

Status report #8

2019.12.12 (Thu)

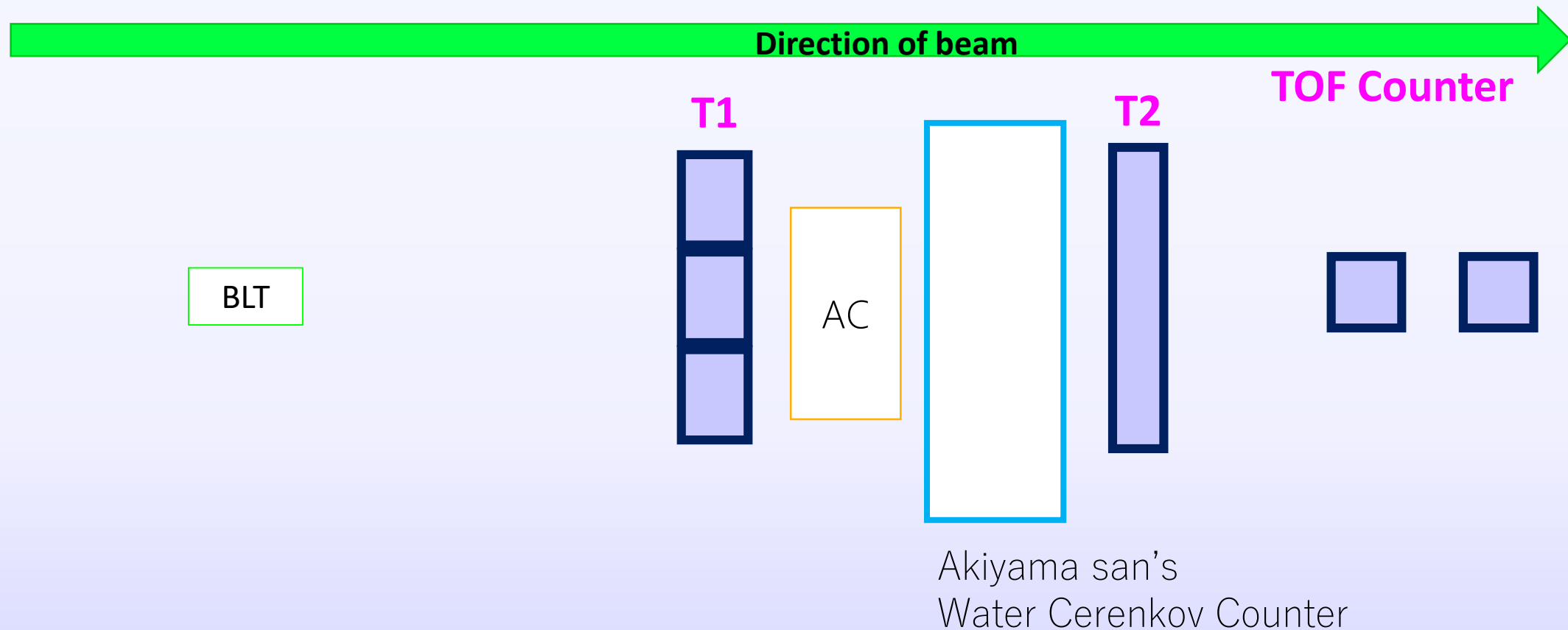
B4 T. FUJIWARA

- Writing “宇宙論” Mid-term report
- Presentation at B4 seminar
- Prepare for test beam at ELPH
 - T1-2, 3 : MPPCやらかしました...
 - TOF counter 製作開始しました

Prepare for test beam at ELPH

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- My task: T1, T2 trigger and TOF counter



T1-2,3 & T2 Trigger

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T1-2,3 & T2 Trigger

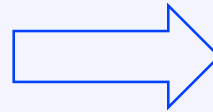
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Checked 1photon signal again with $V_{op} = 58.0V$

- *) T1-2 ~6mV
- *) T1-3 ~5mV
- *) T2 ~7mV:

Signal using β -ray source with $V_{op} = 58.0V$

- :*) T1-1 ~200mV
- :*) T1-2 ~55mV
- :*) T1-3 ~60mV
- :*) T2 ~130mV



Set V_{th} for discriminator

- *) T1-1 : -20mV
- *) T1-2: -30mV
- *) T1-3: -38mV
- *) T2 : -40mV

Gathering cosmic ray data,
signal divided for getting QDC, change half value

- *) T1-1 : -10mV
- *) T1-2: -15mV
- *) T1-3: -19mV
- *) T2 : -21mV

Signal using β -ray source with $V_{op} = 58.0V$

:*) T1-1 ~200mV

:*) T1-2 ~55mV

:*) T1-3 ~60mV

:*) T2 ~130mV



something wrong?

Checked MPPC type used T1-2 & T1-3

T1-1, T2 \Rightarrow S13360-3050PE

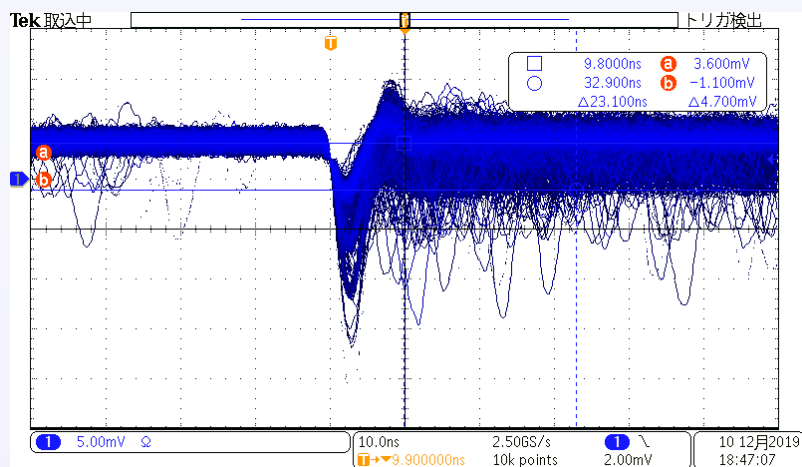
T1-1, T1-3 \Rightarrow S14160-3015PE

Replace T1-2, T1-3 MPPC \Rightarrow S13360-3050PE

T1-2,3 & T2 Trigger

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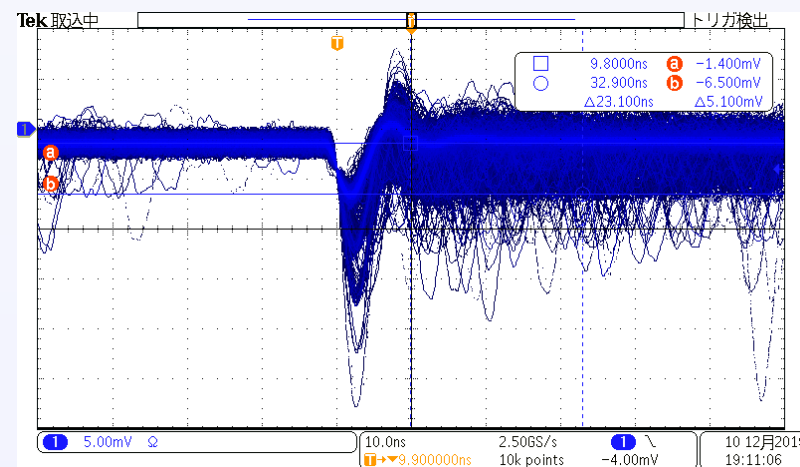
Replace T1-2, T1-3 MPPC \Rightarrow S13360-3050PE



T1-2

*) 1photon ~ 5mV

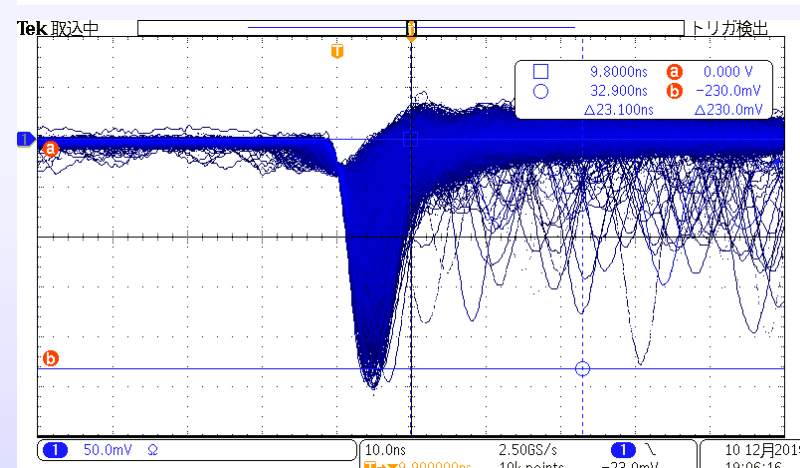
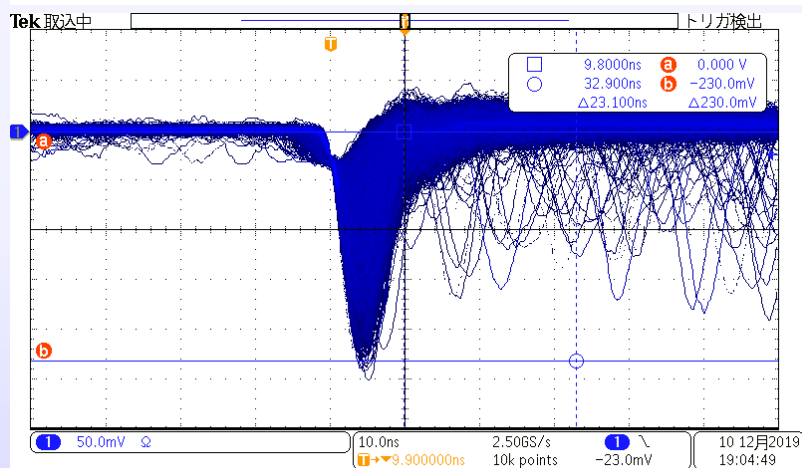
*) MIP ~ 230mV



T1-3

*) 1photon ~ 5mV

*) MIP ~ 230mV



T1-2,3 & T2 Trigger

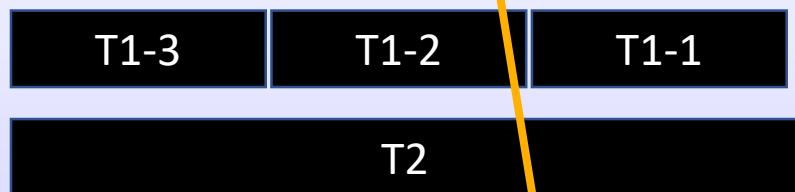
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Set V_{th} for discriminator

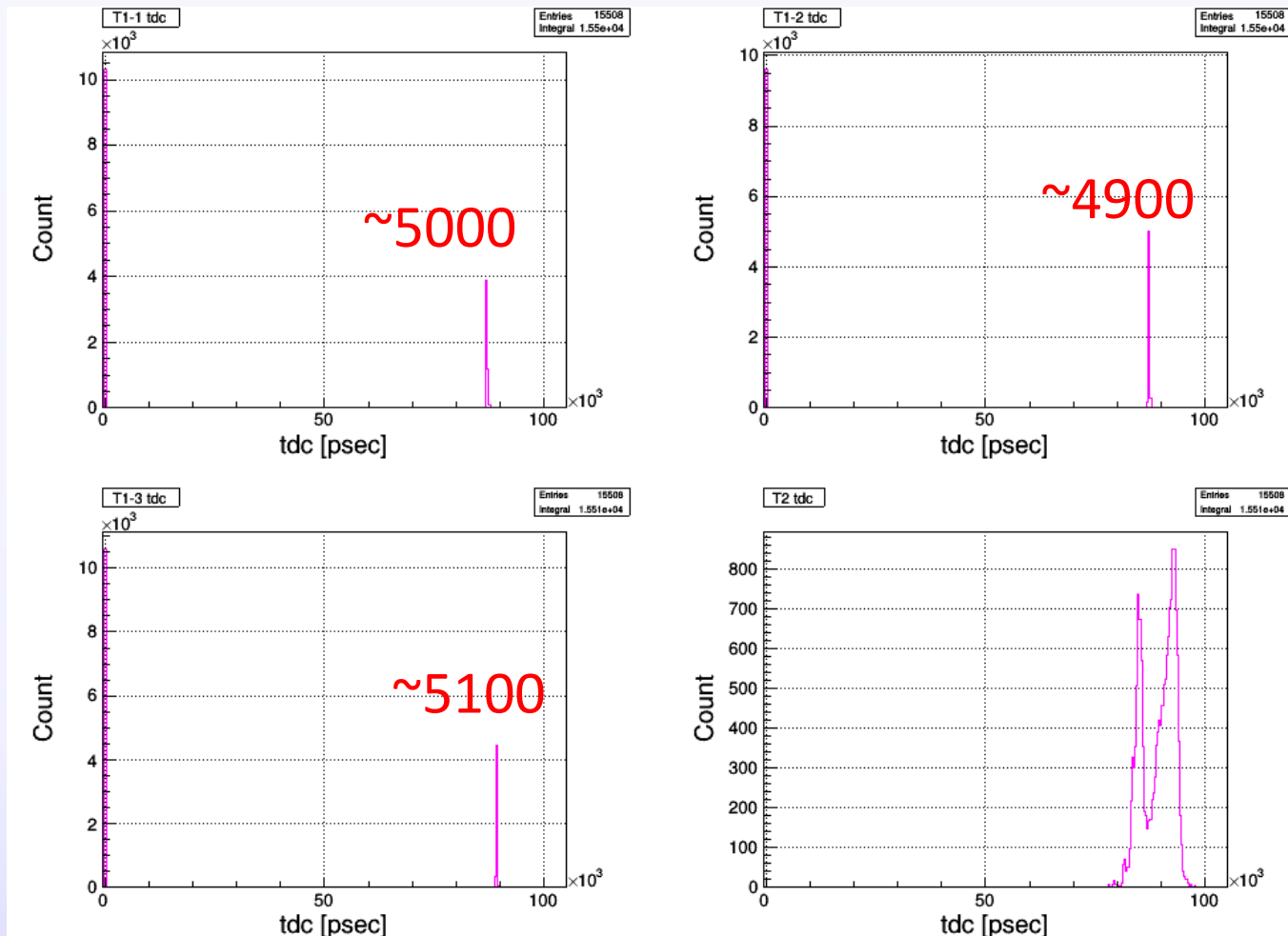
- *) T1-1: -10.7mV
- *) T1-2: -11.2mV
- *) T1-3: -9.7mV
- *) T2: -20.9mV

Gathering cosmic ray data

about 2hours ~7200sec
total events : ~15508



Read out



- Started making TOF counter



*) 10×10×300 mm scintillator



*) Wrapping Teflon, black vinyl & tape

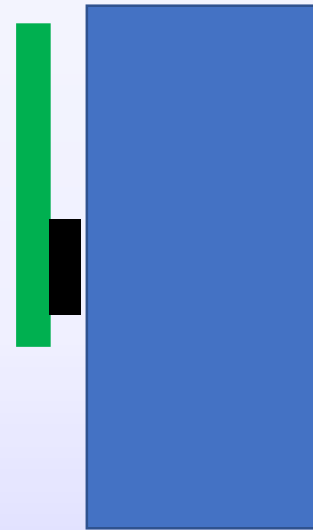
*) How to mounting MPPC

Before : MPPC&circuit

Next : small cross section

⇒ unstable?? (Not to try yet...)

Before



Next



- TOF counter
 - total: 8 scintillators \Rightarrow making 6 scintillators
 - next : mounting MPPC