

General (Stefan/Kin)

- Yellow vertical cooling broke two days ago
- Will be repaired/tested tomorrow running a 6:00am access

Current Priority Items (PC)

- Background studies for MVTX
- Increasing rate of calorimeter read-out

Work Control Coordinators (Chris/Joel)

- Chris Pontieri—No Update
- Two cooling panels installed
- Next access: probably only one permanent box (two too much)
 - Plumbing of cooling panel
 - More cable termination in tunnel
- IR de-humidifiers: only North units are working
- Next access: fix South units

Plan of the Day (Stefan/PC/all—to be revisited at end of meeting)

- When beam comes:
 - 1, Take calorimeter only data with no prescale and reduced sample size to maximize rate and shake out any DAQ issues: GI1, LI1, ZDC, MBD, HCal, sEPD, INTT. Martin controls everything.
 - 2, INTT: 4-hours timing scan in local mode. Call Itaru for this (if before midnight)
 - 3, Take Big partition data with GI1, LI1, ZDC, MBD, HCal, sEPD, INTT
- HCal only cosmics if no beam
- Late tonight or tomorrow: single yellow, no crossing angle, MCR will steer/collimate based on MBD singles trigger, high threshold
 - In parallel: take data with this trigger for MBD, (INTT); take data with MVTX

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Evening (Takao Sakaguchi)

- Many remaining works of the access day continued. RHIC also had work on power supply (with some sextupole power supply issue) that took an additional 1.5hr , so the IR was open until 21:40 and injection started at 22:00. Until then, the following were performed.
 - HCal cosmic test
 - TPC laser test until 19:00.
 - ZDC work
 - sEPD installation
- Raul and Rachid worked on INTT. We were told to watch the chiller flow and to call Rachid when they reached 5 lpm.
- After a couple of unexpected beam aborts during bucket filling, we eventually had a fill around 23:00, but the RHIC lost control of the beam during ramp-up. While we waited for their recovery, we noticed a huge increase in background. We called RHIC about their

plan but they only said that they want to keep the beam and have an expert look at this. With that state, the beam was passed to the next shift.

Night (Rosi)

- Started with a new beam after MCR had some issues
- Ran with LL1+MBD+HCAL+EMCAL+ZDC+sEPD
- Kept an eye out on INTT chiller, but it didn't get above 5 lpm
- DAQ was well behaved
- Maiden voyage of the EPD - less than 12 hours between install and inclusion in the big partition

Day (Tristan)

- Inherited beam which dumped at 9 AM, collected LL1+MBD+HCAL+EMCAL+INTT+ZDC+sEPD
- Discovered MBD timing issue when trying to collect INTT data, turned out to be misconfigured cable for rev tick
- ZDC+MBD run and then back to LL1+MBD+HCAL+INTT+ZDC
 - Issues configuring EMCAL SEBs, not resolved
- Beam abort due to blue quench interlock, all detectors look okay
- INTT collecting pedestal data currently

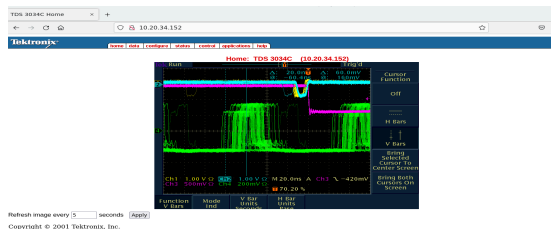
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Magnet (Kin)

- Nothing new to report.

MBD (Mickey, Lameck)

- The phase error in the MBD we guess is due to the incorrectly connected rev-tick cable? The I1 delay is now 4, when it was previously 5, with the change in the signal from the rev-tick.



- NOTE that the shift crew, according to the standing orders, can and should adjust the MBD I1 delay. Of course they should notify us and make a record in the e-log, but they don't need our permission. We set up the system so that there is enough feedback that the shift crew can do it in order to quickly get the MBD timing correct so it can provide a trigger.
- Please continue to take MBD laser runs using the provided script (~/operations/mbd/MBD_LaserRun.sh) after the end of a store. One run, 5K events.

We are working on a one button GUI, so the shift crew can just go to the MBD Calib GUI and click this button.

Trigger (Dan)

- ADC Trigger Look-up table DB interface ready for use in HCAL cosmic trigger.
 - Next extended no beam I'll run through some tests. Still very much expert mode.
- GL1 new look-up table:
 - Triggers 8,9,10 are the same.
 - 11 and 12 are the north and south (respectively) single coincidence hits ≥ 32 ;
 - All is ready for tomorrow's single-beam test.

GTM/GL1 (Martin/Dan/John K)

- V44 firmware checkout continues, not sure we are confident about switching yet. The software adaptation is largely done. What works -
 - The new global/local regime
 - Trigger holdoff (that is now a switch)
 - The "softbusy" Reg 7
- still under investigation:
 - The GL1 data sending
 - The GL1 data composition (more fields)
- I'll have a quick meeting with Joe after this SCM (or later tonight, depending)

DAQ (Martin/John H)

- Had some wrestling trying to take other-than-31-samples (12,16) with the HCal. After an initial fizzle I fixed stuff and it worked. <https://sphenix-intra.sdcc.bnl.gov/WWW/elog/DAQ/314>
- There were some (eventually deemed false-positive) reports of an issue taking data later, but we now believe that all is ok.

MVTX (Cameron)

- No report, waiting for single beam for studies

TPC (Charles/Takao)

- Yesterday's diffused laser test was useful, but unfortunately we couldn't see the signal as expected.

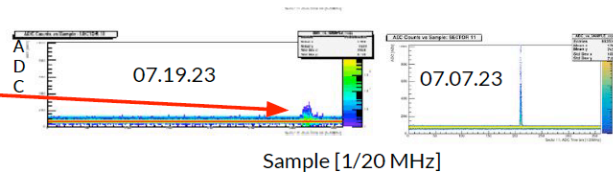
sPHENIX TPC: Diffuse Laser Test



07.19.23 13:00 - 18:00

Summary of Results (the bad)

- **Unable to time in pulses**
 - New trigger fanout board/New firmware
 - Laser pulses proved difficult to see
 - Evgeny saw little activity in GEM currents
- Pulses in OnlMon looked strange
 - Too wide, poorly formed
 - Did not show up everywhere
 - Ross did move them in time



sPHENIX TPC

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- We had a meeting to discuss the outcome from yesterday just an hour ago. We agreed that several parameters were changed for operating the diffused laser since last time, that includes FPGA firmware update for the pulsing board, pulse fanout board, magnet field (On this time), new GTM, and moderate GEM gains.
- We ended up with the plan to do another diffused laser test with no-collisions (running single beam is fine) for 10am-3pm (5hr). No access is necessary.
 - Basically, we raise the HV for one of the GEM modules whose behavior we know very well, which will allow us to differentiate the issue to be photo-electron source or GEM response.
 - Main players will be around at that time.
 - Will discuss this at Monday's TPC meeting

HCal (Virginia)

- Tested running with 12/16 samples yesterday after the shift change meeting
 - Needed a bit of debugging from Martin to get the right hitformat- done (needs to be tested)
- Everything ready to run our test as soon as beam comes back
- Lots of trips this morning during injection- including more than half of the OUTER hcal- usually these trips are limited to the inner HCal

EMCal ()

- Analyzing data from recent runs - looking at hot channels, MBD and HCal correlations

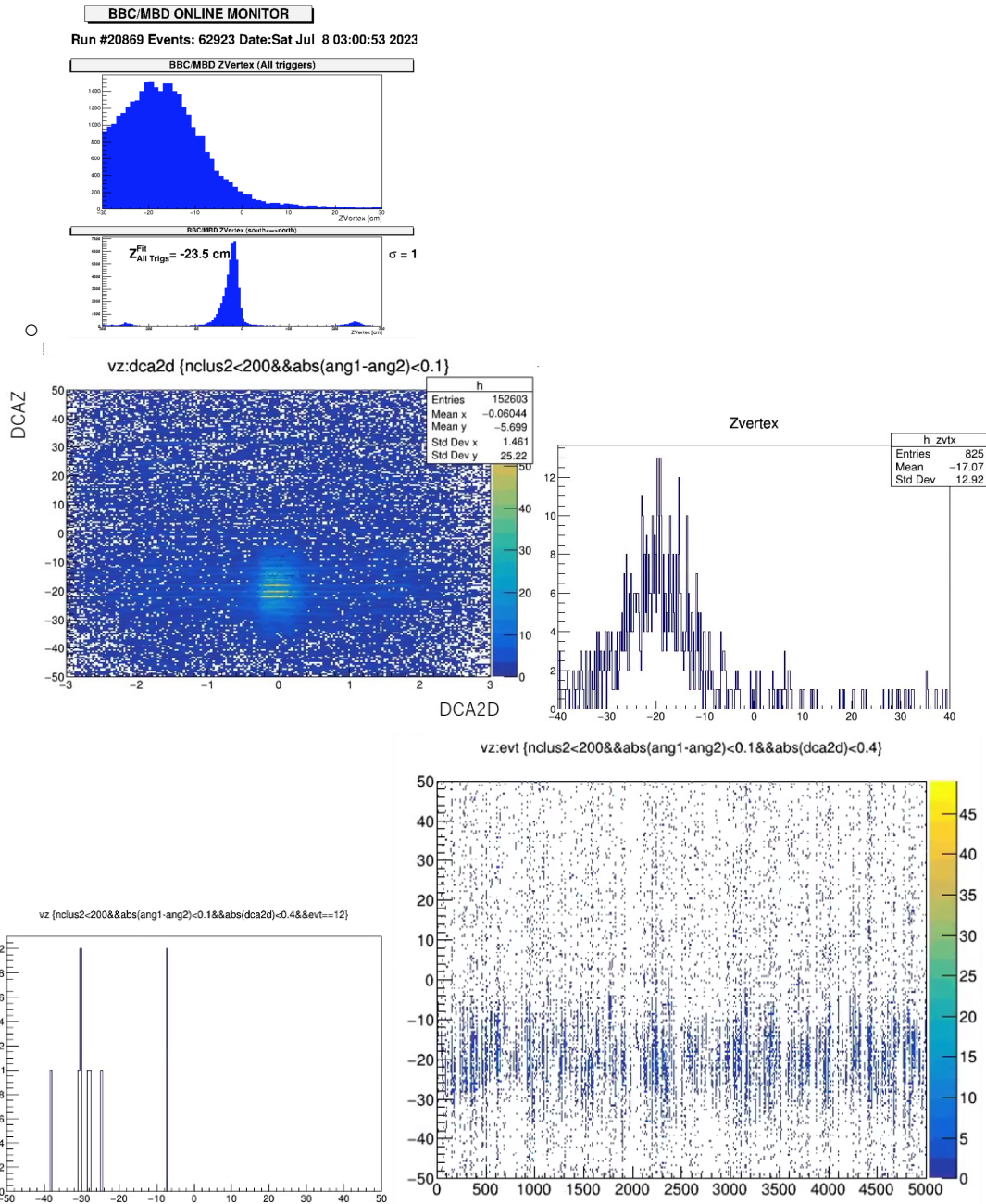
TPOT (Bade)

- John K and Hugo consolidated FEE initialization
- FEE link recovery script seems to work fine and is already documented on wiki
- Working on coincidences and HV scans offline
- FEE 12 is at ~50C. Not worried.

INTT (Jaenin/Rachid)

- INTT cooling flow is back to normal operation. The INTT LV/BV were turned ON, and back to normal data taking.

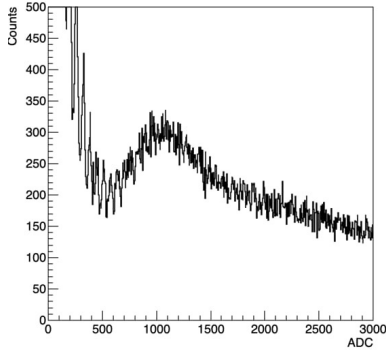
- Run 20869, 0-field, MBD online mon z-vertex and INTT z-vertex
- Both are around -23 cm Analysis by **Takashi Hachiya (NWU)**.



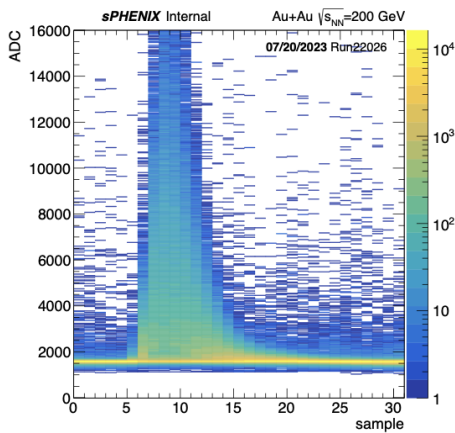
- Request : We would like to take the short runs in local mode ~ 4 hours
 - Threshold scan, timing scan
- When we are in global mode, we would like to resume DAC scan by shift crews. (scan #1 to 4): 2 M events each

sEPD(Rosi)

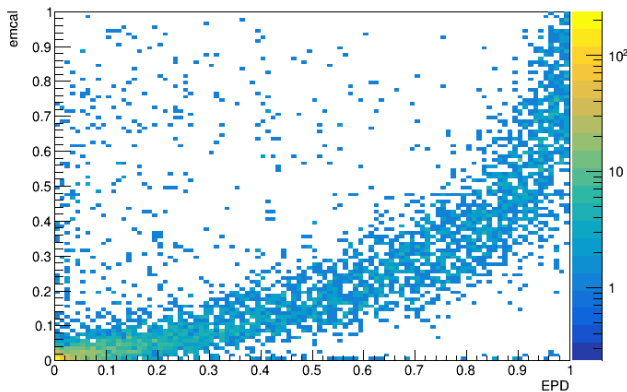
- sEPD was installed - slow controls and monitoring in progress
- 62 tiles of data available - we can see MIP peaks:



- Waveform (plot by JaeBoem) looked great from the beginning:



- We have correlations between the emcal and the sEPD (plot by Tim):



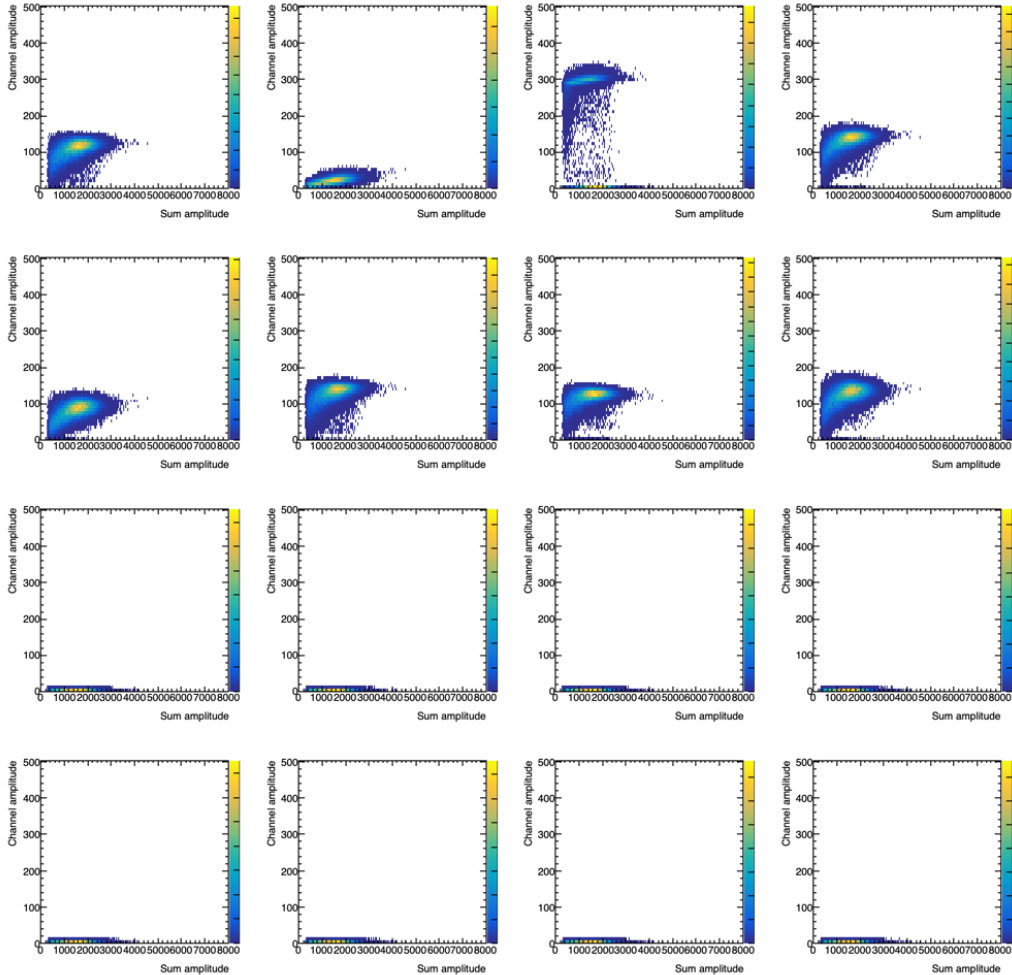
- Much thanks to JaeBoem for getting us into the big partition, Dan Lis for the timing (and other things!) and of course to Chris, Frank, Jimmy, Sal, Steve, Eric and others...
Getting there!

Gas/Cooling ()

- INTT CDU's both recovered to +51pm by 6am. Still stable and going up slowly. Because of the nature of the subatmospheric system and the complexity of the pipe runs, it will take a while (order of 24-36hrs) to recover after any modification or stopping the system for an extended period of time.

ZDC (John, Peter, Sean)

- SMD cables for ZDCN finished yesterday afternoon and John & Sean (with PAS taking notes) installed the signal cables for the SMD
- SMD PMT powered at 1000V using Sean's external power supply - will contact CAD about getting two more HV supplies.
- Only half of signal cables in 1008B were terminated, so we have cabled them up (in semi-random order for now - just to make sure what we have, works)
- After a few false starts with the DAQ (Thanks, team Boulder!) a special run was taken with ZDC/sEPD and MBD to check out the new SMD channels
- Pedestals show clear difference between connected and unconnected, but a "foot" needs investigation. Some correlation with the ZDCN HW sum visible (& we have a lot of room to increase the SMD amplification in general)



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Background Counters ()
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Online Monitoring (Chris)

- Nothing new