

A wide-angle photograph of the TechnoComplex building at Korea University. The building is a large, modern structure with a prominent glass facade and a sign that reads "TechnoComplex". In the foreground, there is a paved plaza with a large, stylized "KU" logo and the words "KOREA UNIVERSITY" below it. The sky is clear and blue, and there are some trees with autumn foliage in the background.

INTT group activities at BNL in 2024

INTT Analysis Workshop at Korea University

Akitomo Enokizono
(RIKEN)

Run24 INTT commissioning

2023

- 11/8: TPC review and request for INTT ROC removal for the TPC HV work
- 11/17: North ROCs removal completed
- 12/12: South ROCs removal completed

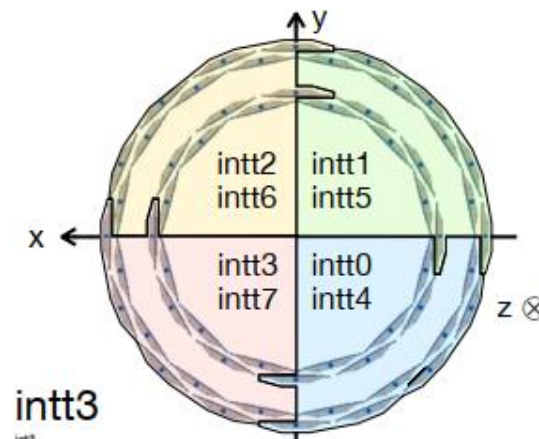
~~ Winter break ~~

2024

- 1/26: 4 ROCs (two for each side) removed
- 2/23: Start installing ROCs
- 3/5: Finish installing south ROCs
- 3/11: Finish installing north ROCs
- Until p+p collisions:
Took calibration, pedestal, cosmic data
Tackled some issues like:
Noise, Cooling, Felix firmware, GTM...

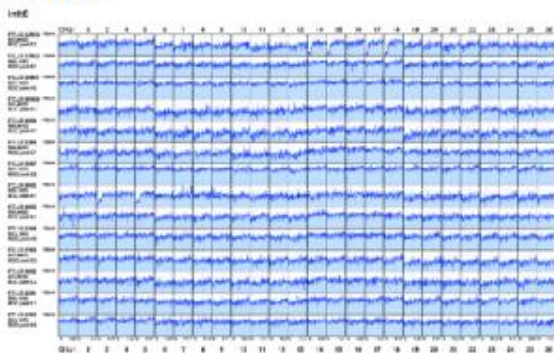


Ladder tests: Example of the pedestal measurements

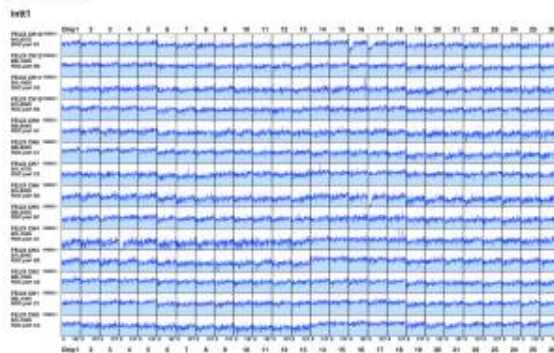


South side

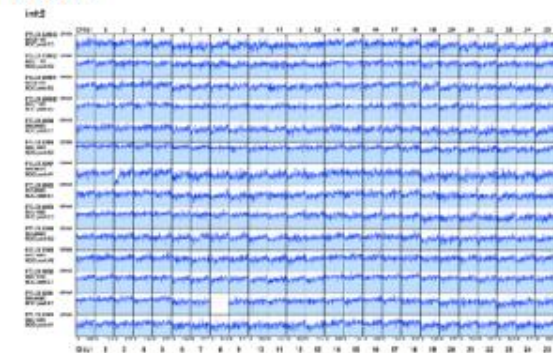
intt0



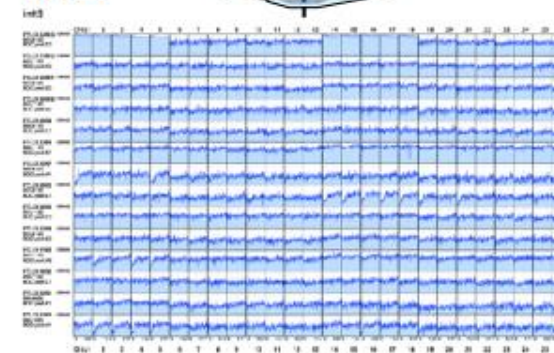
intt1



intt2

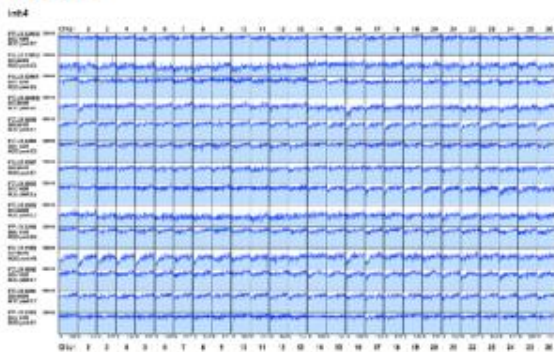


intt3

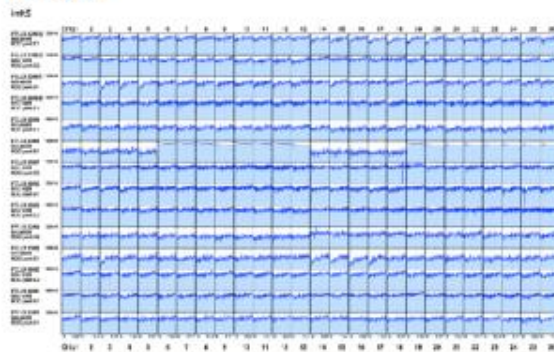


North side

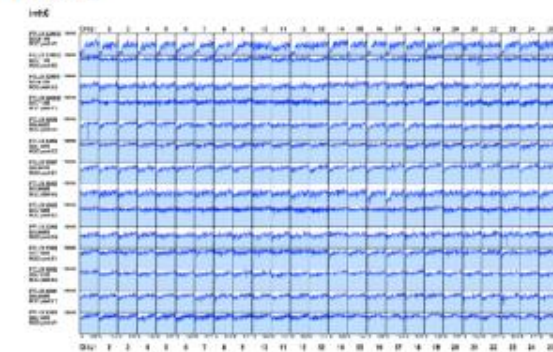
intt4



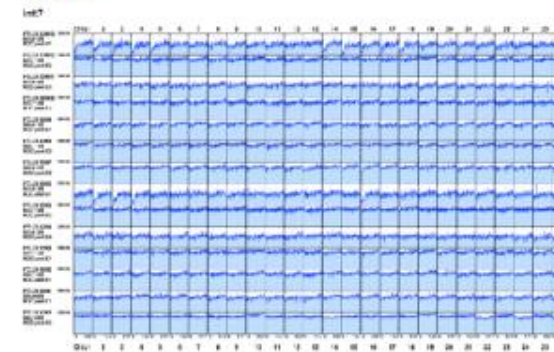
intt5



intt6



intt7



Run 34597

We confirmed that more than 99% of chips (128 strips) are alive. No major difference from last year.

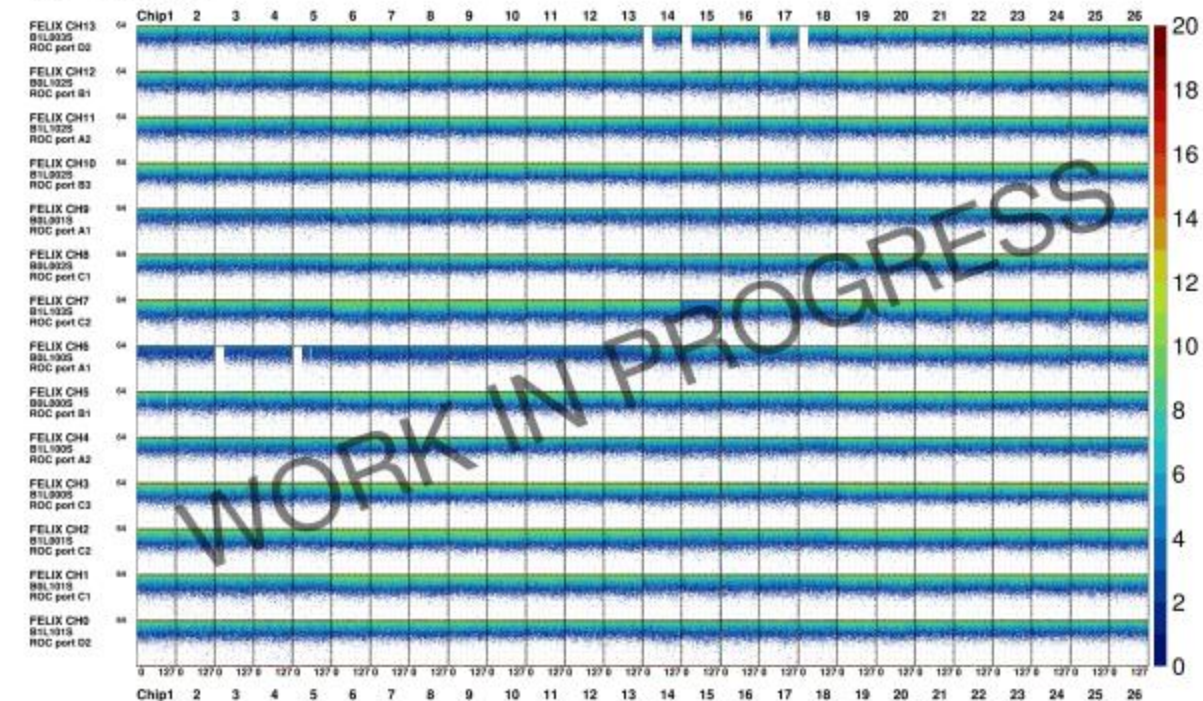
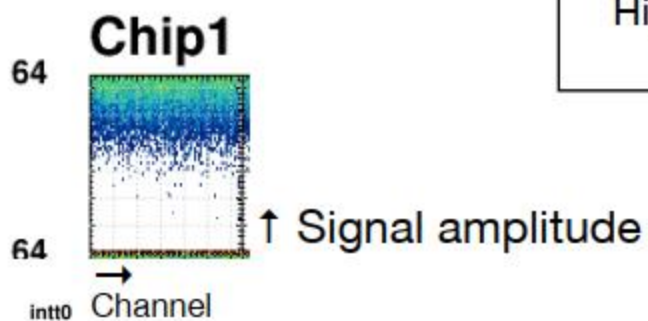
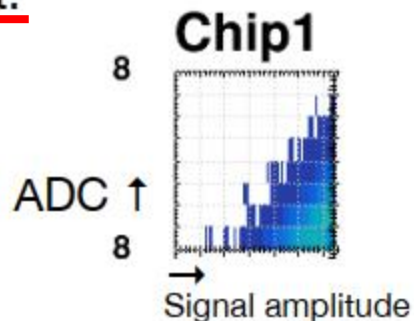
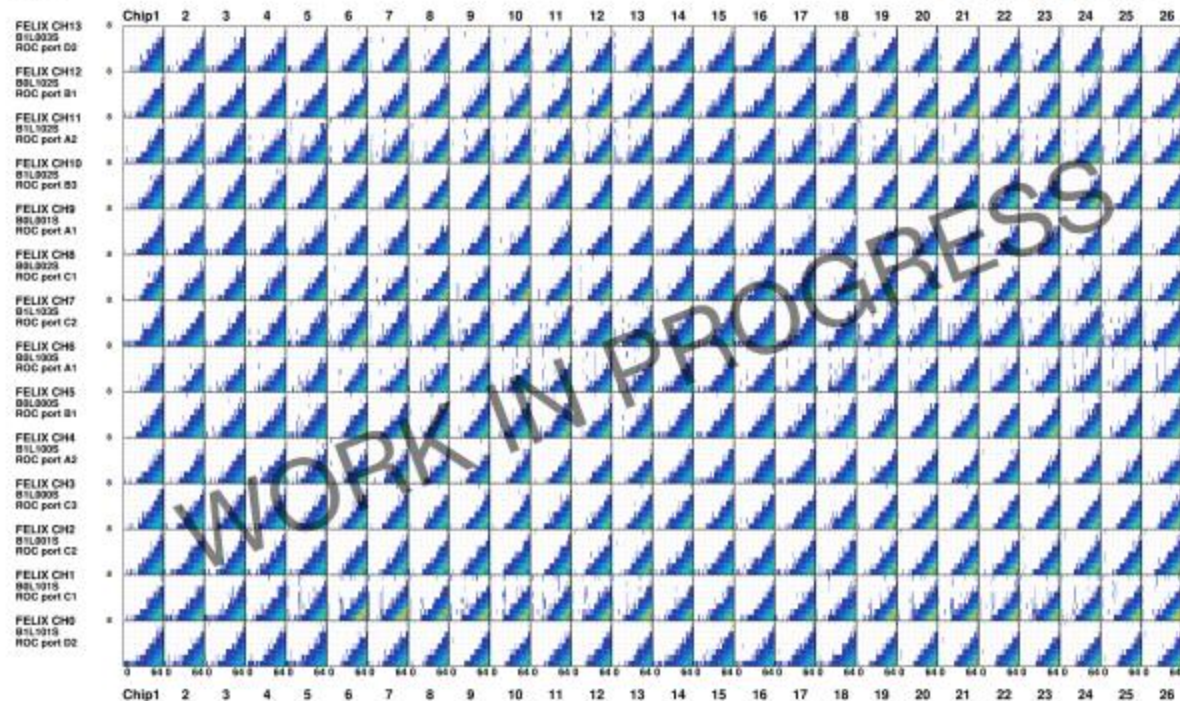
Ladder tests: Calibration

Calibration, which is a pulse measurement, is the most reliable tool to test our readout stream. The feature using a FELIX is partially available. Raul is working on it.

Run 3111831
Test run
No bias
Higher DAC setting than usual

South side

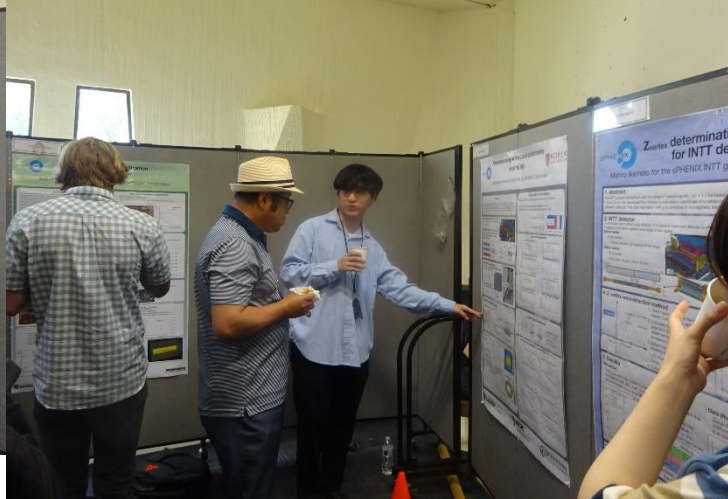
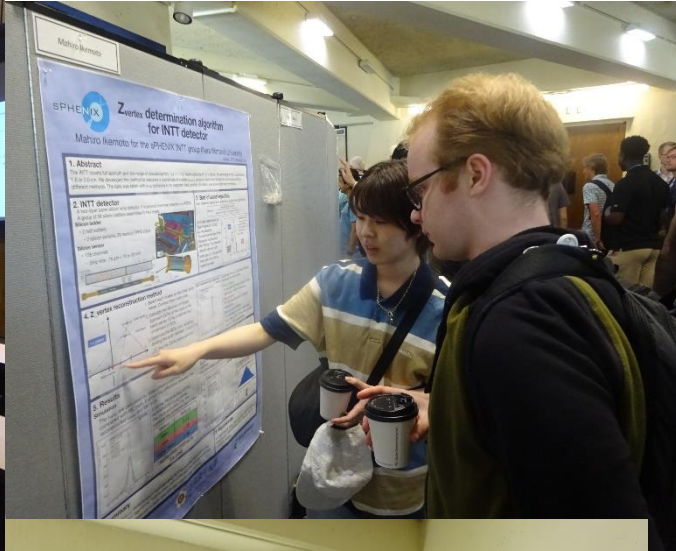
intt0
intt0



Timeline of Run24 p+p w.r.t INTT

- 4/15: Ring and sPHENIX magnet is fully cooled, 4-person shift started
- 4/28: Observed meaningful p+p collisions, physics declared on 4/30
 - Timing scan, DAC0 scan, DAC scan etc...
- 6/24: Beam crossing angle changed from 2mrad to 0mrad. Mass production started
- 7/10: Test of streaming in BP (Run 47943 – 47981)
 - Takashi analyzed the data to give green light for the streaming mode
 - For these runs, there was no hot ladder issue
- 7/19: INTT was switched to the full streaming mode but... (Run 48700-)
 - INTT4 ladder 8, 11 start having noise issue in the streaming mode, masked
 - Missing GL1 issue
 - Switch back-and-forth between trigger and streaming modes with some work by Raul
- 8/16: INTT was fixed to streaming mode (Run 51484-)
- 9/30: End of p+p run
- 10/2: Start of Au+Au commissioning
 - INTT DAQ was switched back to trigger mode
 - Timing scan, DAC0 scan, DAC scan, Bias scan
- 10/21: End of Au+Au commissioning
 - Lots of cosmic data

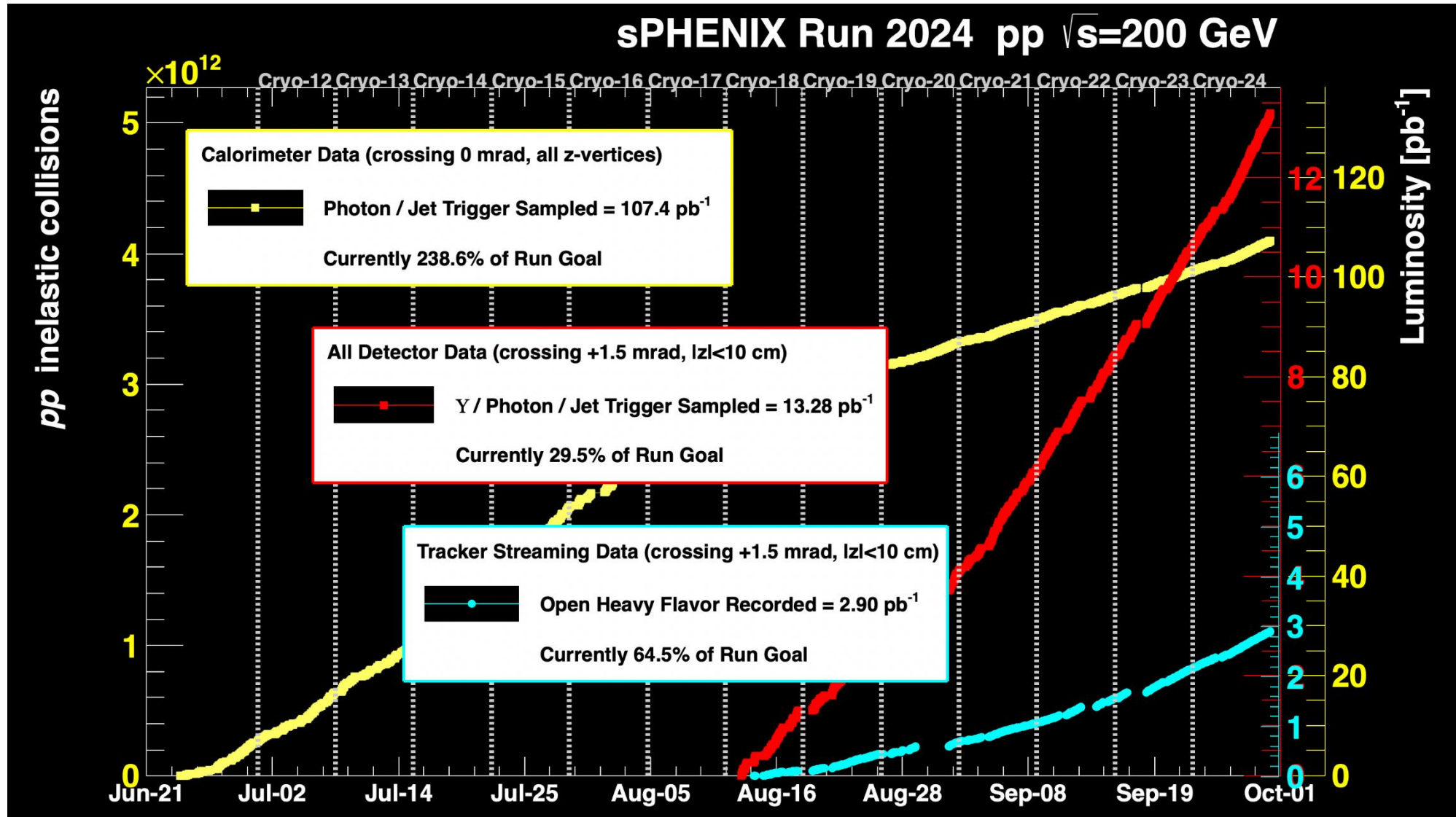
RHIC AGS Users Meeting (June 11-14)



Contributions

- Genki :
Prospect with the sPHENIX
- Jaein :
Commissioning of the Local polarimetry at sPHENIX
- Tomoya :
INTT performance
- Hinako :
Development of a Tracking Algorithm for sPHENIX-INTT
- Mahiro :
Determination Algorithm of Z Coordinate of Vertex for the sPHENIX INTT Detector

Run24 p+p summary



End of Run24 p+p party (Sep 30)



Run24 Au+Au commissioning

Default config: LVL1 delay=114, DAC0=35, Trigger mode (n-collision=100, open-time=60)

Run number	Run type	Beam profile	#Evts	Calibration type	Config parameters	Subsystems	Comment
54279	Physics		5.8M	Zero-field run	Default	Big Partition	
54280	Physics		10.6M	Zero-field run	Default	Big Partition	
54281	Physics		6.5M	Zero-field run	Default	Big Partition	
54373	Physics		4.8M	Timing scan	LVL1=114	Big Partition	
54374	Physics		4.3M	Timing scan	LVL1=112	Big Partition	
54377	Physics		4.7M	Timing scan	LVL1=113	Big Partition	
54379	Physics		3.2M	Timing scan	LVL1=115	Big Partition	
54405	Beam		40M	Timing scan	LVL1=116	GL1+standalone	
54406	Beam		39M	Timing scan	LVL1=115	GL1+standalone	
54409	Beam		38M	Timing scan	LVL1=114	GL1+standalone	
54410	Beam		37M	Timing scan	LVL1=113	GL1+standalone	
54413	Beam		38M	Timing scan	LVL1=112	GL1+standalone	
54453	Beam		26M	DAC0 scan	DAC0=35	GL1+standalone	
54455	Beam		25M	DAC0 scan	DAC0=40	GL1+standalone	
54456	Beam		25M	DAC0 scan	DAC0=45	GL1+standalone	
54458	Beam		24M	DAC0 scan	DAC0=30	GL1+standalone	
54459	Beam		25M	DAC0 scan	DAC0=25	GL1+standalone	
54460	Beam		25M	DAC0 scan	DAC0=20	GL1+standalone	
54462	Beam		25M	DAC0 scan	DAC0=15	GL1+standalone	
54465	Physics	x-ang=2.0mrad	0.9M	Beam X-ang scan	Default	Big Partition	
54466	Physics	x-ang=1.5mrad	1.0M	Beam X-ang scan	Default	Big Partition	
54467	Physics	x-ang=1.0mrad	1.5M	Beam X-ang scan	Default	Big Partition	
54468	Physics	x-ang=0.5mrad	1.6M	Beam X-ang scan	Default	Big Partition	
54469	Physics	x-ang=0.0mrad	2.8M	Beam X-ang scan	Default	Big Partition	No vtx cut
54470	Physics	x-ang=0.0mrad	3.0M	Beam X-ang scan	Default	Big Partition	With vtx cut
54679	Beam		16M	Bias scan	Bias=50V	GL1+standalone	
54681	Beam		12M	Bias scan	Bias=75V	GL1+standalone	
54685	Beam		16M	Bias scan	Bias=100V	GL1+standalone	
54686	Beam		15M	Bias scan	Bias=50V	GL1+standalone	
54687	Beam		14M	Bias scan	Bias=75V	GL1+standalone	
54688	Beam		14M	Bias scan	Bias=100V	GL1+standalone	
54692	Beam		30M	DAC scan	DAC: 8 12 16 20 24 28 32 36	GL1+standalone	
54694	Beam		26M	DAC scan	DAC: 28 32 36 40 44 48 52 56	GL1+standalone	
54695	Beam		26M	DAC scan	DAC: 48 52 56 60 64 68 72 76	GL1+standalone	
54696	Beam		24M	DAC scan	DAC: 68 72 76 80 84 88 92 96	GL1+standalone	
54698	Beam		25M	DAC scan	DAC: 88 92 96 100 104 108 112 116	GL1+standalone	
54699	Beam		24M	DAC scan	DAC: 108 112 116 120 124 128 132 136	GL1+standalone	
54670	Beam		23M	DAC scan	DAC: 128 132 136 140 144 148 152 156	GL1+standalone	
54678	Beam		23M	DAC scan	DAC: 148 152 156 160 164 168 172 176	GL1+standalone	

- Au+Au commissioning started 10/1
- Some of the INTT data with special condition were taken in big partition.
 - Zero-field runs and beam x-angle scan runs
- Joseph, Mai, Manami, Takahiro, Tomoya and Yuko worked to take data
 - Timing scan, DAC0 scan, Bias scan and DAC scan
- All calibration data are available in TTree files.

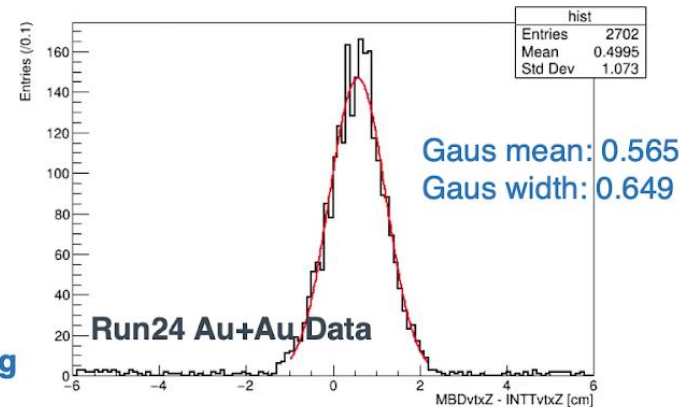
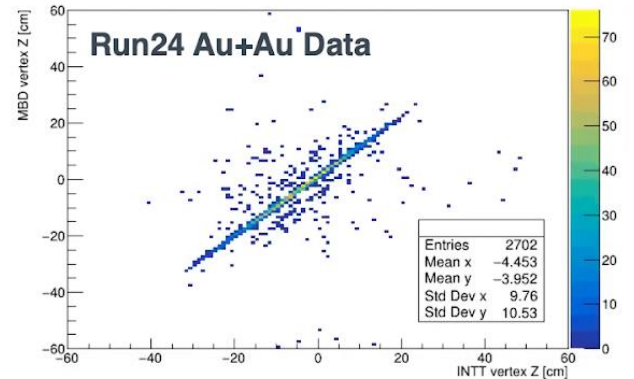
INTT performance plot

Vertex Z correlation b/w INTT and MBD

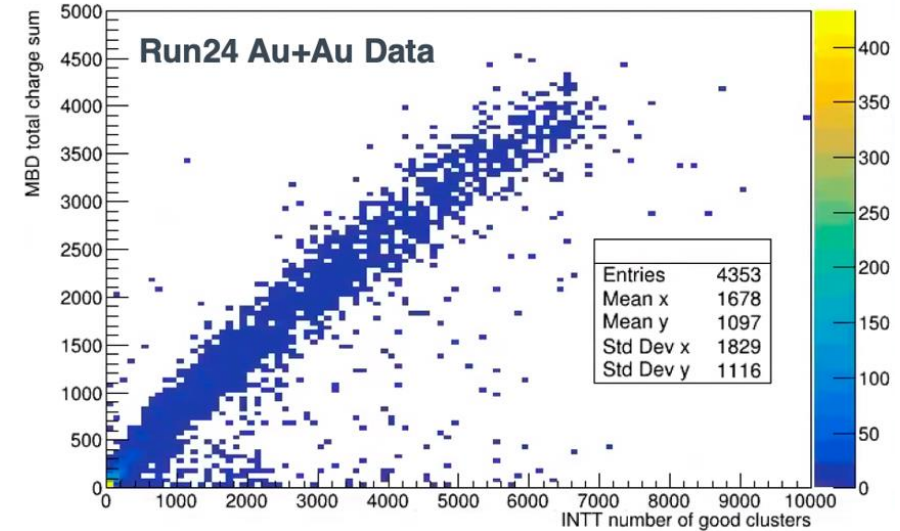


- Run: 54280 (In zero field)
- Analysis build: ana.439
- Production tag: 2024p007
- Event selection
 - eID > 1000 (first 1k no MBD vtxZ)
 - MBDNS_vtx30cm_Trig == 1
 - MBD_total_charge_sum > 0
 - INTTClus_Good > 500
 - MBDvtxZ != nan
 - INTTvtxZ != nan

The vertex Z difference becomes smaller (0.565 cm) with this product tag



First 10k events



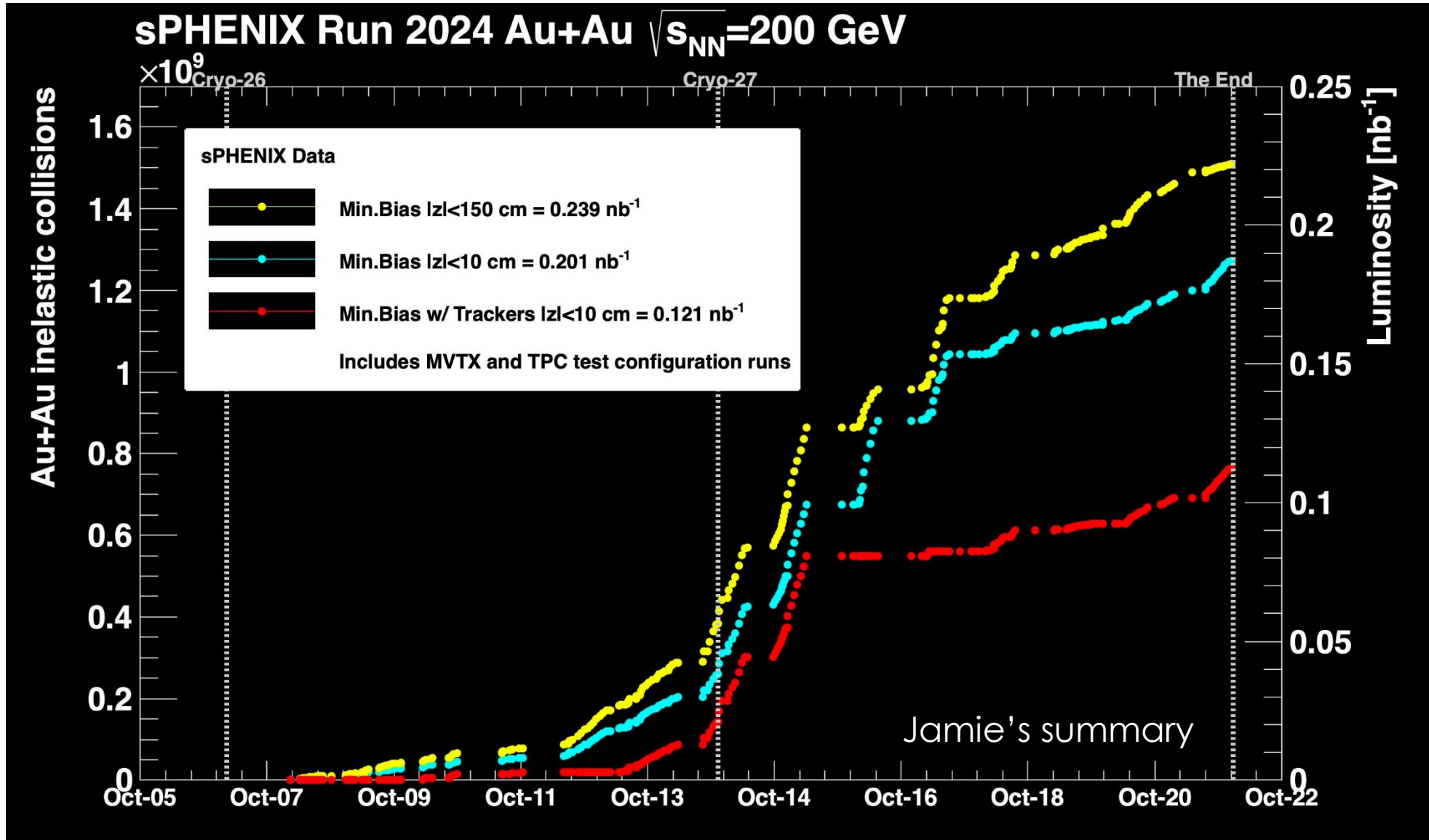
Cheng-Wei and Mahiro work independently for the INTT performance plot

*Good cluster: cluster size < 6 && cluster adc > 35

INTT meeting

Cheng-Wei Shih (NCU, Taiwan)

Run24 Au+Au commissioning



End of Run24 Au+Au party (Oct 21)



Activities at 1008



Student work is a lifeline for INTT

- Cheng-Wei: dN/deta, z-vertex, simulation
- Hinako: tracking
- Joseph: database, online plots (hit rate, hot/dead, BCO), HV gui
- Jaein: BCO, Hot/dead map, GL1 matching, **organizing this workshop!**
- Mahiro: z-vertex
- Mai: event mix-up offline QA
- Manami: reaction plane
- Ryota: phi-size offline QA, Grafana, detection efficiency
- Takahiro: digital control
- Tomoya: z-cluster size QA, database
- Wei-Che: cosmic analysis

Tireless supports by
Genki and Takashi

Run2024 sPHENIX shifts from INTT group

Shifts signed up for by Joseph Bertaux are :

Week	Hours	Position
Mar 12th - Mar 19th	0:00 - 8:00	Detector Operator
Mar 19th - Mar 26th	0:00 - 8:00	Detector Operator
Mar 26th - Apr 2nd	16:00 - 0:00	Detector Operator
Apr 2nd - Apr 9th	16:00 - 0:00	Detector Operator
May 21st - May 28th	16:00 - 0:00	DAQ Operator
May 28th - Jun 4th	16:00 - 0:00	DAQ Operator
Oct 8th - Oct 15th	0:00 - 8:00	Data Monitor Operator

Shifts signed up for by Jaemin Hwang are :

Week	Hours	Position
Apr 9th - Apr 16th	16:00 - 0:00	Data Monitor Operator
Apr 30th - May 7th	16:00 - 0:00	Detector Operator
Jul 30th - Aug 6th	16:00 - 0:00	Data Monitor Operator
Aug 6th - Aug 13th	16:00 - 0:00	Data Monitor Operator
Aug 13th - Aug 20th	16:00 - 0:00	Data Monitor Operator

Shifts signed up for by Ryota Shishikura are :

Week	Hours	Position
Aug 27th - Sep 3rd	0:00 - 8:00	Detector Operator
Sep 3rd - Sep 10th	0:00 - 8:00	Detector Operator
Sep 17th - Sep 24th	0:00 - 8:00	Detector Operator

Shifts signed up for by Takahiro Kikuchi are :

Week	Hours	Position
Aug 20th - Aug 27th	8:00 - 16:00	Data Monitor Operator
Sep 3rd - Sep 10th	0:00 - 8:00	Data Monitor Operator
Sep 17th - Sep 24th	0:00 - 8:00	DAQ Operator
Oct 15th - Oct 22nd	16:00 - 0:00	Detector Operator

Shifts signed up for by Tomoya Kato are :

Week	Hours	Position
Jun 18th - Jun 25th	0:00 - 8:00	Data Monitor Operator
Oct 29th - Nov 5th	0:00 - 8:00	Detector Operator

Shifts signed up for by Kazuma Fujiki are :

Week	Hours	Position
Feb 20th - Feb 27th	0:00 - 8:00	Detector Operator

Shifts signed up for by Takashi Hachiya are :

Week	Hours	Position
Apr 30th - May 7th	8:00 - 16:00	Shift Leader
May 14th - May 21st	0:00 - 8:00	Data Monitor Operator
Jul 30th - Aug 6th	0:00 - 8:00	Shift Leader

Shifts signed up for by Manami Fujiwara are :

Week	Hours	Position
Sep 3rd - Sep 10th	16:00 - 0:00	Data Monitor Operator
Sep 17th - Sep 24th	0:00 - 8:00	Data Monitor Operator
Sep 24th - Oct 1st	0:00 - 8:00	Data Monitor Operator

Shifts signed up for by Mai Kano are :

Week	Hours	Position
Aug 6th - Aug 13th	16:00 - 0:00	Detector Operator
Aug 13th - Aug 20th	8:00 - 16:00	Data Monitor Operator
Oct 29th - Nov 5th	16:00 - 0:00	Detector Operator

Shifts signed up for by Maya Shimomura are :

Week	Hours	Position
Feb 27th - Mar 5th	N/A	Period Coordinator
Mar 5th - Mar 12th	N/A	Period Coordinator

Shifts signed up for by Nao Morimoto are :

Week	Hours	Position
Jul 30th - Aug 6th	16:00 - 0:00	Detector Operator

Shifts signed up for by Mahiro Ikemoto are :

Week	Hours	Position
Jun 25th - Jul 2nd	0:00 - 8:00	Detector Operator

Shifts signed up for by Yui Ishigaki are :

Week	Hours	Position
Aug 13th - Aug 20th	16:00 - 0:00	Detector Operator

Shifts signed up for by Hinako Tsujibata are :

Week	Hours	Position
Apr 30th - May 7th	0:00 - 8:00	Detector Operator

Shifts signed up for by Cheng-Wei Shih are :

Week	Hours	Position
Feb 20th - Feb 27th	0:00 - 8:00	Shift Leader
Feb 27th - Mar 5th	0:00 - 8:00	Detector Operator
Jul 30th - Aug 6th	16:00 - 0:00	DAQ Operator

Shifts signed up for by Wei-Che Tang are :

Week	Hours	Position
Mar 26th - Apr 2nd	16:00 - 0:00	Data Monitor Operator
Apr 16th - Apr 23rd	16:00 - 0:00	Data Monitor Operator
Apr 30th - May 7th	0:00 - 8:00	DAQ Operator

Shifts signed up for by Chia-Ming Kuo are :

Week	Hours	Position
Aug 13th - Aug 20th	0:00 - 8:00	Data Monitor Operator
Aug 20th - Aug 27th	16:00 - 0:00	Data Monitor Operator

Shifts signed up for by Susumu Sato are :

Week	Hours	Position
Jul 2nd - Jul 9th	0:00 - 8:00	Data Monitor Operator
Jul 9th - Jul 16th	0:00 - 8:00	Data Monitor Operator
Aug 20th - Aug 27th	16:00 - 0:00	DAQ Operator
Aug 27th - Sep 3rd	16:00 - 0:00	Data Monitor Operator

Shifts signed up for by Hiroyuki Sako are :

Week	Hours	Position
Jul 2nd - Jul 9th	0:00 - 8:00	Detector Operator
Jul 9th - Jul 16th	0:00 - 8:00	Detector Operator

Shifts signed up for by Shoichi Hasegawa are :

Week	Hours	Position
Aug 27th - Sep 3rd	0:00 - 8:00	Data Monitor Operator

Shifts signed up for by Rachid Nouicer are :

Week	Hours	Position
Apr 30th - May 7th	0:00 - 8:00	Shift Leader
Sep 24th - Oct 1st	8:00 - 16:00	Shift Leader
Oct 22nd - Oct 29th	8:00 - 16:00	Shift Leader

Shifts signed up for by Yasuyuki Akiba are :

Week	Hours	Position
Apr 9th - Apr 16th	0:00 - 8:00	Shift Leader
Jul 2nd - Jul 9th	0:00 - 8:00	Shift Leader

Shifts signed up for by Akitomo Enokizono are :

Week	Hours	Position
Mar 12th - Mar 19th	8:00 - 16:00	Detector Operator
Jun 18th - Jun 25th	0:00 - 8:00	DAQ Operator
Jun 25th - Jul 2nd	0:00 - 8:00	Shift Leader
Oct 8th - Oct 15th	N/A	Period Coordinator
Oct 15th - Oct 22nd	N/A	Period Coordinator
Oct 22nd - Oct 29th	0:00 - 8:00	Shift Leader

Shifts signed up for by Hideto Enyo are :

Week	Hours	Position
May 28th - Jun 4th	0:00 - 8:00	Shift Leader
Aug 27th - Sep 3rd	8:00 - 16:00	Detector Operator

Shifts signed up for by Yuji Goto are :

Week	Hours	Position
Apr 2nd - Apr 9th	0:00 - 8:00	Shift Leader
Aug 20th - Aug 27th	16:00 - 0:00	Detector Operator

Shifts signed up for by Genki Nukazuka are :

Week	Hours	Position
Mar 19th - Mar 26th	16:00 - 0:00	Detector Operator

Shifts signed up for by Ralf Seidl are :

Week	Hours	Position
Jul 16th - Jul 23rd	8:00 - 16:00	Shift Leader
Aug 27th - Sep 3rd	16:00 - 0:00	Detector Operator

Shifts signed up for by Yuko Shoji Sekiguchi are :

Week	Hours	Position
Sep 10th - Sep 17th	0:00 - 8:00	Data Monitor Operator
Oct 8th - Oct 15th	0:00 - 8:00	Detector Operator

- The winner of the shift competition is Joseph. Took 7 shifts!
- An excellent service work by Itaru as the Spin coordinator!

Run2024 INTT expert shifts

INTT Experts Shift Guide

Data: 09/18/2024

- The table shows the list of names INTT experts **available at BNL**. The list could be updated.
- The experts should add (remove) their names and phones number from the list when they are at BNL (not at BNL) from **the Run Subsystem Experts List**. The order of the names for call on the **Run Subsystem Expert list** can be changed by the expert based on his/her availabilities.
- The personnel(s) with **red STAR is (are) the primary contact (s)**. Rachid selects the primary contact(s) based on the Run/detector conditions, INTT expert requests, and availability of people at BNL.
- We can have one primary contact or two primary contacts i.e.: two graduated students, one in the day and second in the night. Rachid should make sure that the primary contact (s) schedule is (are) well define and available on the **the Run Subsystem Experts List**.
- During Run-25, the priority for primary contact will be given in following order: 1) graduated students, 2) postdocs, 3) staffs.
- **The primary contact** supposed to make the instantaneous decision for the or operation modes and conditions or to recover from issues and troubles beyond the instructions written in the standing order.
- In the case the primary contact cannot resolve the issues, the primary expert should immediately contact Rachid to solve the problem which he will seeks for support from the BNL experts if needed.
- **The primary contact (s) should report any condition of changes in the INTT operation to the INTT meeting, updated in the INTT RunLog , and an entry in the INTT experts Mattermost.**
- Any other experts got call should consult with the primary expert to get approval for actions and decisions.
- Reporting in shift change meetings can be done by any of INTT team member.

INTT *primary Contact	*Rachid Nouicer (at BNL)	631-652-5042	Maya Shimomura (BNL)	631-504-2144
	Genki Nukazuka (at BNL)	631-816-3268	Takashi Hachiya (BNL)	631-
	Itaru Nakagawa (at BNL)	934-226-8549	Cheng-Wei Shih (BNL)	631-
	Akitomo Enokizono (at BNL)	934-226-7791		
	Joseph Bertaux (at BNL)	317-385-3985		
	Jaien Hwang (at BNL)	903-819-4585		

	INTT
02/27-03/04	Rachid Nouicer (631-652-5042)
03/05-03/11	Rachid Nouicer (631-652-5042)
03/12-03/18	Rachid Nouicer (631-652-5042)
03/19-03/25	Rachid Nouicer (631-652-5042)
03/26-04/01	Rachid Nouicer (631-652-5042)
04/02-04/08	Joseph Bertaux (317-385-3985)
04/09-04/15	Rachid Nouicer (631-652-5042)
04/16-04/22	Rachid Nouicer (631-652-5042)
04/23-04/29	Rachid Nouicer (631-652-5042)
04/30-05/06	Rachid Nouicer (631-652-5042)
05/07-05/13	Genki Nukazuka (631-816-3268)
05/14-05/20	Genki Nukazuka (631-816-3268)
05/21-05/27	Genki Nukazuka (631-816-3268)
05/28-06/03	Rachid Nouicer (631-652-5042)
06/04-06/10	Genki Nukazuka (631-816-3268)
06/11-06/17	Genki Nukazuka (631-816-3268)
06/18-06/24	Genki Nukazuka (631-816-3268)
06/25-07/01	Joseph Bertaux (317-385-3985) (until 28th)
07/02-07/08	Akitomo Enokizono (934-226-7791)
07/09-07/15	Takashi Hachiya
07/16-07/22	Takashi Hachiya
07/23-07/29	Rachid Nouicer (631-652-5042)
07/30-08/05	Jaein Hwang
08/06-08/12	Cheng-Wei Shih (281-302-8740)
08/13-08/19	Genki Nukazuka (631-816-3268)
08/20-08/26	Genki Nukazuka (631-816-3268)
08/27-09/02	Jaein Hwang
09/03-09/09	Joseph Bertaux (317-385-3985)
09/10-09/16	Rachid Nouicer (631-652-5042)
09/17-09/23	Jaein Hwang
09/24-09/30	Akitomo Enokizono (934-226-7791)
10/01-10/07	Akitomo Enokizono (934-226-7791)
10/08-10/14	Joseph Bertaux (317-385-3985)
10/15-10/21	Joseph Bertaux (317-385-3985)
10/22-10/28	Akitomo Enokizono (934-226-7791)

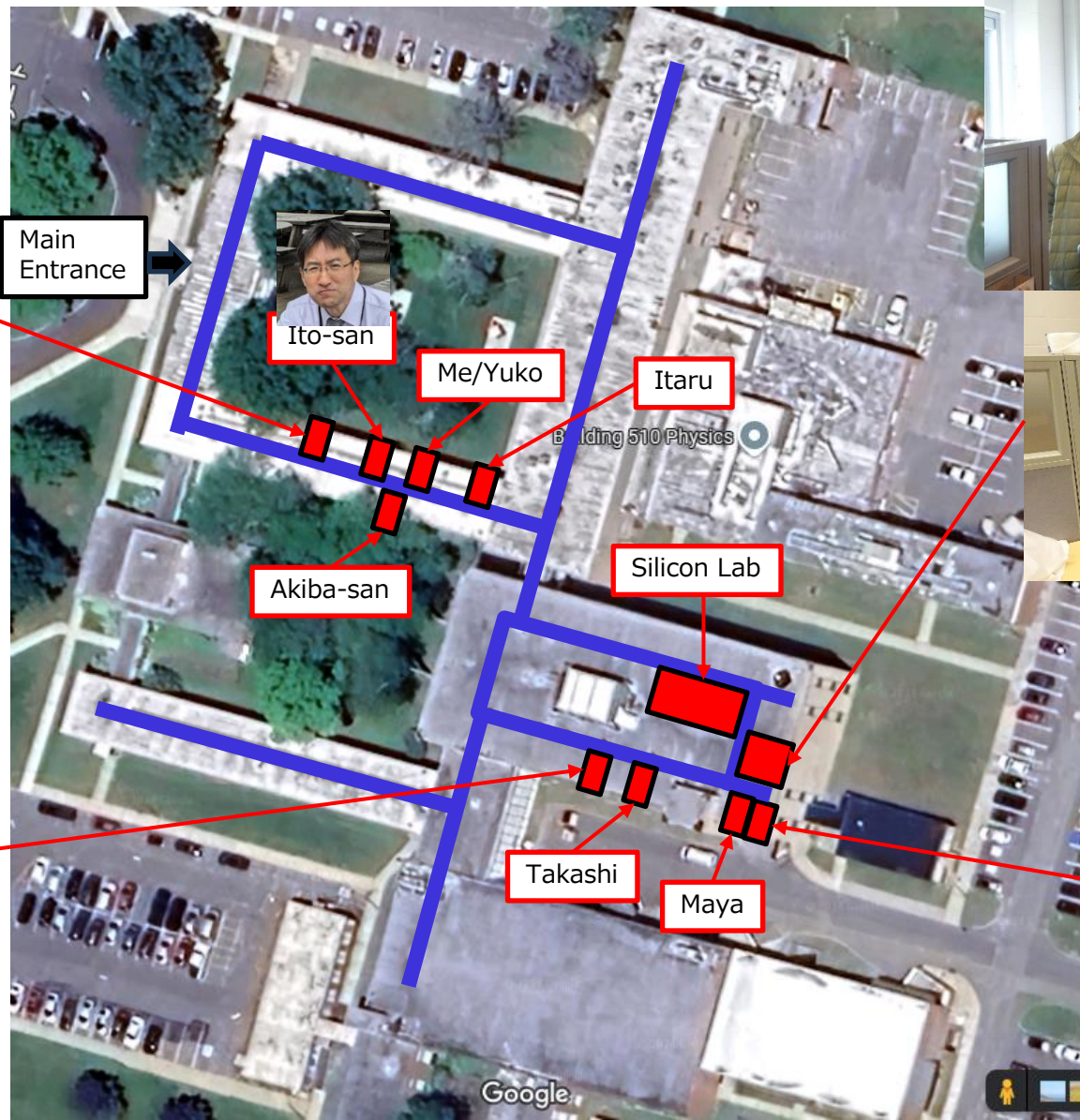
Lunch/Dinner around BNL



My day off @ NY



BNL office (Bldg 510 2nd floor)



BNL Travels 2025 – Make your schedule

Month	2025/01																																																	
	1					2					3					4					5					6					7					8					9					10				
Events	ATHIC ePIC TPS								JPS					QM					HQ															JPS/SPIN																
Beam																																																		
BNL Rachid																																																		
BNL Raul																																																		
Purdue Wei																																																		
Purdue Joseph																																																		
RIKEN Yasuyuki																																																		
RIKEN Itaru											JPS																																							
RIKEN Genki	█																	to cover QM guys?										If needed					JPS					SPIN												
RIKEN Akitomo						ROC installation					Run25 startup																									Cover JPS period														
RIKEN Yuko	█							for preparation										QM?																				JPS												
RIKEN/NCU Cheng-Wei	TPS 1/13 - 2/1																		QM?																															
NWU Takashi																																																		
NWU Maya	Mostly not available																																																	
NWU Manami	not available																																																	
NWU Mai Kano	not available																																																	
NWU Hinako	not available																																																	
NWU Nao																																																		
NWU Yui																																																		
NWU Mahiro																																																		
NWU																																																		
Rikkyo Ryota											JPS					not available																																		
Rikkyo Tomoya											JPS					not available																																		
Rikkyo Takahiro											JPS																																							
Rikkyo Hayato	not available																																																	
Rikkyo Tomoki																																																		
Rikkyo Yusuke	not available																																																	
JAEA Shoichi																																																		
NCU Chia-Ming																																																		
NCU Kai-Yu																																																		
NCU Wei-Che																																																		
NTU Rong-Shyang																																																		
NTU Lian-Sheng																																																		
NTU Yu-Chen																																																		
NTU Tzu-Chuan																																																		
Korea Univ Byungsik																																																		
Korea Univ Jaein	Travel restriction due to military																																																	

다들 고맙습니다!

2025년에도 잘 부탁드립니다