Dear all,

Here are the minutes of the meeting today. Highlighted by the bold font in someone's name is homework for him/her. Please go thru the minutes carefully and come up with updated reports in next couple of INTT meeting. **Joseph, Takashi,** please correct me if my understandings are incorrect.

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o Silicon bias current monitoring <Cheng-Wei>

- We are observing current increase in the silicon since the beginning of Run24 by a couple of uA. We'll look for the formula to calculate the full depletion and drawing current well before the leakage current reaches to the level that we have to increase the operation bias voltage.

o Nonsensical full BCO values <Joseph>

- Joseph found nonsensical full BCO stamps in the stream readout data he sampled. These nonsensical BCO can be identified by awkward BCO difference between subsequent events. There are only 10 or so events out of Mevents, and can be discarded if this symptom doesn't affect on the rest of data. So far, there is no direct evidence that this symptom screws up the rest of data or hung the data processing in offline.

- **Joseph** will process random sampling data in offline if this nonsensical BCO can cause any trouble in offline data processing. If data processing stops in the middle, Joseph will take a close look if it has something to do with nonsensical BCO stamp.

- **Joseph** will take a look if this nonsensical issue is unique to the stream readout by verifying same test to some of the extended triggered data.

- Joseph already reported this symptom in the mattermost and prompted relevant personnel (Raul, Martin, JeaBeom, Chris) to have close look though, we are not sure if they are taking a close look and debugging. **Joseph** keeps attention on the progress they make.

- According to the INTT e-log, Raul uploaded new firmware for INTT servers 4 to 7 which has different cdc module of the trigger interface. **Itaru** asks Raul if this change is a part of the (expected) solution to this symptom.

o Half entry issue <Tomoki, Yusuke, Hayato>

- A possible compensation idea to restore full entry from existing half entry chips was presented using the digital control function implemented in the FPHX chip.

- Cheng-Wei suggested **Rikkyo undergrads** to take a look if BCO_FULL time stamps are also identical for those clone hits.

- Genki suggested **Rikkyo undergrads** to perform the same test should be executed for ROC

column-D since it has been poorly behaving.

- Cheng-Wei suggsted **Rikkyo undergrads** to test the DC function using a source in the self trigger mode to see if we observe any rate effect by lowering threshold as low as possible.

- **Akitomo**, please help them up on necessity for **Rikkyo undergrads** to address above homeworks. **Itaru** will come up with the priority and assigning a student in charge.

o Loadmap to perform timing check in stream readout <Takashi>

- Discovered a way to make GL1 BCO matching test even with the current Fun4All framework. However Takashi found discrepancy in the resulting the GL1-BCO matching between his original code and his new Fun4All framework in the same run he analyzed. Takashi will contact with relevant person (Joe? Chris? Martin?) to ask what's going on with the Fun4All.

- Takashi pointed out the multiple collisions within the extended readout window is the issue in the present framework because it assumes only one collision with in the present 120 BCO window, which is not necessarily be the case for p+p. This effect is negligible in Au+Au, but we need to evaluate the effect and make action to how to handle it in p+p.

o Re-organize INTT wiki page <Akitomo>

- The INTT wiki page is re-organized. The transition to the new page is scheduled 8PM this evening until 5AM in DST.

- Followings are recommended practices for the new INTT wiki page from Akitomo. All developers should follow.
  * - No detailed info at the top page
  * - Hierarchy (tree) structure and no more than 2 click depth for main contents
    * Top page (main portal) → main content1 (or sub-portals) → main content2
    * Exception: mutual links, external links, detailed contents (tables, pictures etc..)
  * - To establish the hierarchy structure, it would be recommended to every main content page has “Back to the parent page” link at the top
  * - Name of the INTT related page must be “INTT_xxxxx”(since this sPHENIX wiki page is shared with other subsystems)

o Pythia study of GL1 Matching efficiency <Genki>

- Genki studied pythia MC to verify Takashi's GL1-BCO matching efficiency.

- After careful study in MC, the predicted efficiency for +/- 20 cm z-vertex range is 97% which is consistent with Takashi's analysis with +2mrad crossing data.

- It is not understood well yet about the MC's North and South asymmetric response in MBD. **Genki** should check any beam line implementation which can cause a higher multiplicity distribution in North side including the check that the MVTX readouts are properly implemented in the South side in the sPHENIX GEANT model.

Best regards,

-itaru

On 2024/07/30 16:49, Itaru Nakagawa wrote:

> Dear all,
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> We will have next INTT weekly meeting in following date/time.
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> **July 31st Wednesday 9AM in BNL = July 31st Wednesday 10PM in Japan = Wednesday 9PM in Taiwan**
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> *indico
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> https://indico.bnl.gov/event/24367/
>
> *Zoom
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> https://zoom.us/j/92149923535
>
> Best regards,
>
> -itaru