Short Term Plan

April 21, 2023

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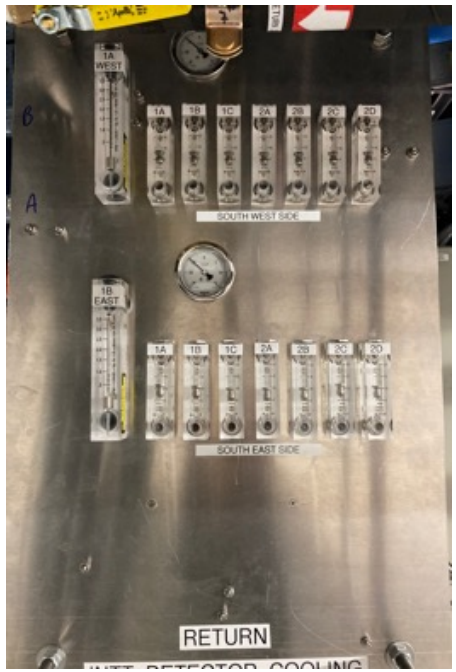
- Establish pre-measurement routine for the day.
  - Check RACK power status
  - Check cooling
- Establish summary report of the day format. (Cheng-Wei & Genki)
- Complete all S&N ROC calibration and address in newly discovered problem in the latest data. (Cheng-Wei)
- LV/Bias monitor (plot voltage/current as a function of time) to be developed within ignition scheme for LV.

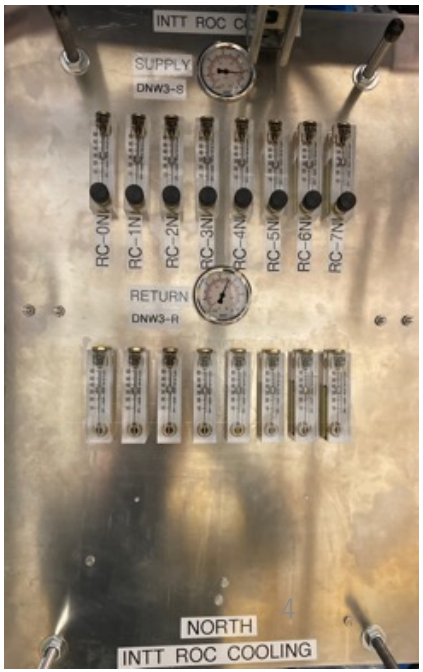
Data Taking Plan

- Noise data for all ROCs by self-trigger. (3hours)
  - Noise study with light on/off for a few ROCs. DAC0=15. (1hour)
- DAC0 scan for noise rate study (3hours)
- DAC scan (First attempt to observe MIP in IR) with self-trigger mode. (3hours)
- Test 2 vs 1 ROCs modes calibration data taking with the latest DAQ version. (1h)
  - Make sure no difference in results between two modes.
- Take calib data North and South fibers together in 2 ROCs mode. (1h)
  - Make sure nothing odd happen.

Check List for the daily measurements

- Establish pre-measurement routine for the day.
  - Check RACK power status
  - Check cooling (30GPH/ROC, 10GPH/ladder), GUI is under bug fix by Steve and Rob.
  - Let shift leader know the activities. (make e-log entry at the end)

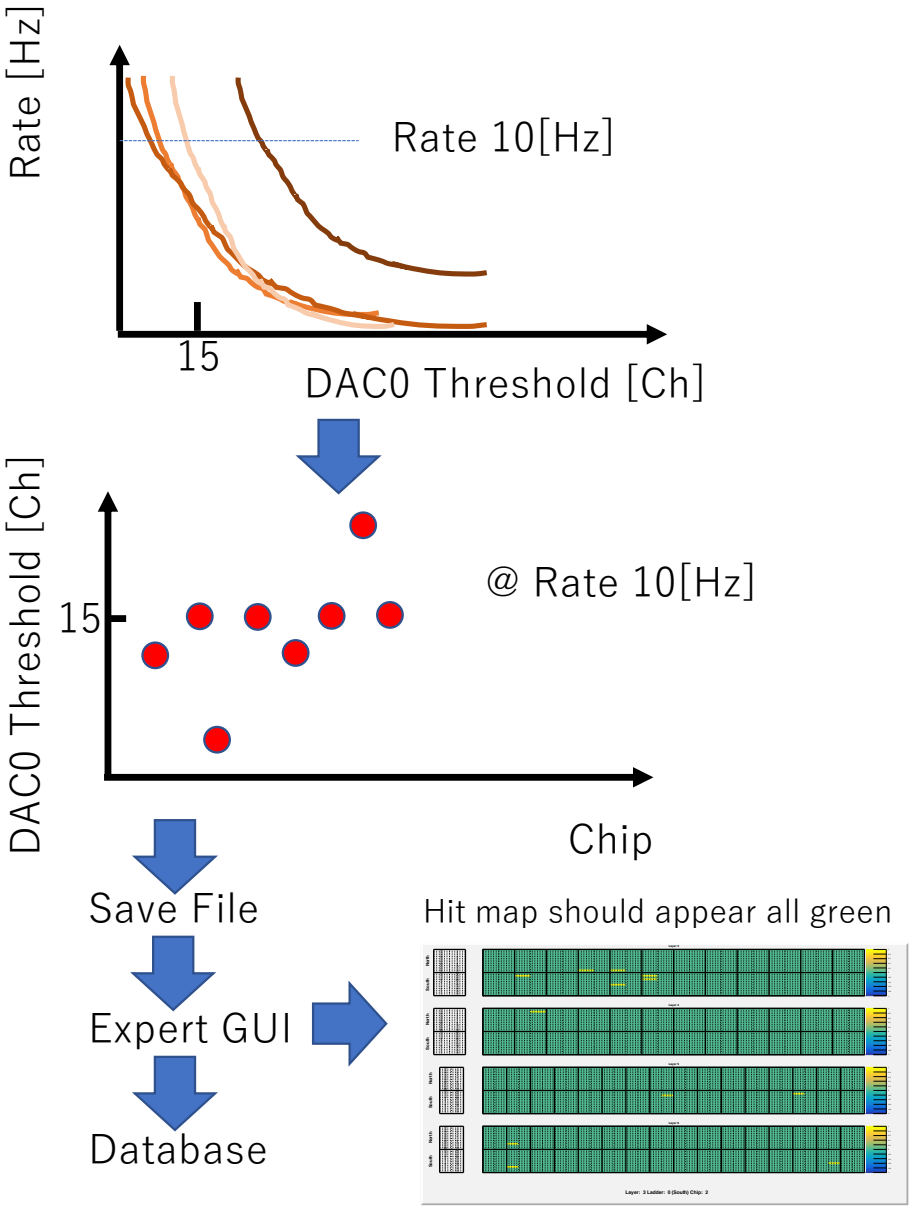




DAC0 Scan

- Scan DAC0 value one-by-one [20, 19, 18, 17, …] w/ self-trigger.
- Need develop analysis software to evaluate rates/chip.
- Optimize the DAC0 threshold for each Chip to give the same given rate. Save threshold values (52 x 56) in file loadable to Expert GUI.
- Customize DAC0 threshold setting chip-by-chip (Expert-GUI)
- This is the practice for the DAC0 threshold scan with the beam during commissioning. (S/N is also considered w/ beam)

Joseph develops data converter to feed non-prdf data to the online monitor

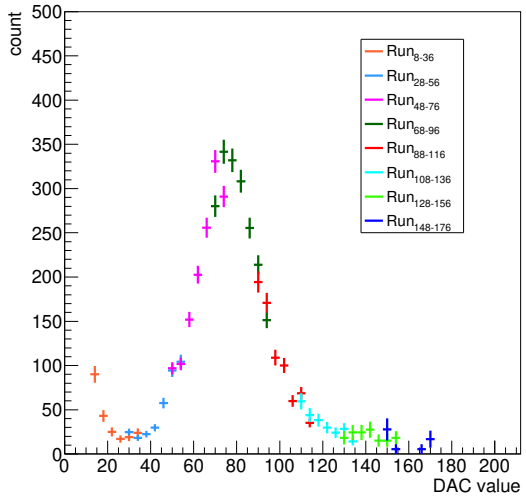


DAC Scan

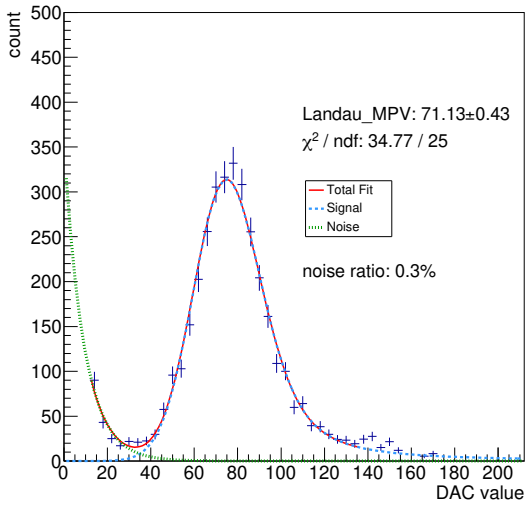
w/ Cosmic Ray
w/ self-trigger

Scan	1	2	3	4	5	6	7	8
DAC0	8	28	48	68	88	108	128	148
1	12	32	52	72	92	112	132	152
2	16	36	56	76	96	116	136	156
3	20	40	60	80	100	120	140	160
4	24	44	64	84	104	124	144	164
5	28	48	68	88	108	128	148	168
6	32	52	72	92	112	132	152	172
7	36	56	76	96	116	136	156	176

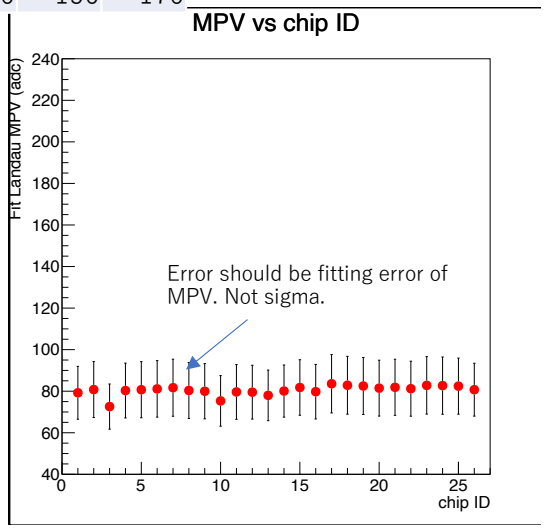
Analyzer:
onsite quick analysis
+ Yuka for detail?



- Chip-by-Chip Base
- Clustering (Optimize offset value)
- Normalization btwn adjacent runs
- Concatenate all runs



- Fitting with Landau+Gaussian convolution function.



Half ladder by half ladder

All ladders
Save all fitting parameters:
MPV, Width, …

From ELPH annual report and Cheng-Wei's slide 2022/4/15

RCDAQ on Felix developments …

- Raul's test is the highest priority. Raul can test whenever he needs. Other data taking will be carried out while he is not doing test in IR.
- Raul works on the GTM integration and test it on Monday afternoon.
- Long time (~10 hours) high threshold noise data taking (optimize threshold not to get the file too big) for the stability test of the optical link. Genki will execute while his shift on Monday.