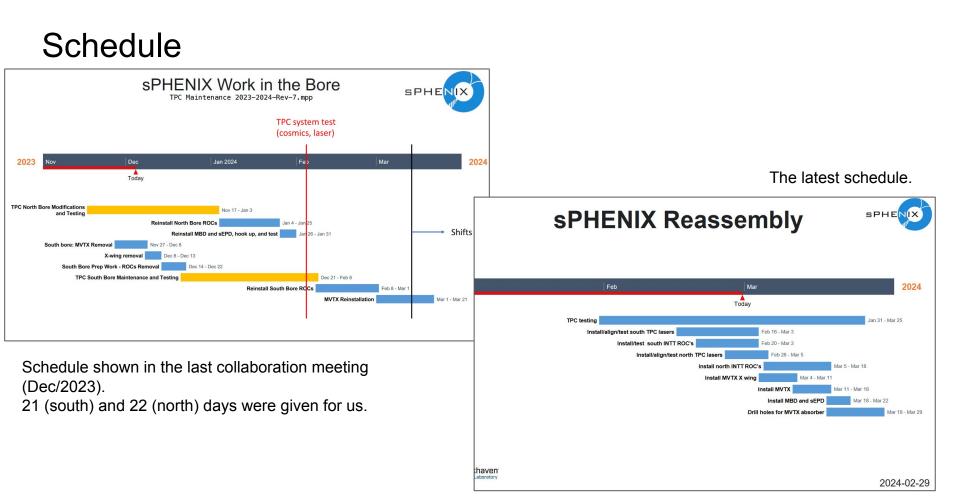




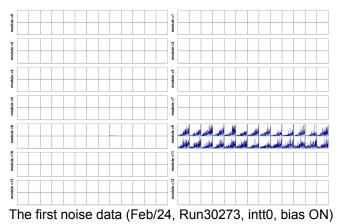
ROC reinstallation and ladder tests – South side –

G. Nukazuka K. Fujiki, T. Kikuchi, J, Hwang, R, Cecato, M. Shimomura, A. Enokizono, J. Hoogsteden, D. Caace, R. Pisani, S Boose, R. Nouicer.



Diary





before reinstallation: Tests with the rack room testbench.

Feb/22: ROC reinstallation started/

Feb/23: 8 ROCs were placed. Cooling started working. LV/HV tests done.

Feb/24: The first ladder test but failed.

Feb/25: Discovery: FPHX needs power



Feb/27: 2 Shifts work (morning–afternoon, afternoon-night) stated. Testing intt2 ladders completed.

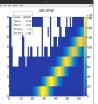
Feb/28: ROC-0S was changed from #18 to #6(?). Testing RC-1S ladders finished.

Feb/29: FPHX power cable of RC-0S J2A was found to be unconnected. Testing intt3 ladders was over.

Mar/1: Raul was back and took calibration data immediately.

Mar/4: Testing intt0 and intt1 ladders was finally done. All ladders on the south side were tested and reasonable pedestal distributions were obtained.

All works were proceed in 8 weekdays + 2 weekend. We are halfway there!



ROC reinstallation

ROC reinstallation was done mainly by Jeff and Rachid (correct?). They used the reinstallation checklist, so we should have information.

There is no major change of ROCs, and cable assignments.

Unfortunately, we didn't have enough time to make HV maps. They are almost same as last year, but some may be changed (Rachid knows well).

Rachid and Steve worked on grounding. It has to be reported in the INTT meeting.

LV / HV

They worked well basically.

LV sometimes showed strange behavior (due to ROC GND?). Any news?

HV GUI works without any problems. The ladder labels need to be updated if possible. Logging feature is coming.

tart S	top All On All Off						
uth			North				
A11 On	All Off		A11 0n	All Off			
C. 0C. D.C.	15 RC-25 RC-35 RC-45 RC-55 RC-65 RC-75		DC ON DC	-1N RC-2N RC-3N RC-4N RC-5N RC-6H	N 07 7N		
	ROC OFF ROC V			ROC OFF RC-SN RC-SN RC-SN RC-SN	N AC-78		
	Sensor A (HV-2, P3-3)		11	Sensor A (HV-9, P3-3)			
	On Off Clear 80 01 100.0 V 2.266 uA			On Off Clear	Set V	On Off Clear	Set V
	On Off Clear 80 01 100.0 V 1.762 uA	Set V On Off Clear 80 01 100.0 V 2.060 uA Set V		On Off Clear	Set V	On Off Clear	Set V
						Sensor B (HV-9, P2-2)	
		Set V On Off Clear 80 01 100.0 V 0.035 uA Set V			Set V	On Off Clear	Set V
	Sensor A (HV-2, P2-7)	Sensor B (HV-2, P2-8)		Sensor A (HV-9, P3-5)		Sensor B (HV-9, P3-6)	
	On Off Clear 80 01 100.0 V 1.944 uA	Set V On Off Clear 80 01 100.0 V 2.474 uA Set V		On Off Clear	Set V	On Off Clear	Set V
						Sensor B (HV-9, P3-2)	
		Set V On Off Clear 80 01 100.0 V 0.172 uA Set V		On Off Clear	Set V		Set V
	Sensor A (HV-2, P2-5)	Sensor B (HV-2, P2-6)		Sensor A (HV-9, P2-7)		Sensor B (HV-9, P2-8)	
	On Off Clear 80 01 100.0 V 1.711 uA	Set V On Off Clear 80 01 100.0 V 2.251 uA Set V		On Off Clear	Set V	On Off Clear	Set V
						Sensor B (HV-9, P2-4)	
	On Off Clear 80 01 100.0 V 0.123 uA	Set V On Off Clear 80 01 100.0 V 2.026 uA Set V		On Off Clear	Set V	On Off Clear	Set V
	Sensor A (HV-2, P3-7)	Sensor B (HV-2, P3-8)		Sensor A (HV-9, P3-7)		Sensor B (HV-9, P3-8)	
	On Off Clear 80 01 100.0 V 2.308 uA	Set V On Off Clear 80 01 100.0 V 2.822 uA Set V		On Off Clear	Set V	On Off Clear	Set V

Ladder map (/home/phnxrc/INTT/map_ladder/2024)

	IU	ແບ		
FELIX CH	ROC	ROC port	Ladder	FEI C
0		D2	B1L101S	C
1		C1	B0L101S	1
2	DO 00	C2	B1L001S	2
3	RC-0S #18	C3	B1L000S	3
4	#10	A2	B1L100S	4
5		B1	B0L000S	5
6		A1	B0L100S	6
7		C2	B1L103S	7
8		C1	B0L002S	8
9	DO 10	A1	B0L001S	g
10	RC-1S #19	B3	B1L002S	1
11	#15	A2	B1L102S	1 [.]
12		B1	B0L102S	1
13		D2	B1L003S	1:

intt0

	111	ιιι	
FELIX CH	ROC	ROC port	Ladder
0		C2	B1L105S
1		C1	B0L104S
2	DO 00	A2	B0L103S
3	RC-0S SE2	В3	B1L004S
4		A1	B1L104S
5		B1	B0L003S
6		D2	B1L005S
7		C2	B1L107S
8		C1	B0L005S
9	50.40	A1	B0L004S
10	RC-1S SW5	В3	B1L006S
11	000	A2	B1L106S
12		B2	B0L105S
13		D1	B1L007S

intt1

	ιĽ	
ROC	ROC port	Ladder
	A1	B0L106S
	B1	B0L006S
DO 00	C1	B0L107S
	A2	B1L108S
#23	B2	B1L008S
	C2	B1L109S
	D1	B1L009S
	A1	B0L007S
	B3	B0L108S
50.40	C1	B0L008S
	A2	B1L110S
#25	B2	B1L010S
	C2	B1L111S
	C3	B1L011S
		ROC Port Port Port A1 B1 C1 A2 H29 B2 C2 D1 RC-1S A1 H23 C1 RC-1S A1 H23 C1 H23 C1 H23 C1 H23 C1 H23 C1 H23 C1 H23 C1

intt2

FELIX CH	ROC	ROC port	Ladder
0		A1	B0L109S
1		B1	B0L009S
2	50.00	C1	B0L110S
3	RC-0S #13	A2	B1L112S
4	#15	B3	B1L012S
5		C2	B1L113S
6		D1	B1L013S
7		A1	B0L010S
8		B1	B0L111S
9	50.40	C1	B0L011S
10	RC-1S #3	A2	B1L114S
11	<i>#</i> J	B3	B1L014S
12		C3	B1L115S
13		D2	B1L015S

intt3

Change from last year:

• B1L000S: B3 \rightarrow C3

Change from last year:

- B1L006S: B2 → B3
- B0L105S: B1 \rightarrow B2

Change from last year:

none

Change from last year:

• none

Ladder tests

We couldn't take calibration data without Raul unfortunately, we took pedestal data with RCDAQ as ladder tests. So we could check

- LV and HV
- Connection of conversion cables
- Slow control commands (by changing DAC0)
- reaction by FPHX chips
- signals from silicon strips



Raw data was stored in the buffer box (/bbox/bbox?/INTT/).Raw data was sent to the SDCC storage (/sphenix/lustre01/sphnxpro/commissioning/INTT/) and decoded. Hit-base ROOT files are in /sphenix/u/nukazuka/INTT/data/root_files/2024. Plots were generated with FelixQuickViewer. You can see them <u>here</u> (SSH tunnel needed).

Modebit: DAC0 = 10measurement for 3 sec 0: 0x36;95: 0x35; bias ON n_collision 128 0: FA; open_time 128

intt0

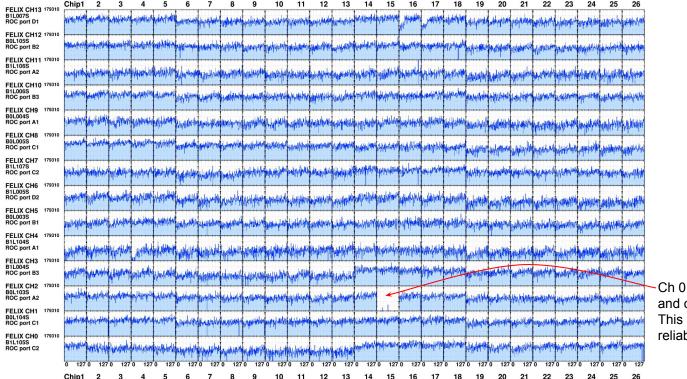
intt0

FELIX CH13	31014	Chip1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
B1L003S ROC port D2	51514	hereither	White the	him had been	a presidential	al de contrat de contra	and the mail	INTER MINY	high the state	mitabilit	WHAT AND	utheald	and he was	hand Milling	high	garlyndinge	ANA AN	propulation	politikity	Holwhalt	while have	-	NIN ANALASIA	-	www.	h h h h h h h h	Halipitativ
FELIX CH12 B0L102S ROC port B1	31914	supplements of	popsychild	abarial postability	Harddrafa	in the second	nyiku, Aprila	nyudupyak	p,++++11,a+m	Nimilariyiyiyi	unity pindia	the protection of	www.	nemp/litely i	en and a low of	di Ulufututututut	HANN'N MAR	NH HAMANA	d alleraite/aller	inge by statist	i Katariyatika	HANNAH PARA	" Nordanter	N/Minis Aliferty	shipping	anaphilip	phydhistol
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FELIX CH9 B0L001S ROC port A1	31914	paylesignik	NIN PHAT	nni itatili	analytical	WHAMW	MININ	MANAM	u ha ha	MANAMAN	Herol W		a spectrum M		lowlight	ul where the	-	ranyriaphu	MUMAM	un jimin	A WAY	HANAMAN	wi-takatini	ahahaha	nekkinkela	militada	unidado
FELIX CH8 B0L002S ROC port C1		Hailforder	annadan	eyproposite	ki,athakarti	ni i i i i i i i i i i i i i i i i i i	HANNAR HANNA	y prophyloly	sy udyalda	ANA MANANA	The second	hy hy hy hy hy hy	MARTINA	H. Market Mill	daidy very 141	an market	in the second	upper made with	rainella.	ilyuherillar	MININ	fillfrulderan	MUNITY	Halakaly	an a	an a	relinipapity
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FELIX CH5 B0L000S ROC port B1	31914	YAMAMAMA	hidahidik	ul aliantingh	nuilinipotta	w Wypunk-14	y cylesydd yn dd	ydywdd an	an water	y submitte	all dependences	NHHMM41	p wy k why t	pplopliky	Marindi Mili	hall the stand	kina militada	en afferen	unioni (1)	rfillilation	Withowherty	NAMAAN	al van de de	AN AMPAN	yakiliyapiy	HUNDAN	ydografilyd
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FELIX CH2 B1L001S ROC port C2	31914	mikonninali	heistelleivel	an a	all and the	iyy Happe	ullip/ambr	an hulf high th	WANNA A	h HWHHM	e-mpsicophil	adate pitate	-	hypother hat	(mpopping)	Amphialau	V/Mailton	hreftighase	WANNAW	A MANAGER	Allawhile	Anther Anther	NHAMANANA N	n delan Mula	NAMATA	antiman	hiphing
FELIX CH1 B0L101S ROC port C1	31914	-lapson the day	a tapaz yak	-white he was a second	landan kulida	lumina plan	an and the second s	viellight	n an	ndergedwittels	eximplifying	eyektrelei fer	phinile-sylmed	an the state of th	i determinente	W47X4/44	ad la la and	rtholloptim	the start	higoshidhidhidhidh	hadanitelle	supplicity and the	-sylablajishe	they when the	ykilowerti	WARINA	alphand
FELIX CH0 B1L101S ROC port D2	31914	reflemention	han hidala	1441/W/WMA	all all her bearing	nahhradha	v.h.allald	White	part phatai	NAHAKANYAKI	elekseenederel	nalminianalia	90441444P	iphulphite'	millionalis	(holeshing)	an line and	alevely a	Vanderagent	Hand Hand	h him i hay	yy Miller Mark	MARCHIN	hannagala	u.Hullehupte	(And have)	Alterna
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		Chip1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Modebit: DAC0 = 100 0 0 0 measurement for 3 sec 0 A 0 0: 0x36;95: 0x35; bias ON 2 1500 Ø Ø n collision 128 3 0 0 0 0: FA: 150 1 3 open time 128 4

intt1

intt1



Ch 0 is too noisy and out of control. This chip is not reliable.

Modebit: DAC0 = 100 0 0 0 measurement for 3 sec 0 0 1 0 0: 0x36;95: 0x35; bias ON 2 1500 0 0 n_collision 128 3 0 0 0 0: FA; open_time 128 4 150 1 3

intt2

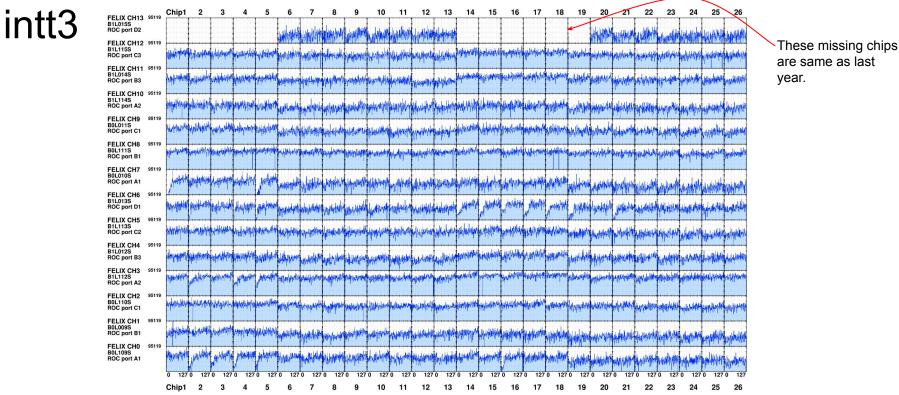
intt2

FELIX CH13	69787	Chip1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
B1L011S ROC port C3		hin the state	huld has the	n-laday-mili	y with the	hipsonith	HALIAN MAR	which has	-	Martin Partie	William	-	awww	ANNA ANN	<i>kalapertul</i>	Latting with	ite Hatte	Harri Hull Hist	misappinelli	white all w	andulathle	A MUMANIN	ny Althing	-	HAR PAR	NAM BOM	human
FELIX CH12 B1L111S ROC port C2	69787	synamistis i	WARNAW	kurdinger upper soller and the	ydhaniyydd	hall have a second	2-3141414174	narvkaliska	strugo televite	en terreter	Wilthinghom	endellalisende	holydawith	and with the	Hallymin	ruffiktæll	(hilinian))	elymphilise and the	yk Miwanikowi i	slapezzherani	iltran fildely	whenhere	with the second	hannandala.	e vierteline	Altionralia	Hyme have
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FELIX CH9 B0L008S ROC port C1	69787	tyl lind metans	WAAAAAA	WHIMALIU	www.	with WANK	atterningth	urlappinitivi	Vindent	autochin	bleguntati	encelation	allication	en winder	hburgha the	m-mm	lepublicati	pathyliteller	intrivillate	radio-dramatic	WWW	historic	-	WAMM		of his held	hand have
FELIX CH8 B0L108S ROC port B3	69787	elandilan n	elighierdich	hali-denteraly	enthy they are	anthempton	a a la	ungvithti	ohjabopayare	Palletoniation	ryashirikan	in the second	ANTANY	un and a second	yining turk	hirlendele	il han the	yntimperitig	while the	-yrdikhiyba	all the states	and the second	ing the derived in	Weingerstern	enteringi the	Arabably	No Alexanti
FELIX CH7 B0L007S ROC port A1	69787	Hinternet	M. Nathlation	Aller	http://www.html	-	-	ruhypurky	Munderly M	ender w	HANNA!	-	with	e bally weight	WY (What	human	haw hit	Walderwal	shipertilled	HAMMAKA	in the second	Anglekis	Minital	hulantha	C. HINNING		Waladida
FELIX CH6 B1L009S ROC port D1	69787	dias before the second	allerminister	little harden	Nigo allow		an hand a second	1- An the Anthenia	meridatil	harris/1444	where the provide states		ed law ted to t	an internation	alistation	n ha	whelehole	a provide a l	estaphismille	in reliant	ul ul the	HALING	SAWAR AN	WHI WHIM	Hurph white	ur fundation	shirld m
FELIX CH5 B1L109S ROC port C2	69787	adirentelije	priderlate	daptourbol	an land they	Laphanach	anaki linete	41410-14041400	n with the particular						AND WHY	Mphim	manpavillarin	Namitani	l, Marty Mr	HALLANA HI	-	inter the	undarya)	and an exception of the	Louble Albert	HARMAN	durin'te?
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FELIX CH3 B1L108S ROC port A2	69787	AL-12-AL-MA	aliferend deren	Whitehold	hopelitig	almatule	While	MUMAN	ely adaptions	MARAN	antiateleuran	w,politaphi	-	a the second sec	- Aller	ni internet	Waterfaller	hi ha	YHYYYY	A. Iplith	MANNA MAN	n Allen standig	a haintin haita	e, Johnson	Hole Hade	1. pundu	unita
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		Chip1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Ch 0 is too noisy and out of control. This chip is not reliable.

Modebit: DAC0 = 100 0 0 0 measurement for 3 sec A 0 0 0: 0x36;95: 0x35; bias ON 2 1500 Ø Ø n collision 128 3 Ø 0 0 0: FA: 150 1 3 open time 128 4

intt3



Plots

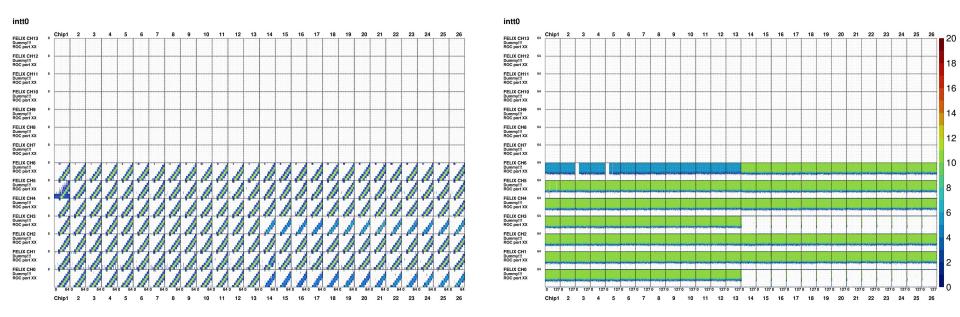
I made a homepage to check plots easily. To access it,

- 1. Open INTT Hopemage (https://sphenix-intra.sdcc.bnl.gov/WWW/subsystem/intt/)
- 2. Go to commissioning pots \rightarrow 2024
- 3. Select a run

	INTT F	lomepage								
Commissioning.plots Milan's plots.page (for 2023 data) INITT Standing.Orders Documents		Com	missioning plot	s in 2024						
INTT repository Channel classification • Testbeam G4 code • felix • general codes	Reload Run Log (Google Spreadsheet) Process request form List of runs			Run 31749						
• general codes	Colib calib 03012035 (intt1) 03012059 (intt1) 0301204 (intt0) 0303204 (intt0) 03032024 (intt0) 03032025 (intt1) 03032026 (intt1) 0303204 (intt1)	pcdcstal 000302287 (intt0) 00030316 (intt0) 00030318 (intt0) 000303285 (intt0) 00030327 (intt0) 00030327 (intt0) 00030325 (intt0) 00030327 (intt0) 00030378 (intt0) 00030379 (intt0)	cosmics	inttO inttO inter inttO inter inttO inter inttO inter in	Image: state of the state					

Calibration measurement

Raul could obtain calibration data with RaulDAQ (simple python macro) but not RCDAQ. We also got calibration data by ourself with only intt0. More investigation is needed.



Run 3042036 (different naming schema) taken by INTT team without Raul.



