Plastic round
- Battery
- BNC – SMA adapter

- delivered
- delivered
- delivered

TOF Status : TOF control system drawing

[//cern.ch/dfs/Experiments/GBAR/11_slowcontrol_daq/01_slow_control/drawing/TOF control system.pdf](http://cern.ch/dfs/Experiments/GBAR/11_slowcontrol_daq/01_slow_control/drawing/TOF_control_system.pdf)

Question from Paul,
Monitor PC – DAQ PC communication ?
⇒ Remote Desktop Protocol (RDP) connection



CERN Notice

1. GBAR network will be installed within this week.
We hope to use them(and control DAQ PC at the control room) in next week.
2. The adapter for HV modules was pulled out by someone...
It might result from safety reason.
Now, it's changed to another adapter.
3. Power on a rack might be able to use from next week.
For now, we are waiting for safety confirmation...
4. GBAR zone shut down for installing emergency button ~ 07/25(Tue)

