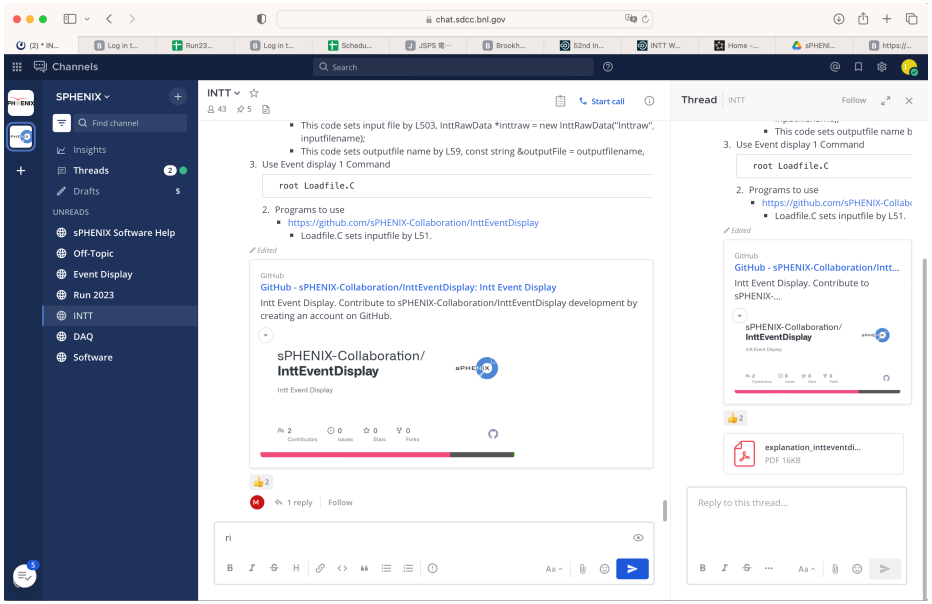
Rest of Run23 Plan

RIKEN/RBRC

Itaru Nakagawa

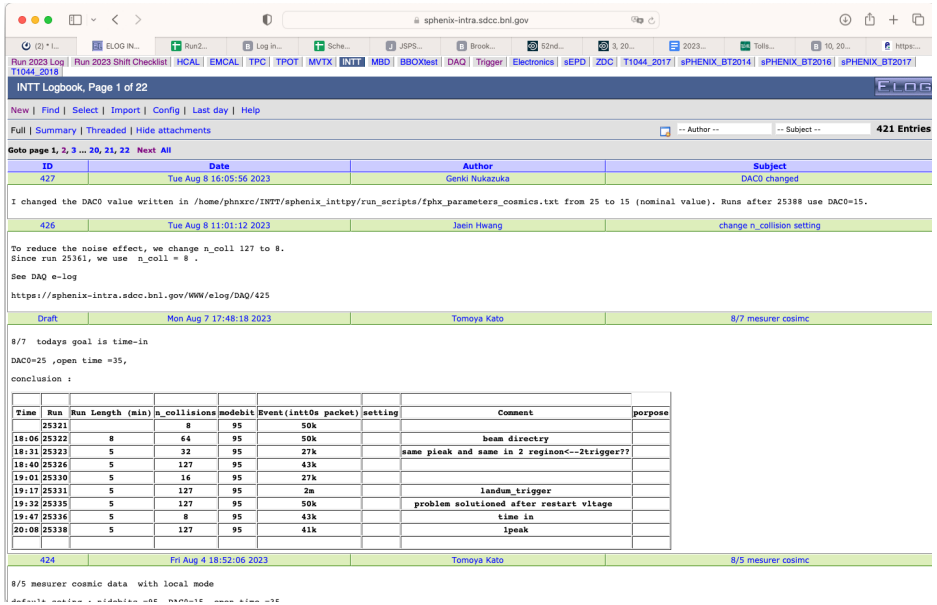
Communication Tools

Mattermost



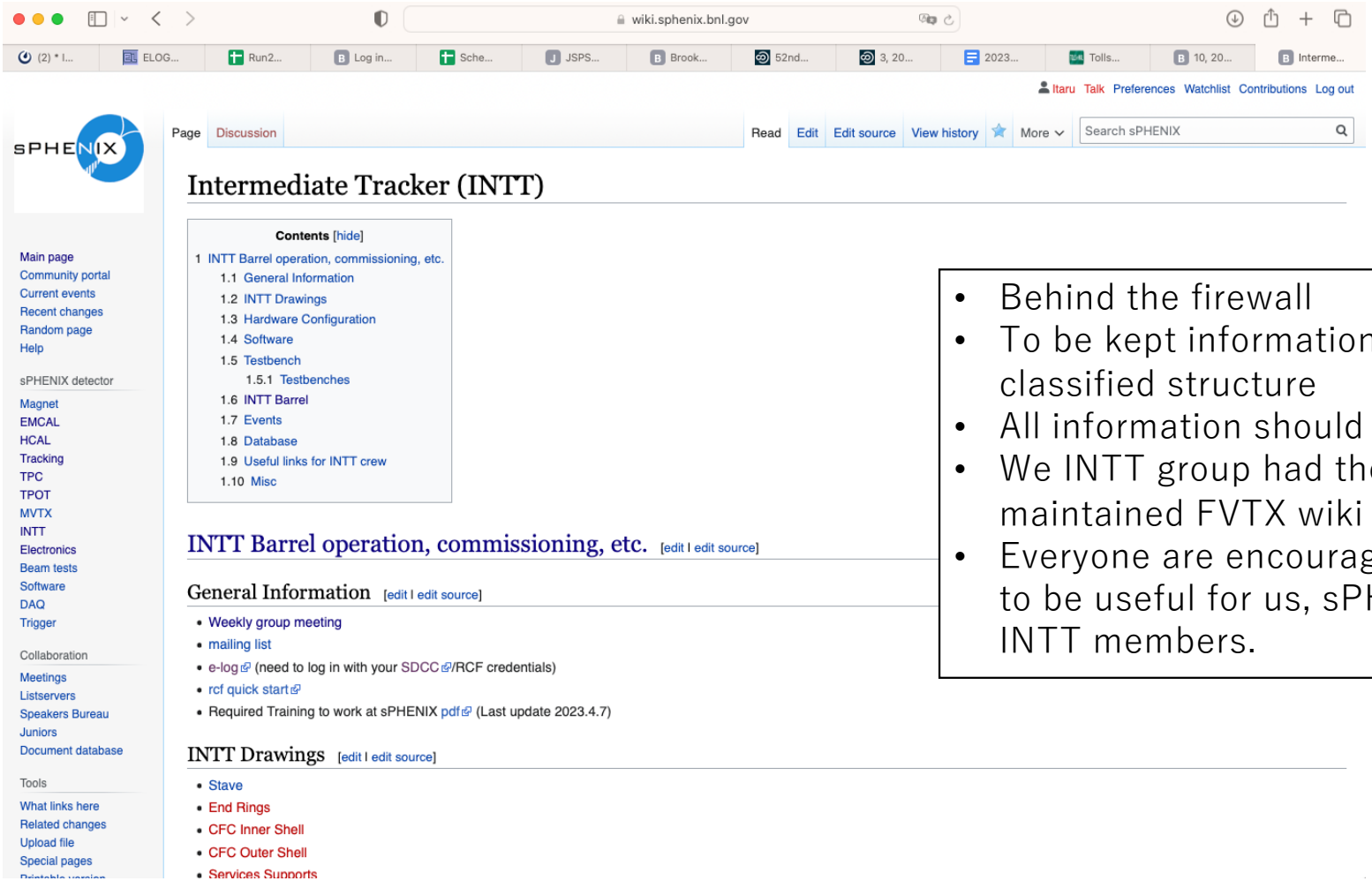
- Only for daily communication
- Not suitable for valuable information

E-Log



- Behind the firewall
- Keep information in a chronological order
- Powerful search capability and

Ultimate Repository



- Behind the firewall
- To be kept information in a well-organized classified structure
- All information should be ultimately kept here
- We INTT group had the benefit from well maintained FVTX wiki page.
- Everyone are encouraged to develop wiki page to be useful for us, sPHENIX collaborators, new INTT members.

2023 Commissioning Data Taking Ended Abruptly due to Hardware Failures in RHIC Accelerator Complex

- sPHENIX continues active detector commissioning w/o beams

From BNL ALD Haiyan Gao
08/04/2023

Dear colleagues:

I am writing to update you on our plan regarding the repair of the RHIC building 1004B valve box and the plan for Run 2023.

Since my last email, we have learned that the repair will be significantly more involved than what previously we had hoped for a more optimistic scenario. The damage is more extensive than just a weld as there are multiple shorted Blue circuits, and all are in the same cryo line. The expected access to the valve box will be next Friday, August 11th. The estimate for the repair is 4 weeks or more following that. Given where we are in the calendar, it is therefore prudent that we end Run 2023 and start controlled warm-up now. This plan allows sPHENIX magnet to be cold until at least the end of next week and please work with CAD colleagues on this.

We did not come to this decision lightly and the Laboratory Director, JoAnne Hewett has been in multiple meetings concerning this plan in the last few days. We have also consulted the DOE Office of Nuclear Physics (ONP) and have their strong support for this plan. This will allow us to start the repair and the planned shutdown process so that we can start earlier with Run 2024 next year. We received the agreement from the DOE ONP to carry forward unspent FY23 funds for an expanded next year's RHIC running.

I would like to thank you all again for all the great work you have been doing and will continue to do. Our collective hard work and perseverance will prevail. Thank you also very much for your understanding.

Best wishes, Haiyan

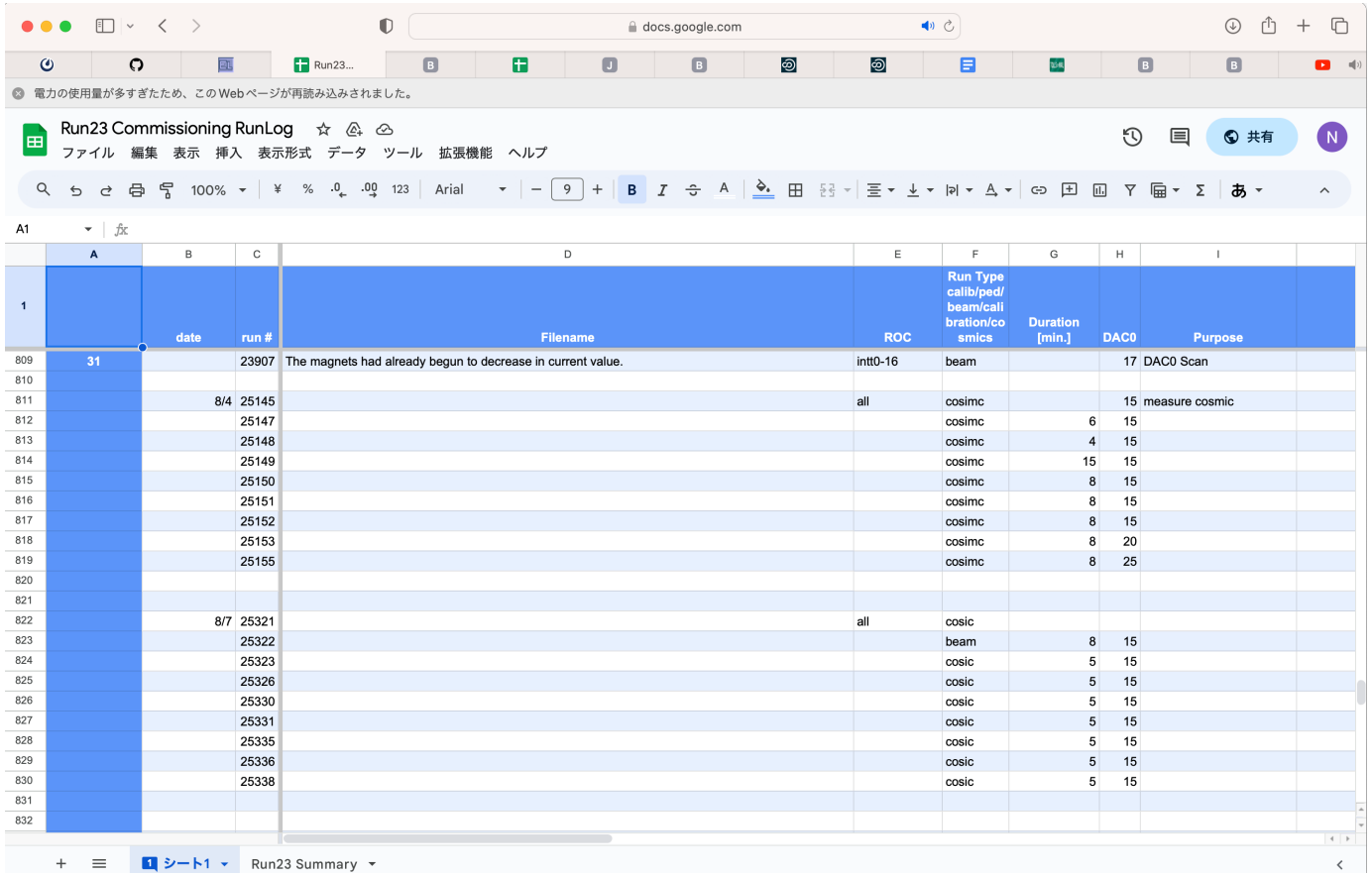
Continue data taking with cosmic rays

- How long? : Perhaps until beginning of October
- Magnet ? : until this weekend + take data for another a few days without changing any INTT pararmeters for direct comparison.
- Noise data w/ and w/o magnet.
- Noise data w/ and w/o other detectors
- Big Partition: MVTX+INTT+(TPC)+TPOT+EMCal+HCal

Plan for the rest of Run23

1. Make a summary of Run23 (onsite crews)
   - Polish Run23 RunLog
   - Organize well instructions, documents
2. Continue software developments of INTT DAQ and operations (onsite crews)
3. Offline analysis to evaluate INTT performance

Polish Run List



Run23 Commissioning RunLog

	A	B	C	D	E	F	G	H	I
1		date	run #	Filename	ROC	Run Type calib/ped/ beam/cali bration/co smics	Duration [min.]	DAC0	Purpose
809	31		23907	The magnets had already begun to decrease in current value.	intt0-16	beam		17	DAC0 Scan
810									
811		8/4	25145		all	cosimc		15	measure cosmic
812			25147			cosimc	6	15	
813			25148			cosimc	4	15	
814			25149			cosimc	15	15	
815			25150			cosimc	8	15	
816			25151			cosimc	8	15	
817			25152			cosimc	8	15	
818			25153			cosimc	8	20	
819			25155			cosimc	8	25	
820									
821									
822		8/7	25321		all	cosic			
823			25322			beam	8	15	
824			25323			cosic	5	15	
825			25326			cosic	5	15	
826			25330			cosic	5	15	
827			25331			cosic	5	15	
828			25335			cosic	5	15	
829			25336			cosic	5	15	
830			25338			cosic	5	15	
831									
832									

- Symbolic link to e-log entry
- Purpose of measurements
- File location may not be need for all lines
- Comments columns to be in the last column.
- Date/time

Volunteer?
Ryota

Data taking with Cosmic Rays

- DAC scan
- Bias scan
- Gain parameter scan
- Stream Readout Run

Online/operation software development

- Calibration (Raul+Itaru)
- DAQ parameter loading from the database
- Expert GUI
- Establish online analysis of hot channel map and saving/loading in/from db (Joseph)
- Firmware debugging to reach < 1BCLK
- Stream readout test towards Run24
- Online Monitor (Joseph)
- Stability Monitor (Wei-Che)

INTT Performance

- INTT tracklets
- Vertex reconstruction
- Timing resolution
- MIP observation
- Noise rate
- S/N ratio
- dN/dη
- Detection efficiency (Cosmic and/or INTT & TPOT?)

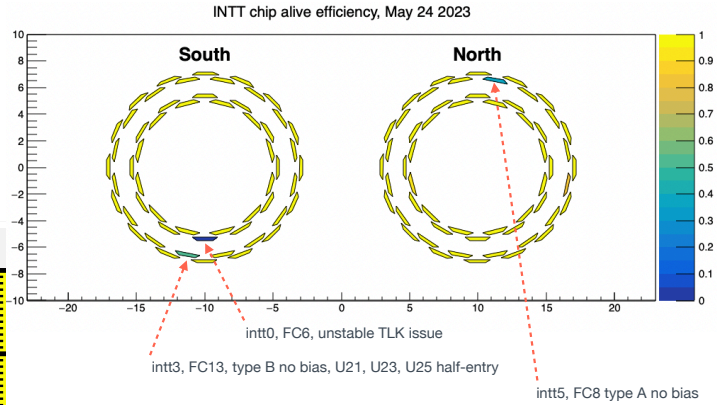
D) Online Monitor

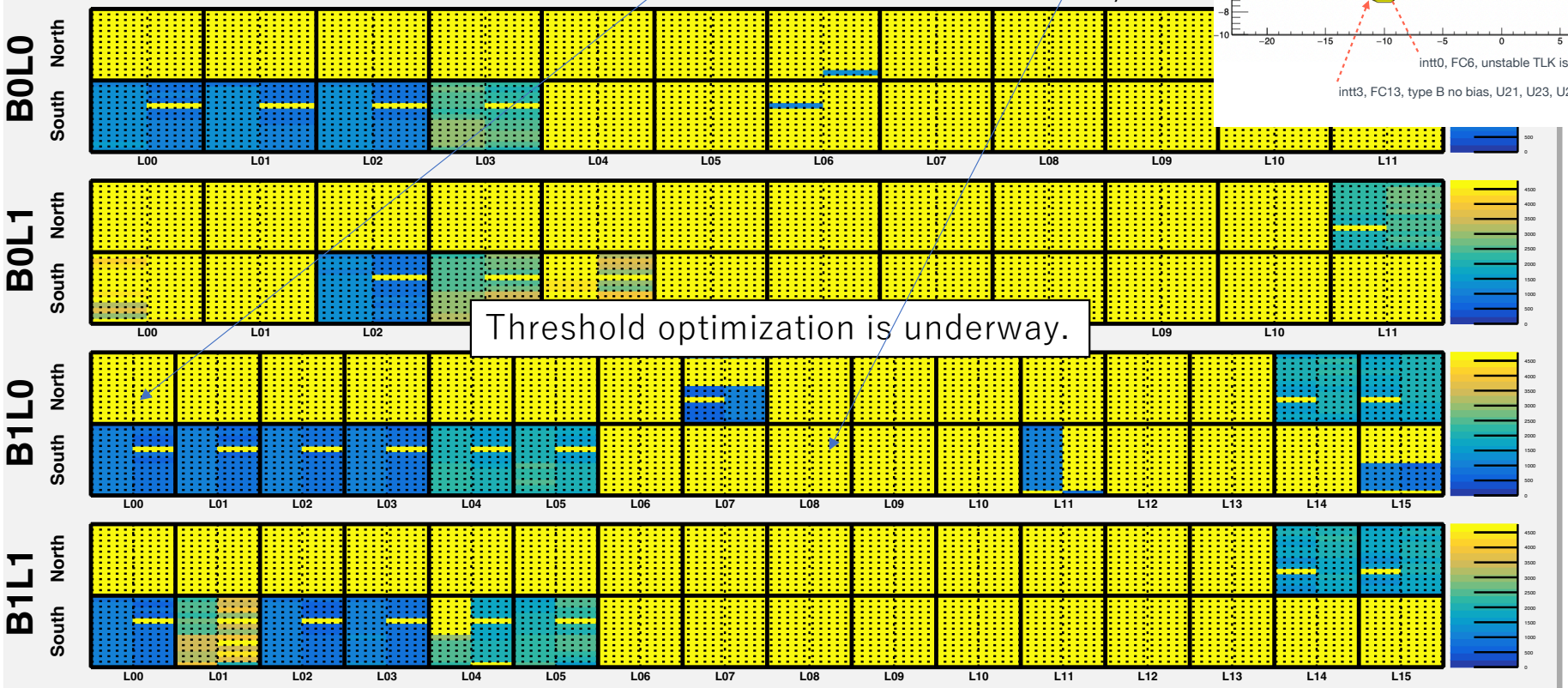
D) Online Monitor

S-B1L008 type-B no bias

N-B1L000 type-A no bias

Online Monitor for INTT has been available for shift takers since 6/14



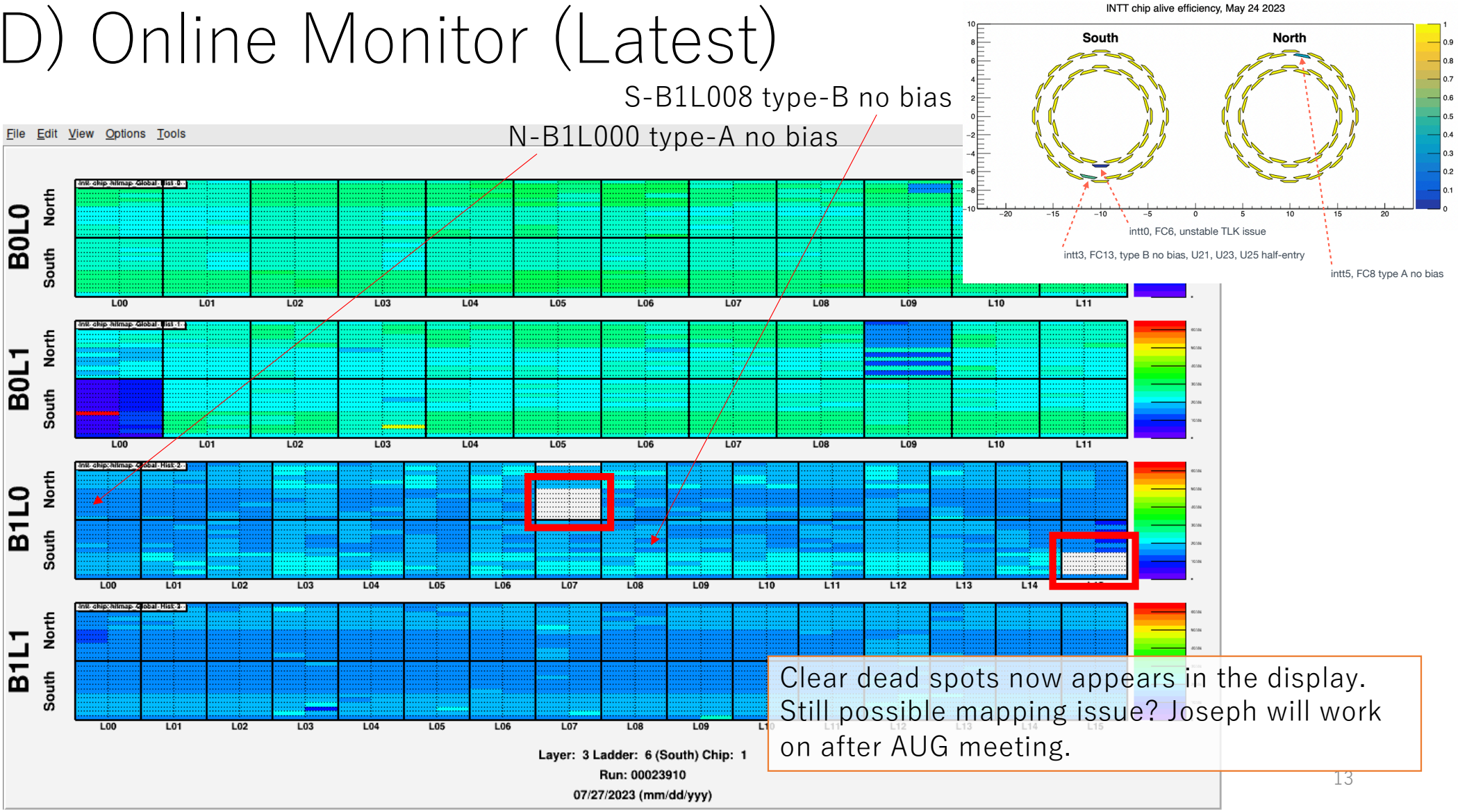


Threshold optimization is underway.

Joseph

Quality of INTT data can be monitored by shift takers run-by-run basis

D) Online Monitor (Latest)



Clear dead spots now appears in the display. Still possible mapping issue? Joseph will work on after AUG meeting.