

Hi all,

Here is the minutes from the meeting today.

- GEANT model <Genki>

- o Reported updates in the simulation meeting and these updates are approved. Some questions/suggestions were raised from audiences. 1) missing cone shape of the HDI cable guidance. -> None trivial job and won't fit in the time scale for the BUP. To be addressed in the longer term. 2) Additional material of G10 in the cable connection area. => G10 is made of glass fiber epoxy. Although the thickness is 0.9mm, the expected contribution in the material budget is small due to low-Z. Estimate G10 material. Perhaps better be confirmed by a simple back of the envelope calculation of the radiation length with respect to the copper thickness? Any volunteer? If G10 is already implemented in the sPHENIX GEANT model, it may be easier to extract average density of the material.

https://docdb.sphenix.bnl.gov/0002/000256/001/BiasConnector_ModifiedDesign_200116.pdf

- Assembly in Taiwan <Cheng-Wei>

- o The latest transportation box of a ladder design is presented by Cheng-Wei. **Cheng-wei** write a brief explanation with the drawings and send to Rachid. Once **Rachid** approves the design, then **Cheng-Wei** can place an order to manufacture to a company in Taiwan.
- o A full ladder from one of the first ladders assembled in Taiwan will be sent to NWU around the end of August (**Taiwan group**). **NWU** should be prepared for the ladder testing in September – October.
- o Cheng-wei estimated the effective thickness of the silver epoxy glue in NTU assembly is 35um which is more than double of BNL's (14um). Their plan is to evaluate the validity of the glue quantity by a heat cycle test. Some questions raised from Taiwan group to Rachid as follows:

1. What is the required thermal cycle condition for the ladder? Have we optimize this condition in BNL already?
2. How much silver epoxy glue used to assemble prototype ladders per silicon? Are there any quantitative record?
3. How did the present glue mask optimized to be effective thickness of 14um?

Rachid, please answer to above question.

- o Cheng-Wei need some advice how to use Omega Bond 100 glue, since they have no experience in using this particular glue. **Cheng-Wei** will write e-mail for advice to Rachid and Robert P. Pisani <pisani@bnl.gov>.

- Production status <Itaru>

- o Itaru got a reply from Hamamatsu how they measured dark current for an entire silicon. Yasuyuki come up with a hypothesis why the total sum of the Kai-Yu's current measurement of individual strip exceeds Hamamatsu's total current measurement.

According to Yasuyuki's hypothesis, Kai-Yu's single cell measurement can be affected by adjacent none fully depleted silicon cells which will appear as additional current to Kai-Yu's measurement. If Yasuyuki's hypothesis is true, then we don't have to worry about the discrepancy. **Kai-Yu** will make a few slides of his understanding and send out to the mailing list to make sure if his understanding is consistent with Yasuyuki's hypothesis.

o Similar to IV case, the bias voltage applied to only single cell during CV measurement may also affected by similar effect (contribution from none fully depleted region). **Kai-Yu** will come up with his thoughts about this.

We'll cancel the the meeting in next week because it is Summer holidays in Japan, so the next meeting is August 19th in Japan/Taiwan (August 18th in US).

Regards,

-itaru

On 2020/08/04 7:28, Itaru Nakagawa wrote:

Dear all,

We have INTT group meeting next week. Please make an entry of your topic to be reported in the indico page below (login to BNL indico required).

Aug (Tue) 4 9PM in EST@BNL = Aug 5 (Wed) 10AM in JST = Wed 9AM in Taiwan

<https://indico.bnl.gov/event/9101/>

Meeting URL:

<https://bluejeans.com/711990613>

Best regards,

-itaru

[REDACTED]

Sphenix-intt-l mailing list
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<https://lists.bnl.gov/mailman/listinfo/sphenix-intt-l>