Preparation for Run25

Akitomo Enokizono

FY2025 Shutdown

From John's slides for sPHENIX Fortnight meeting on Jan 24

BNL travel schedule

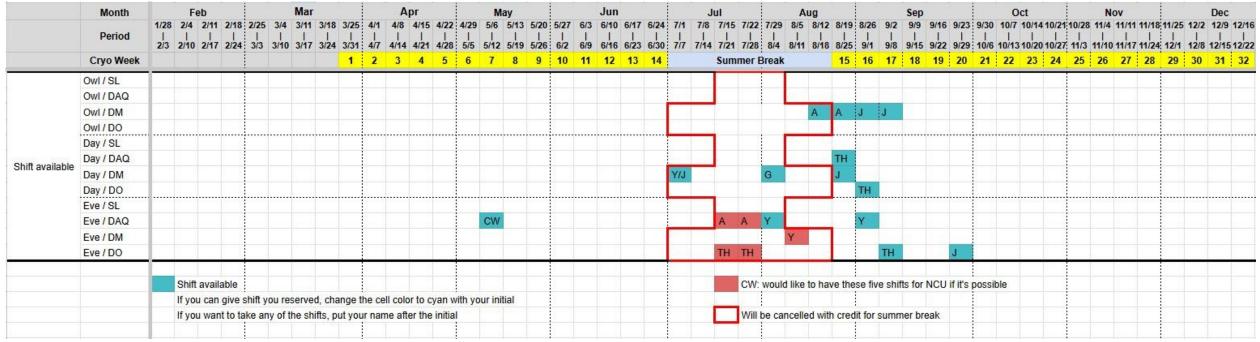https://docs.google.com/spreadsheets/d/19mHncED6ORXqv2N4TVZ12kvGjgqf92Ysrr8i0v4nPBM/edit?gid=177969834#gid=177969834

Shift arrangement within INTT group

- A message from Rosi on Mattermost on Feb 5
  - "We'll be discussing this on Friday, but the short answer is that there won't be beam from July 1 to August 20. We will do gas shifts until ~July 15 then we will shut down until ~August 5, when we will start up with gas shifts again. People will get credit for what they signed up for. We will only need the PC, SL and DAQ shifter during the gas shifts."

sPHENIX shift duty

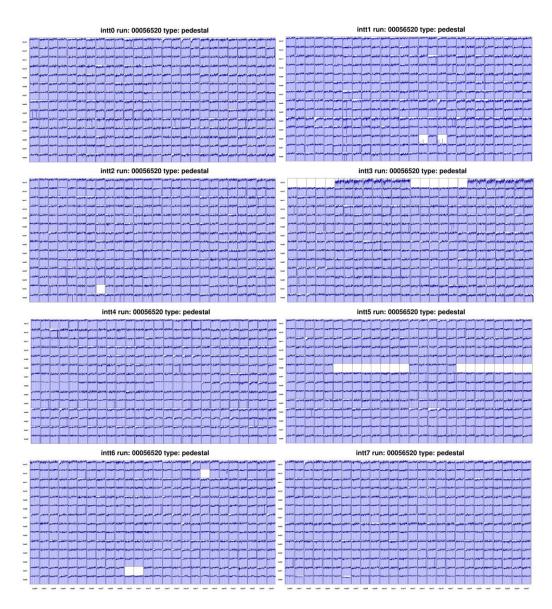| Institution Name	# People	Current # of active Authors	Effective # of Authors	# total shift obligation	# Shifts Taken	Status	Member Names
Korea University	2	2	2	5	7	+40% (OK)	Byungsik Hong, Jaein Hwang
Nara Women's University	10	7	7	19	16	-16% (3 more needed)	Manami Fujiwara, Takashi Hachiya, Mahiro Ikemoto, Mai Kano, Nao Morimoto, Maya Shimomura, Hinako Tsujibata, Yui Ishigaki, Yumika Namimoto, Runa Takahama
National Central University	4	3	3	8	3	-63% (5 more needed)	Chia-Ming Kuo, Cheng-Wei Shih, Wei-Che Tang, Kai-Yu Cheng
Purdue University	2	2	2	5	6	+20% (OK)	Joseph Bertaux, Wei Xie
RIKEN	10	6	6	16	23	+44% (OK)	Akitomo Enokizono, Yasuyuki Akiba, Hideto Enyo, Yuji Goto, Itaru Nakagawa, Ralf Seidl, Minho Kim, Yuko Shoji Sekiguchi, Yasushi Watanabe, Satoshi Yokkaichi
RIKEN BNL Research Center	1	1	1	3	3	Exact coverage (OK)	Genki Nukazuka
Rikkyo University	6	1	1	3	5	+67% (OK)	Takahiro Kikuchi, Tomoya Kato, Ryota Shishikura, Kazuma Fujiki , Kazuyoshi Kurita, Jiro Murata

- 2.7 shifts per person at this moment but will increase the number because of the increased number of Cryo weeks and free shift credits for summer break

Apartments

- BNL housing office finally approved the following reservations
  - One-bedroom Apt for staff / Mar 2 – Oct 31 (Approved)
  - One-bedroom Apt for staff / Mar 3 – Oct 31 (Approved)
  - One-bedroom Apt for staff / Jun 1 – Aug 31 (Approved)
  - Two-bedroom Apt for staff / Aug 1 – Sep 31 (Approved)
  - **Team Apt (4 bedroom) / March 3 – Oct 31 (Approved)**
  - Team Apt (3 bedroom) / May 5 – Oct 31 (Approved)

- Staff apartments will be also used by any INTT stuff members.
- Will modify the start data of the 4-bedroom team apartment depending on when more than 2 students visit BNL
  - Need to be modified before Feb 17 to avoid surcharge

Pedestal check at 1008

- Rachid and Raul successfully get the pedestal data with helps from Genki and Joseph
  - The plots looks consistent with Run2024
  - Joseph's new decoder on bbox is fast to check on INTT data quickly
  - Genki is working on the web page for Run 2025

- The LV GUI for shift crews includes initialization scripts, which are available only at:
  - INTT mini PC
  - Control-1 (PC for DO shift)
    - If any of the PCs is renewed, please make sure to put the scripts and ensure ssh connection to opc0/control1/intt servers without password
  - Wiki document
    https://wiki.sphenix.bnl.gov/index.php?title=INTT_LV_GUI

intt0 run: 00056520 type: pedestal
intt1 run: 00056520 type: pedestal
intt2 run: 00056520 type: pedestal
intt3 run: 00056520 type: pedestal
intt4 run: 00056520 type: pedestal
intt5 run: 00056520 type: pedestal
intt6 run: 00056520 type: pedestal
intt7 run: 00056520 type: pedestal

To do list for Run25 commissioning

Task	Duration	Points	Beam condition	Other subsystem condition	Priority	Field	Trigger	Comment
Chip saturation study	10 mins for each	INTT in trigger mode Different open time 25, 40, 60, 80, 90, 110, 127 moderate ncollision, 2, 50, 100 If possible we need the long GTM busy window for this test	with collisions (with low rate)	With MBD, in global mode			MBD	This is to study the chip hit saturation issue discovered on Dec 10 2024. Whether we still see the cutoff in the chip nhit distribution even with the open time of 128 BCO? We also need to check the cluster phi size distribution We can also try to learn the correlation between the open_time and nhits
Carried over hit study	30 mins	INTT in trigger mode moderate open_time (80 or 128) ncollision 1 or 2 or 3 Short GTM busy window for this test	with collisions (with high rate)	With MBD, in global mode			MBD	As of Nov 25 2024, I think we never have the dataset with very narrow ncollision for the event-mixed-up study With the statistic approach, in the reality, we just cannot distinguish b/w mix-up hits and the hits from real collisions. So it's good to have such a dataset that we have the potential to believe that any abnomal behavior found in the data can be really came from anything other than the really collisions. In addition, by comparing with the previous dataset with ncollision 100, we can possibly learn where the event mixup happened.
Timing coarse delay scan								
Single bunch crossing	10 mins?	one run ncollision 100 one run small ncollision	single or two bunch crossing(s) with collisions	Join the MVTX commissioning				We never join the MVTX commissioning data taking. I think it's a good idea to take at least one run with single bunch crossing or five. We can learn the noise level and also the beam background, and also fraction of the hit moved to the next bin
DAC0 scan	5 min x 6 points x 2 sets	DAC0 = 15, 20, 25, 30, 35, 40	better to be with beam	Standalone			MBD	Better to take data in the same condition as Run2024 Au+Au commissioning, i.e. with Au+Au beam, with other subsystems on.
Digital control test?								

- Please input your work using AuAu during commissioning to the list at https://docs.google.com/spreadsheets/d/175Z06nDFWACKIrvqN_R43ABLtRfE6r23u9CZtVuwDHg/edit?gid=1538604329#gid=1538604329:

INTT wiki for Run2025

- https://wiki.sphenix.bnl.gov/index.php?title=INTT_Run2025

- Calibration section
  - Timing Scan
  - Hot&Cold channel mask
  - DAC0 Scan

  Any other calibration?

- Other than the Run2025, the following pages will be updated before Run25 commissioning starts
  - DAQ operation
  - Online monitoring
  - Offline QA plots

  Any other wiki page to be updated?

INTT Run2025

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