Status Report #12

2020. 01. 23 (Thu)

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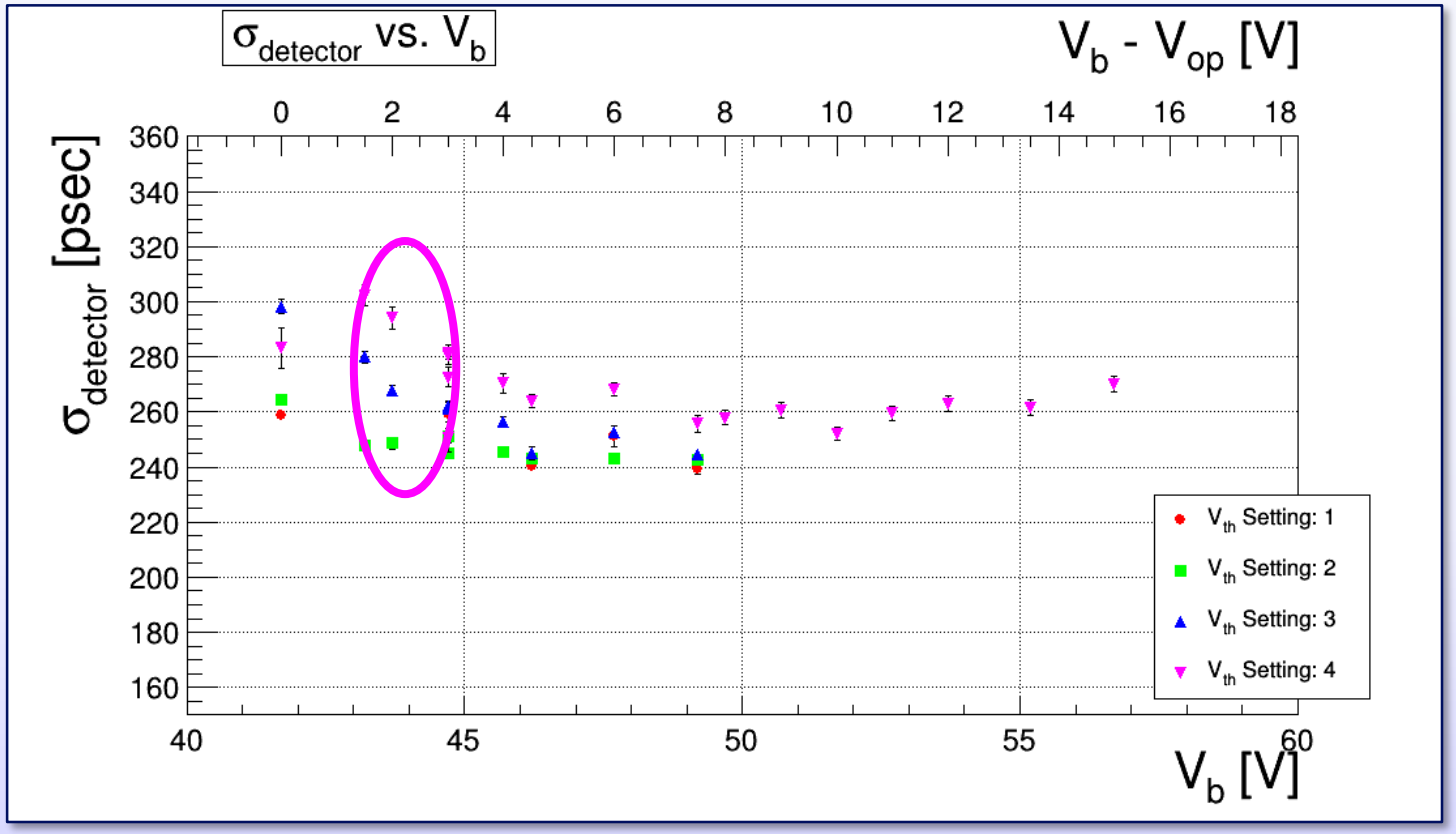
Items

- ✓ JPS abstract submitted
- ✓ Final-term reports
- ✓ Progress of ToF data analysis
  - Bias dependence
  - Check time walk correction parameters.
- ✓ Restart ToF data taking
  - Set up test bench at 6F
  - Data taking using cosmic-ray

✓V_b(Bias voltage) dependence

- Including TDC-cut
- Error bar → Fitting error of sigma of ToF 1D hist × $1/\sqrt{2}$

- Vb=44.7V at 'Setting 4': 4point (run.0165, 0177, 179, 189) → various σ



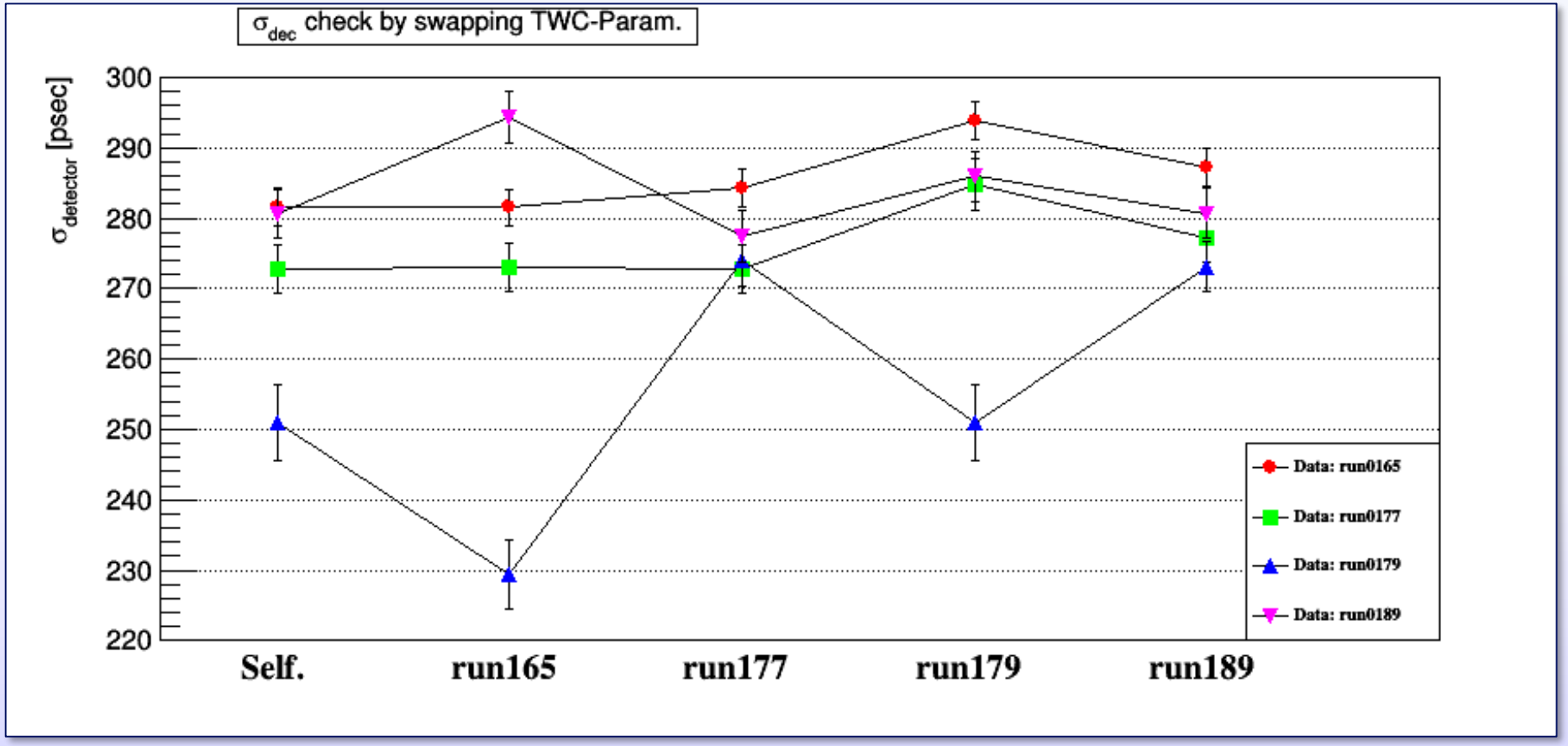
Setting	R1	R2	L1	L2
1	-31.1	-25.0	-24.4	-34.7
2	-51.1	-45.7	-44.3	-54.7
3	-100	-100	-90	-101
4	-150	-150	-145	-151

unit: mV

Progress of ToF data analysis (experiment at ELPH)

- Check about Time walk correction parameter
- For run data of Vb=44.7V & threshold setting 4,

  check timing resolution by swapping parameters of time walk correction.



Restart ToF data taking

- On Tuesday, Brought back NIM modules from ELPH
  with Nagao-san, Toyama-san & Akiyama-san

- Yesterday (Wednesday), constructed testbench at 6F with Nagao-san

Restart ToF data taking

✓Signal Check of ToF

- Using β-ray source, via Pmamp,
- Bias voltage: 44.7V

Ch	R1	R2	L1	L2
Pluse	-670	-350	-300	-470

unit: mV

- Data at 6F (before Beamtime)

Ch	R1	R2	L1	L2
Pluse	-600	-450	-450	-600

unit: mV

- Data at ELPH (Bias: 44.7V)

Ch	R1	R2	L1	L2
Pluse	-400	-350	-300	-470

unit: mV

Restart ToF data taking

✓ Data taking using cosmic-ray

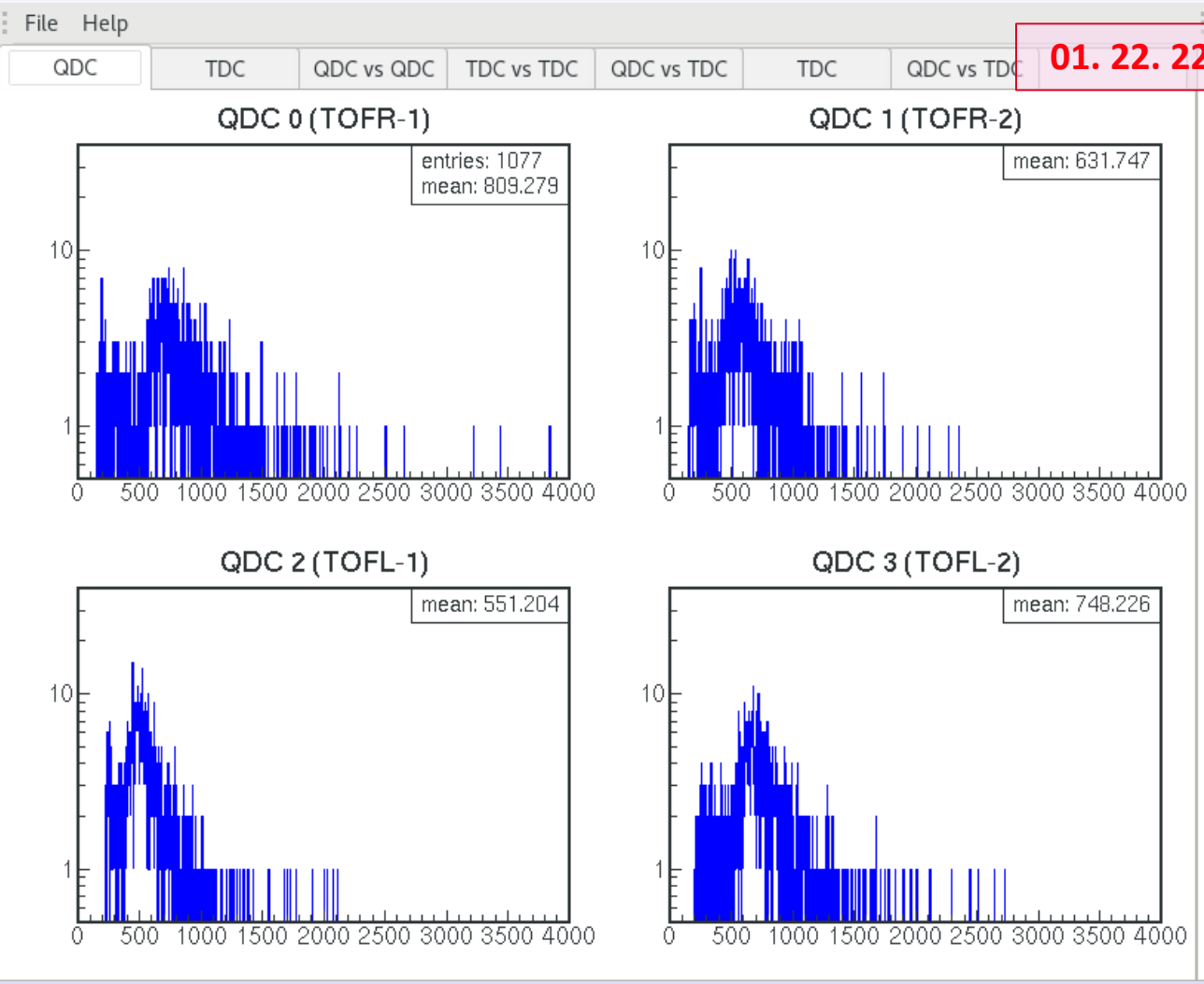
- Bias: 44.7V
- Threshold (in mV)

  R1: -58.2, R2: -35.2, L1: -78.6, L2: -51.4

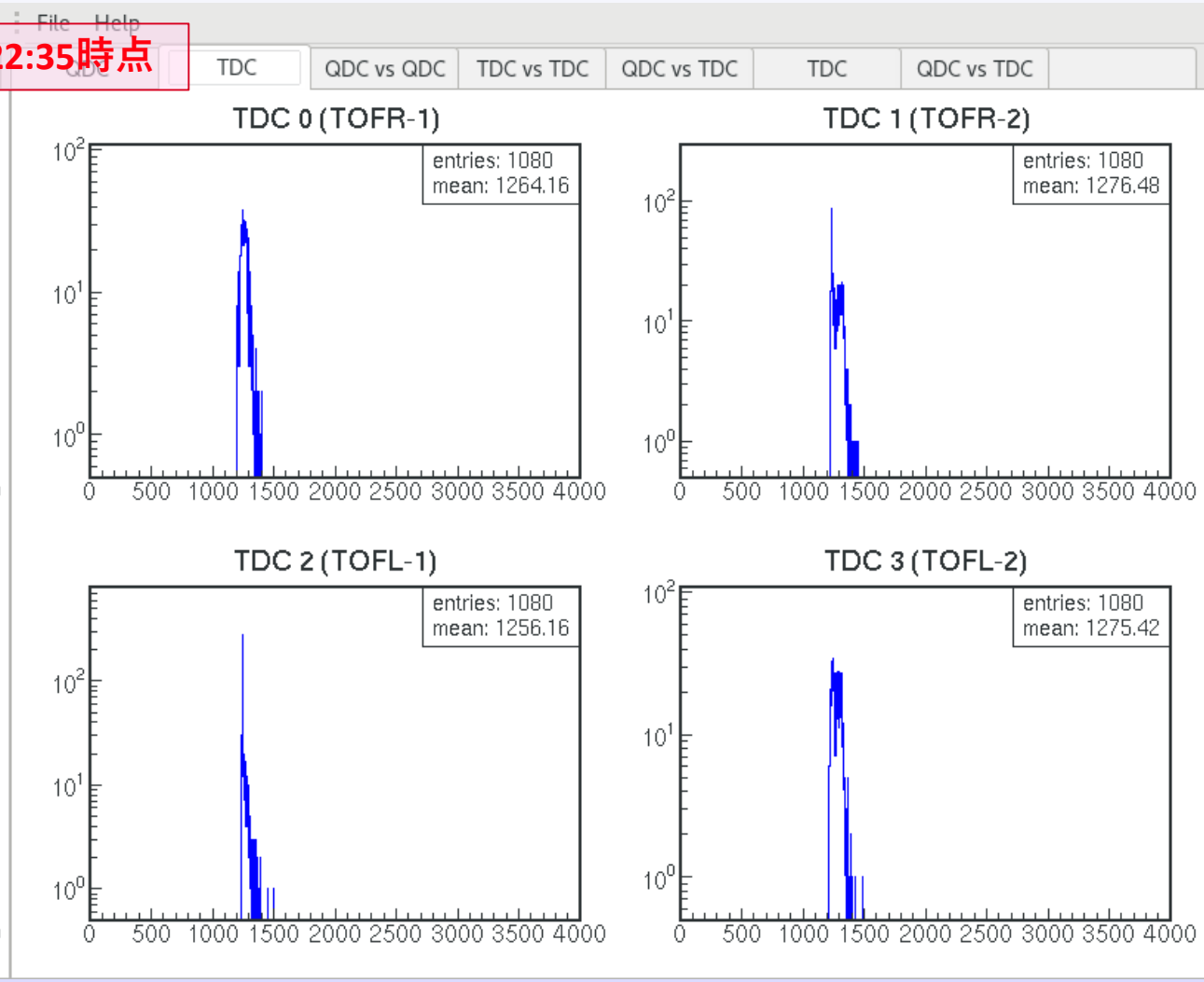
- 1. 22.(Wed) 19:14~ data taking start

ToF: data taking w/ cosmic -status-

- After ~200min, around 1000 events

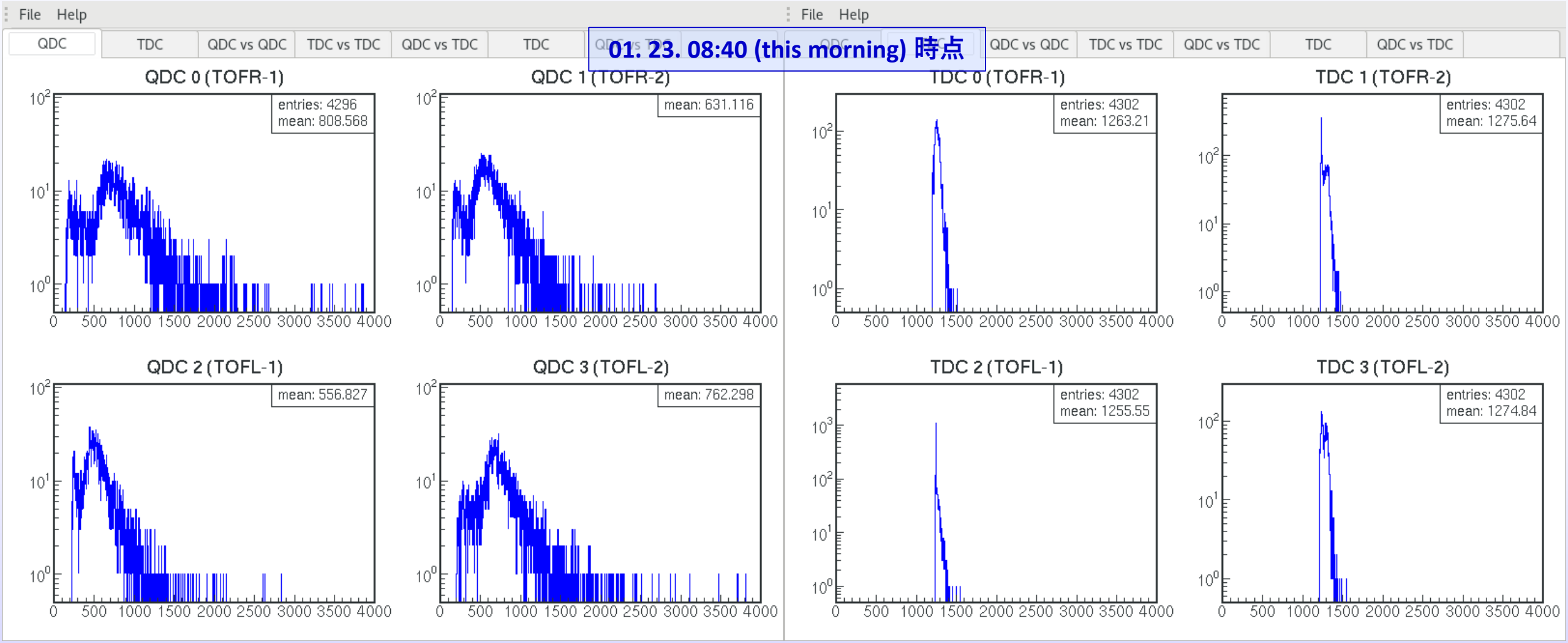


01. 22. 22:35時点



ToF: data taking w/ cosmic -status-

After ~13.5h, around 4300 events



To do next

- ✓ Check Beam time data under the same conditions
- ✓ Design new circuit for MPPC
- ✓ Test using different size scintillator (5*11*300 and 5*22*300 [mm])
- ✓ Preparation for 中間発表