

Hi all,

Thank you Takashi for taking over the chair and my apology for my silence throughout the meeting. I was calling in from a public place and thus couldn't speak. Here is minutes from today. Please comment if my understanding is not correct.

o Taiwan Assembly <Cheng-Wei>

- Cheng-Wei should use 200mV as the latest best estimated value as the offset in the DAC \rightarrow mV conversion. Takashi and NWU will investigate the discrepancy between Mika's 200mV and Ayaka's 280mV.
- Cheng-Wei will check the estimation of the average energy of cosmic muons. The energy loss can be non-negligibly different between cosmic muons and 120GeV proton beam if the average muon energy is $<1\text{GeV}$ due to the relativistic rise of dE/dx for 120GeV proton.
- Takashi's suggestion is to use only even ADC's for the noise evaluation because the noise estimate from odd ADC's can be double counting. See Takashi's explanation 2021/08/12 1:54, Takashi's e-mail. Xie and Takashi will discuss in the separate session.
- The chip-ID dependence of the slope should be corrected by the straight line as the QA.

o New proposed DAC setting for source and cosmic tests <Takashi>

- Takashi proposed new DAC setting for the source and cosmic ray tests. Every test bench should share newly proposed DAC threshold setting. The new DAC setting only applied to the source/cosmic ray tests and not for the calibration runs. The calibration run should stick with the current default DAC setting.

o Production status <Ittaru>

- The CFC support and tubes are in the phase of getting quotes from different companies in Europe, US, and Japan. To be compared quotes by the end of this month or so.
- Conversion cable design is in progress. Attempting to extrapolate the insertion loss performance of micro-coax to 1.31m. Trying to improve the precision of the extrapolation.
- Collecting materials of the bad HDIs. Although we didn't take it seriously in the last INTT meeting about the one bad chip observed in the PB2-L025, it may need further investigation rather urgently because batch-3 HDIs are employed. Itaru asks Rachid to send this ladder to RIKEN for the further investigation. If the cause is in the through hole, we may need to re-consider the batch-3 production plan.

**** 2021/08/12 1:54, Takashi's e-mail ****

I found other problem on the current Gaussian width method.
The threshold slope for each ADC is double counted to obtain the Gaussian width.
The data around threshold 1 is used twice.
One is for the left side slope of ADC1 and
and other is for the right side slope of the Gaussian peak for ADC0
which is calculated by data - the right side slope of ADC1.
These two slopes are basically made from the same information.
The thresholds for ADC 2,3,4 ...6 also have the same double counting.
This means that the statistical fluctuation get enhanced artificially.
This is not good statistically.
To avoid the double counting of the data, the only even ADC values should be used to
make the histogram.

Although the Gaussian width is a coarse value,
the change of the width can be used for QA but the absolute value of the width is not
meaningful.

I appreciate ChengWei, HangSheng and Miu very much for working hard on the ladder
QA.
However, I know that they are working hard and the time is limited.
Therefore, if we accept that the Gaussian width is enough for QA,
I am OK with this after fixing the double counting problem.
I understand that we don't have enough time to evaluate other method, like the error
function method.

Regards,

-itaru

On 2021/08/24 20:49, Itaru Nakagawa wrote:

Dear all,

We'll have weekly INTT meeting on

**Aug 24th Tuesday 9PM evening in BNL = Aug. 25th Wednesday 10AM in Japan =
Wednesday 9AM in Taiwan**

Please be ware, the new meeting day/time starts from this meeting.

*indico

<https://zoom.us/j/92149923535>

*Zoom

<https://zoom.us/j/92149923535>

Best regards,

-itaru

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