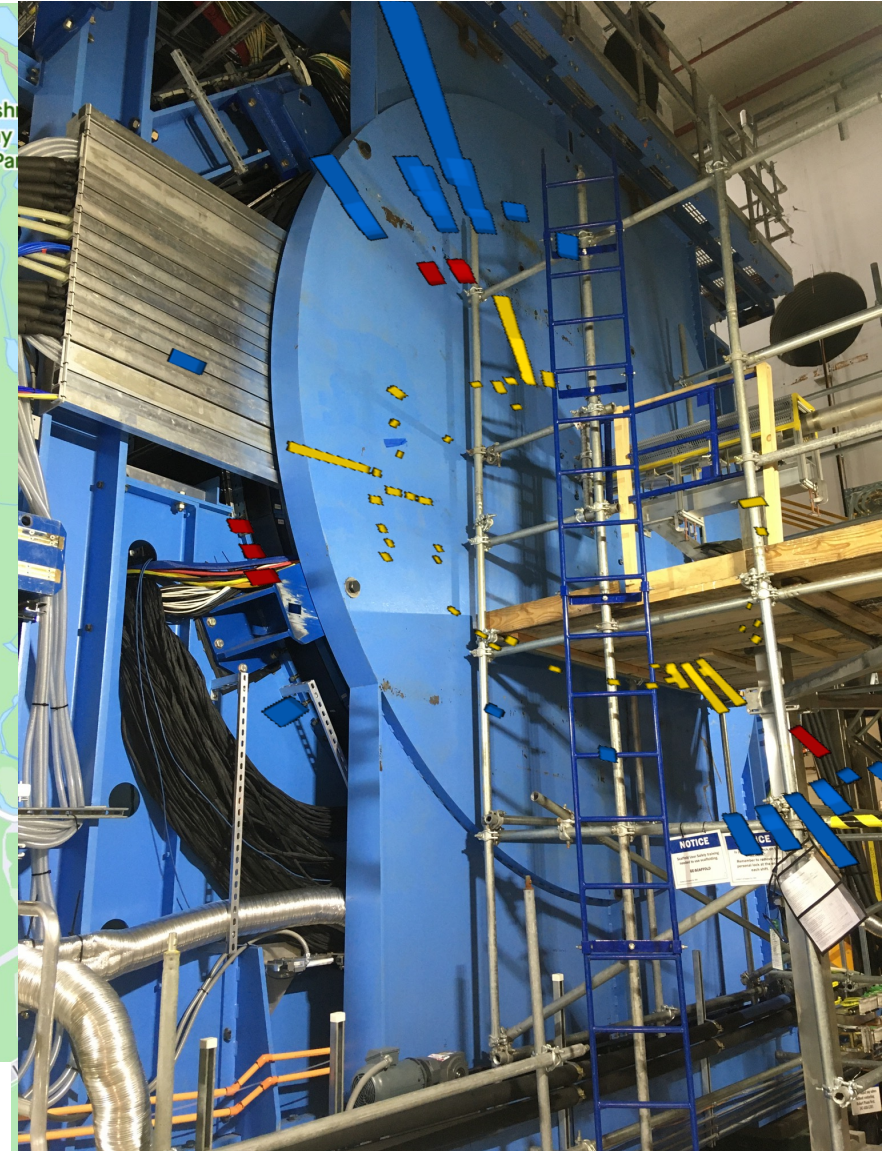
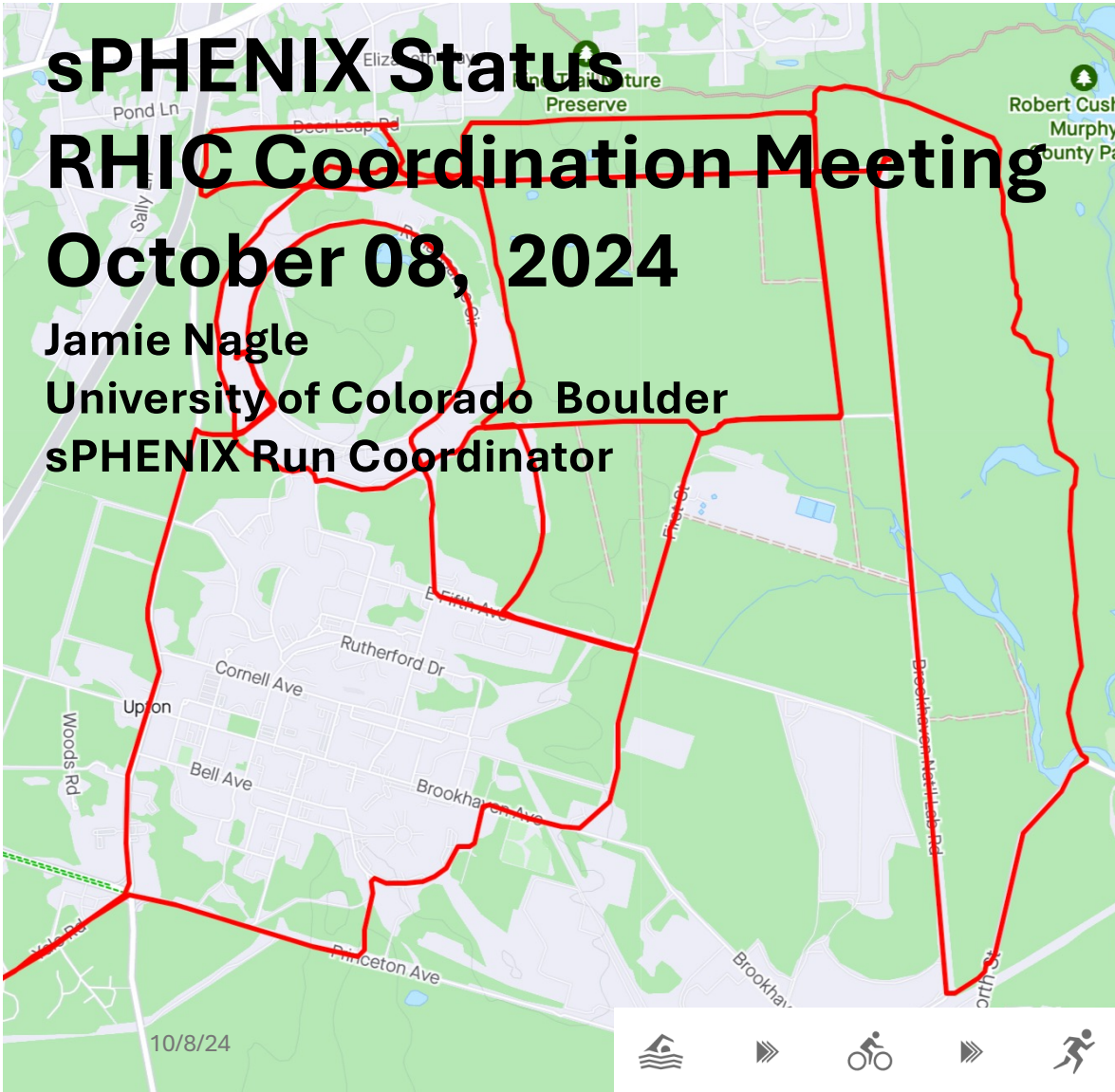






sPHENIX Status

RHIC Coordination Meeting

October 08, 2024

Jamie Nagle
University of Colorado Boulder
sPHENIX Run Coordinator



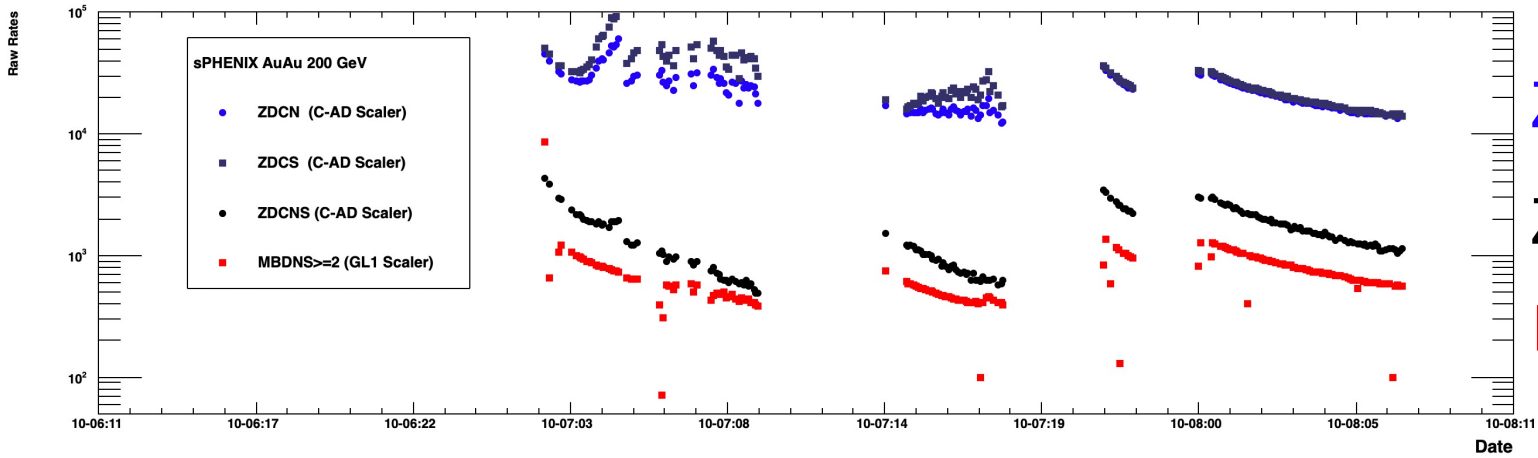
- Basic maintenance work, including temperature control for line laser 
- Hoping for AuAu store overnight potentially Wednesday evening. No specific sPHENIX requirements. Either +2 mrad or +0 mrad .. 
- Experts available for timing in Minimum Bias Detector, ZDC, and Triggers. Expect to turn on calorimeters, MBD, ZDC, sEPD. Examine ZDC thresholds for trigger / luminosity measure... ** Note likely different from last year's AuAu ZDC Coincidence levels* 
- Leaving silicon and TPC off until physics declared, and then requesting 6x6 stores at +2 mrad to start. 
- From there, depends on observed backgrounds... potentially single beams, ...
- Desire to do Vernier Scan once everything stable, requiring +0 mrad for that period.

Another exciting late night (Sunday) for sPHENIX



* Photos from Cameron Dean

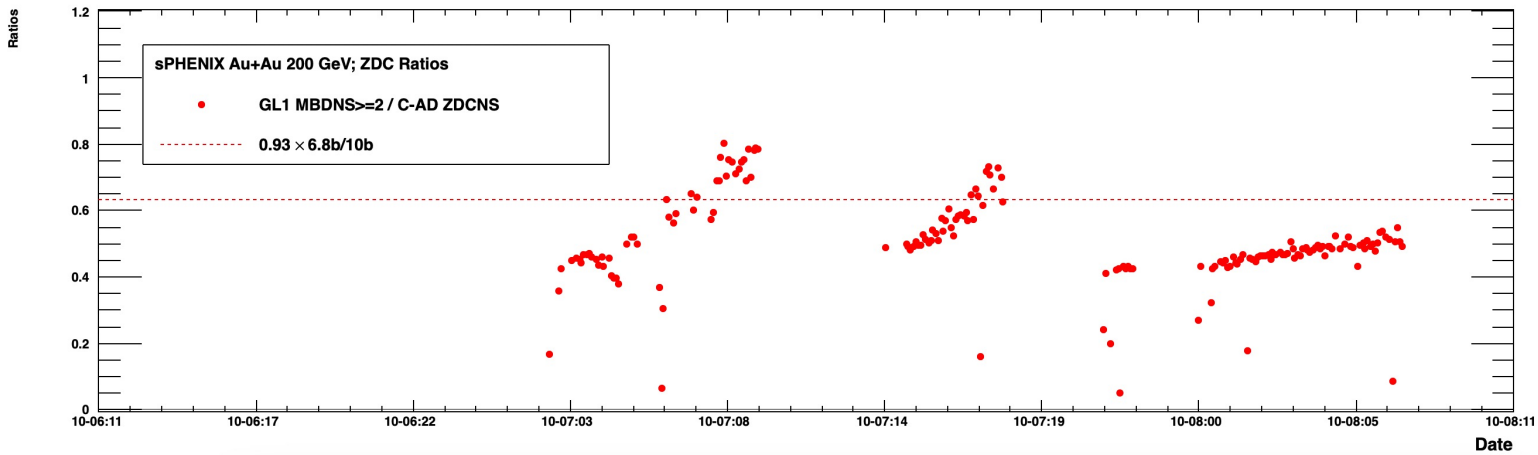
Smooth timing in for Minimum Bias Detector (MBD) and min. bias trigger.
Calorimeters and sEPD systems turned on.



ZDC singles

ZDC coincidence

MBDNS>=2



MBDNS>=2

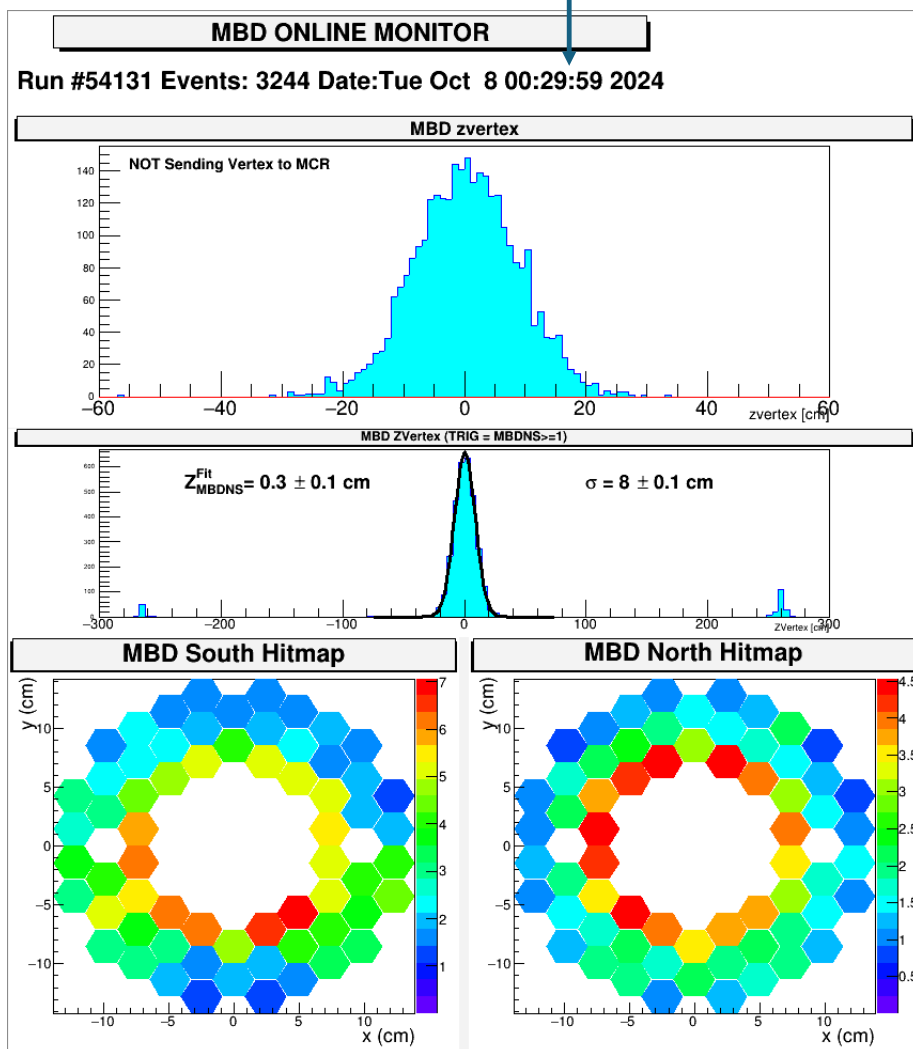
ZDC Coincidence

93% of 6.8 barns

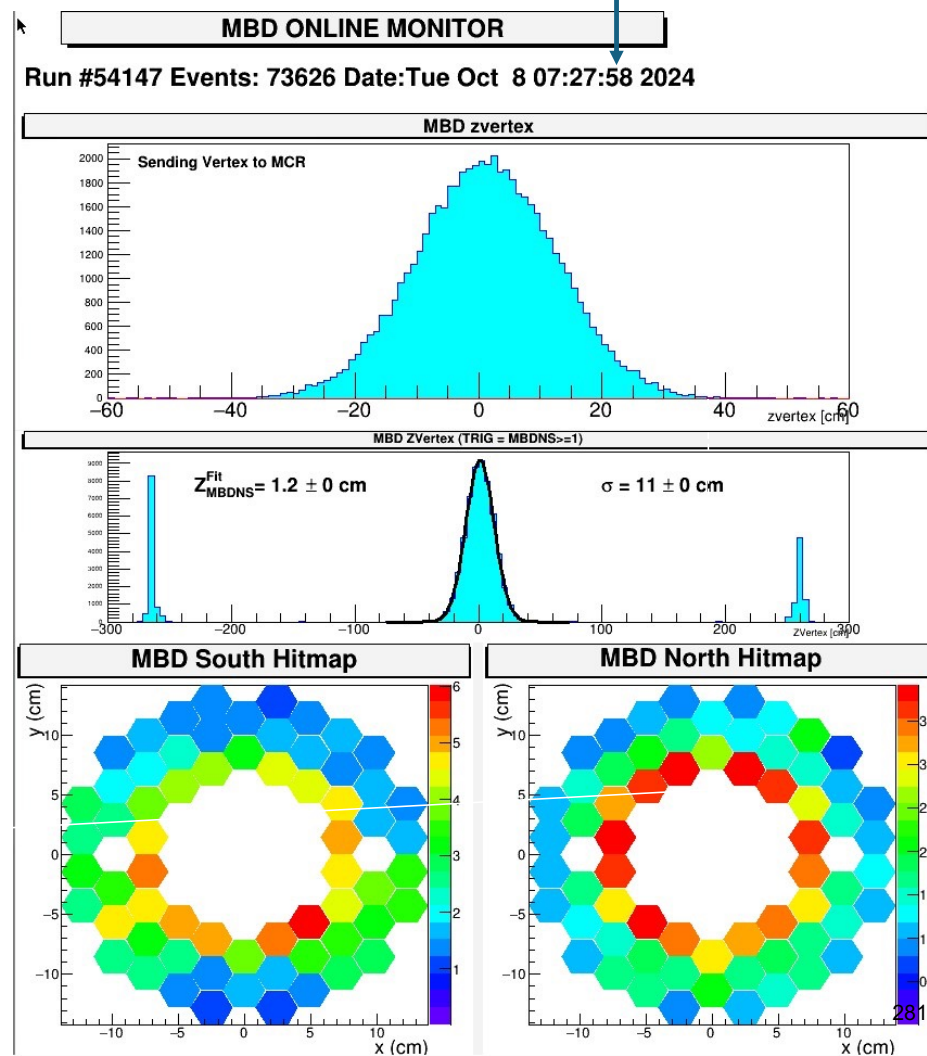
10 barns

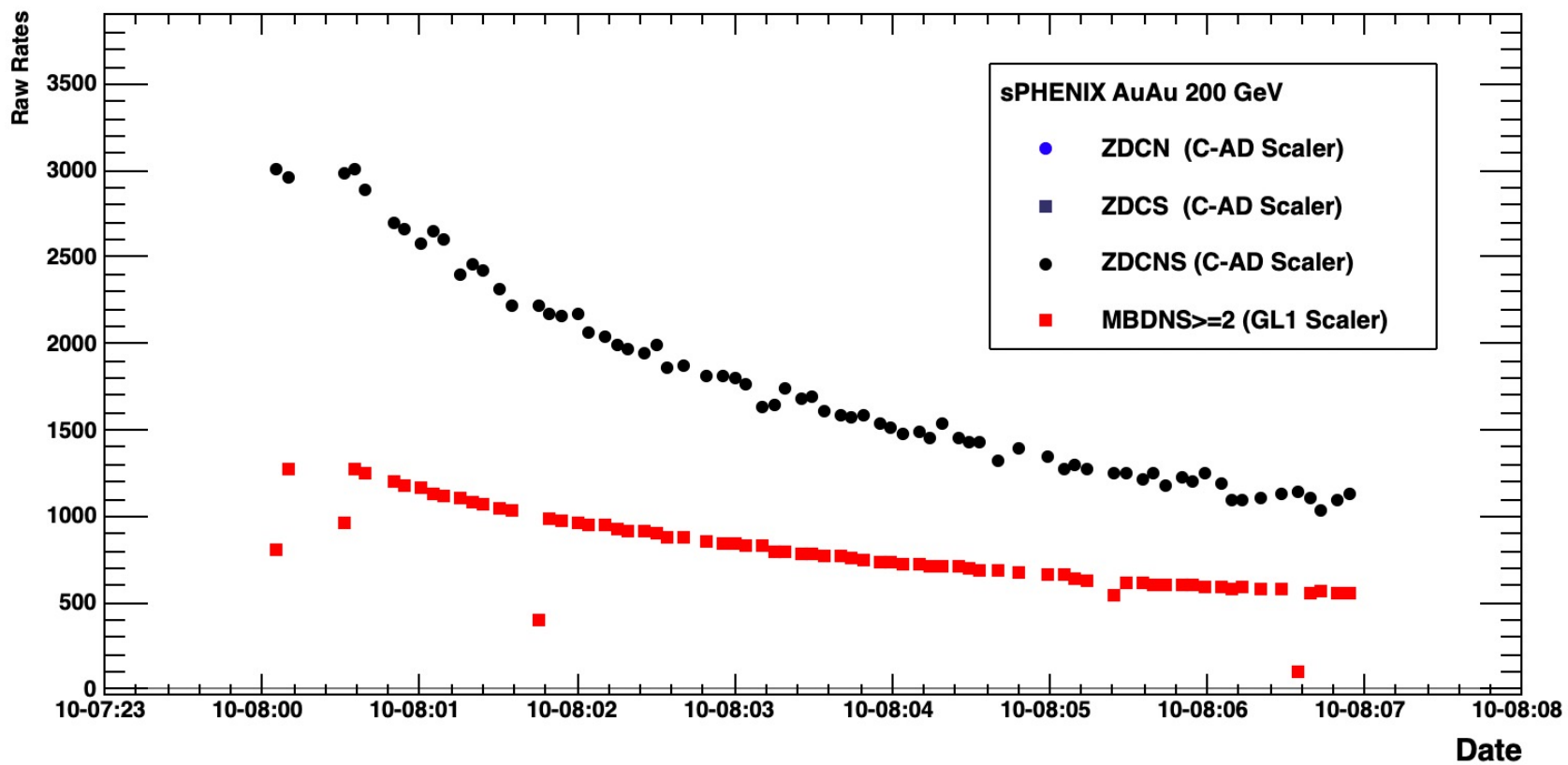
Need a Vernier Scan in the next two weeks.

At the beginning of the store

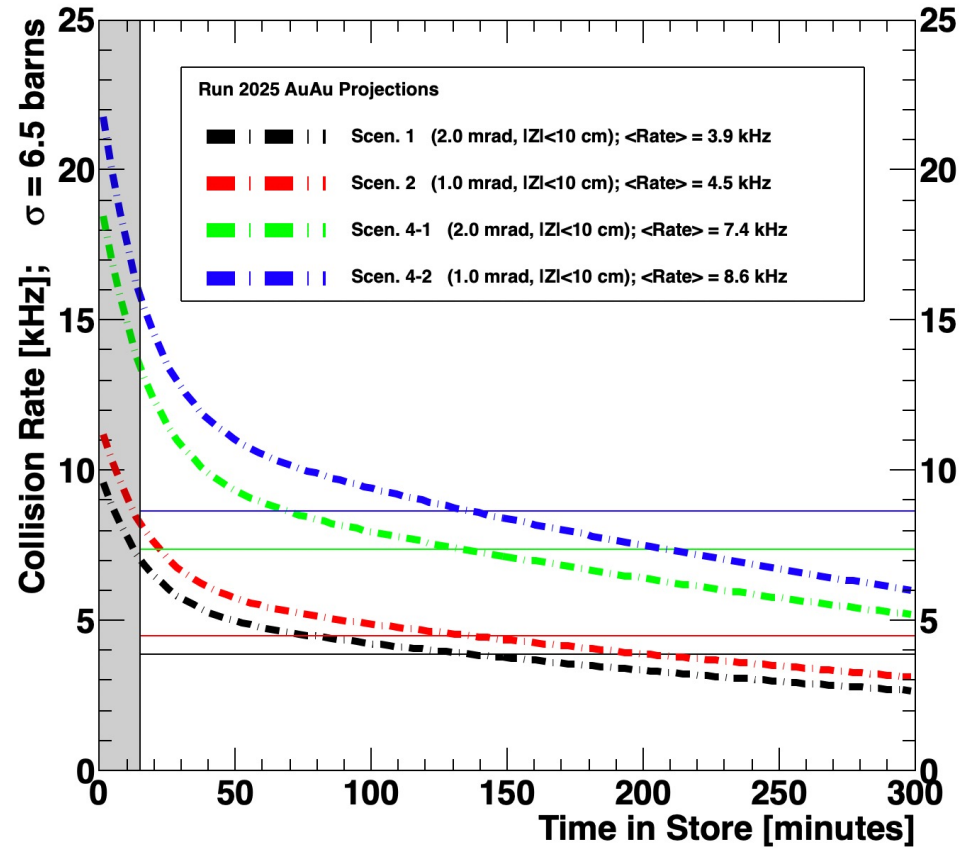
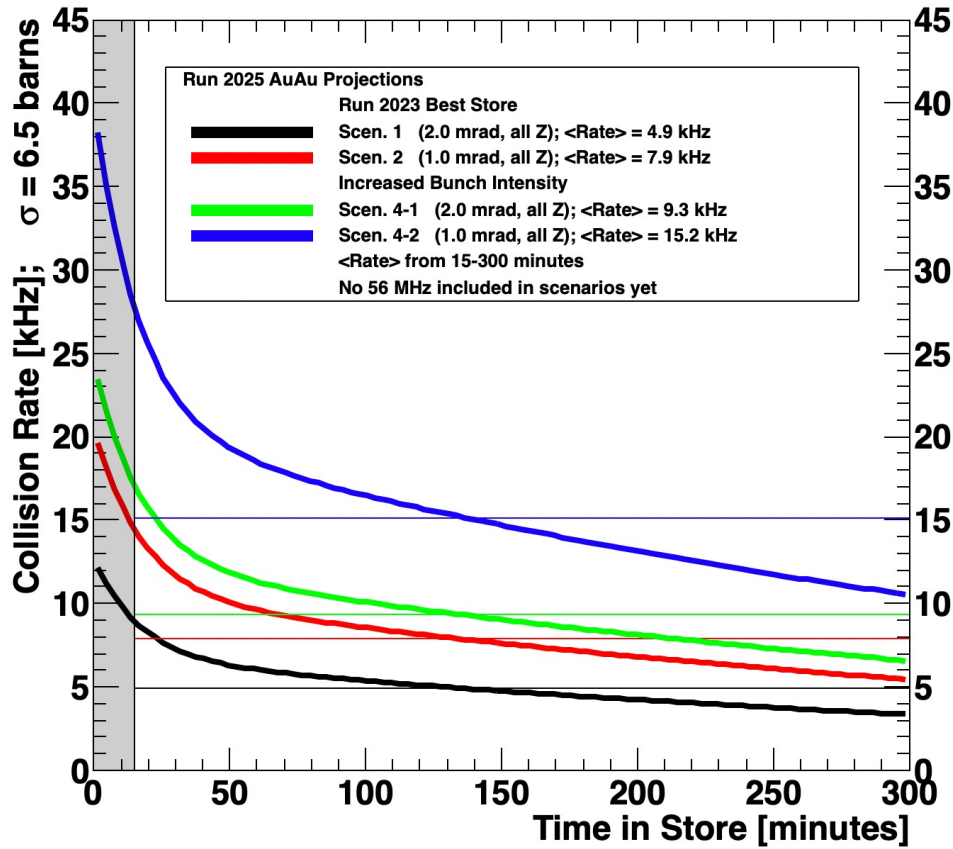


~7 hours into the store





Working with Kiel / C-AD on projections for Run 2025



Select Big Partition			Run Control	
GL1 10/8/24 <input checked="" type="checkbox"/>	LL1 <input type="checkbox"/>	MBD <input checked="" type="checkbox"/>	13:45:11	
ZDC/sEPD <input checked="" type="checkbox"/>	EMCAL <input checked="" type="checkbox"/>	HCAL <input checked="" type="checkbox"/>	Running for 0:00:29	
INTT <input checked="" type="checkbox"/>	TPOT <input checked="" type="checkbox"/>	TPC <input checked="" type="checkbox"/>	Run: 54168	
MVTX <input checked="" type="checkbox"/>	Toggle Host Select		Events: 1264 (61.7 Hz)	
			Logging Enabled	
			Close	
			Pause	

First sPHENIX Au+Au with all detector systems running!
Just the start with 6x6 store, very low rate.



First look at 6x6 store today (Tuesday, October 8, 2024), despite stochastic cooling setup not complete.

Message ID: 484 Entry time: Tue Oct 8 09:28:57 2024				
Author:		Cameron Dean		
Subject:		Run 2024, AuAu commissioning summaries		
Run	Date	Beam configuration	MVTX setup	Notes
54155	Oct. 8th, 2024	6x6	600 Mb/s everywhere	5 minutes run. 1 autorecovery, L2_14 (on mvtx3) after 1 minute. mvtx2 data rate went to 0 then spiked to 600 MB/s before stabilising. MBD rate ~225 Hz
54156	Oct. 8th, 2024	6x6	600 Mb/s everywhere	10 minute run. No issues. MBD rate ~225 Hz
54157	Oct. 8th 2024	6x6	600 Mb/s everywhere	20 minute run. 2 x autorecoveries, both L1_03 (mvtx1) within 90s. MBD rate ~225 Hz
54160	Oct. 8th 2024	6x6	600 Mb/s everywhere	MBD rate ~120 Hz (clock trigger was scaled down)

MVTX: Three auto-recoveries in 35 minutes – see details above.

Note this is a very low intensity store (6x6).

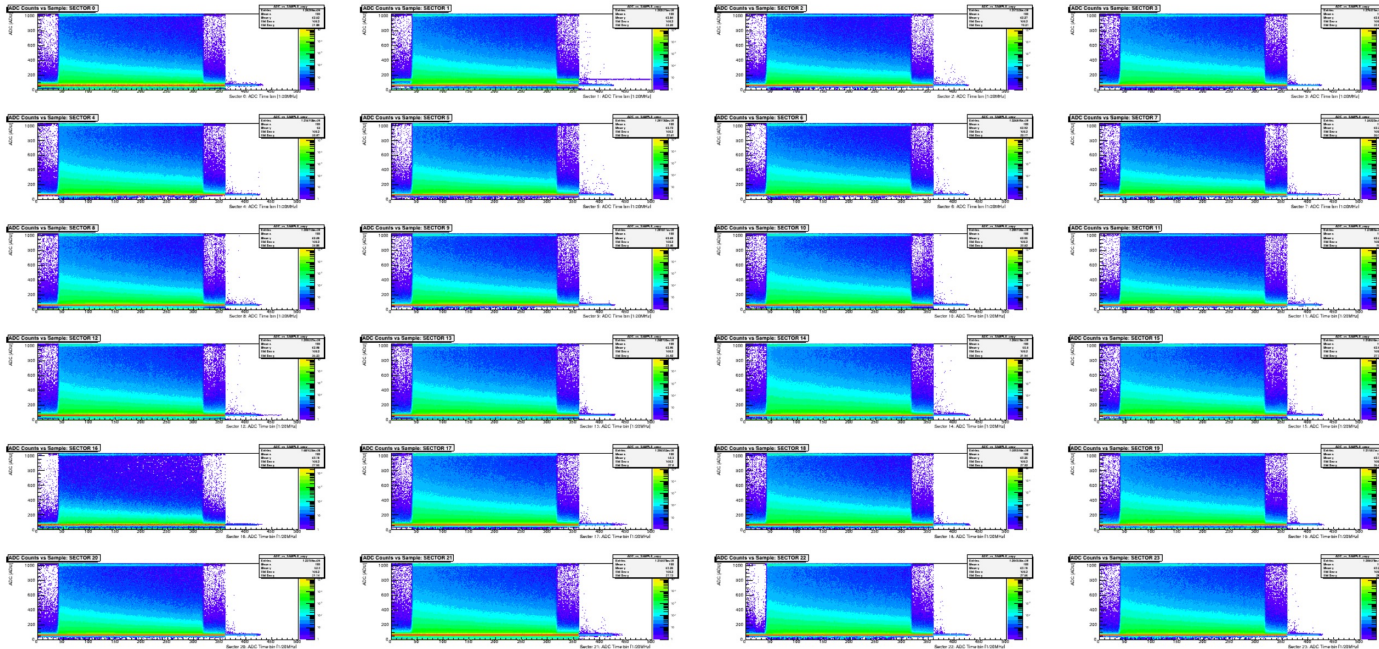
Examining data taken in detail now and then mapping out next steps.

INTT: Taking data smoothly, no problems

TPC: Just starting data taking at this time (ramping voltages slowly)

TPOT: Same as TPC

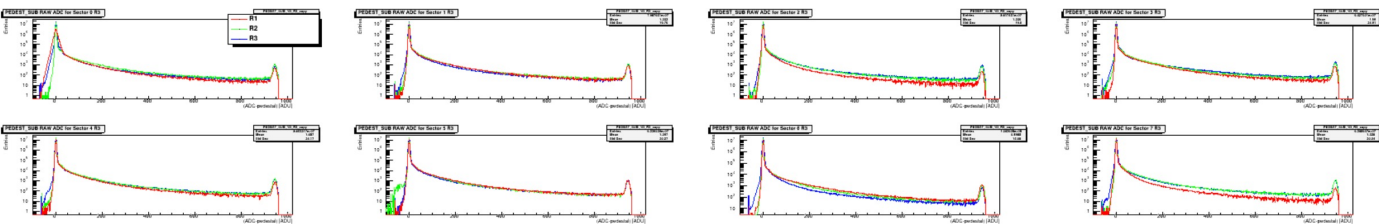
TPCMONDRAW_ADC_vs_SAMPLE Run 54166, Time: Tue Oct 8 13:01:32 2024



BP: (physics triggers)
 HV: operate
 Beam: 6x6,
 2mrd x-ing angle,
 ZDC coin. 177 Hz

All looking good so far at this first step.

TPCMONDRAW_PEDESTSUBADC Run 54166, Time: Tue Oct 8 12:52:36 2024



sPHENIX Au+Au 200 GeV Plan starting Monday, Sept. 30

Day	RHIC day	Major activity	Beam conditions	Detector status
Monday Sep 30	1	Maintenance		Off
Tuesday Oct 1	2			Off Tune ZDC voltages
Wednesday Oct 2	3	Possible overnight store	CAD	Off Turn on MBD
Thursday Oct 3	4	Possible overnight store	CAD	Tune MBD and trigger
Friday Oct 4	5	Overnight store	28/56/111 bunches	Calorimeter timing
Saturday Oct 5	6	"Physics" stores		Calorimeter data taking
Sunday Oct 6	7	"Physics stores"	56 MHz setup begins	
Monday Oct 7	8	Silicon trackers		Si detector setup
Tuesday Oct 8	9	Silicon trackers		Si detector operation
Wednesday Oct 9	10	TPC	6x6	Turn on TPC
Thursday Oct 10	11	TPC	28x28	
Friday Oct 11	12	TPC	111x111	
Saturday Oct 12	13			
Sunday Oct 13	14			
Monday Oct 14	15			
Tuesday Oct 15	16	Possible absorber installation		
Wednesday Oct 16	17	Possible absorber installation		
Thursday Oct 17	18	Possible absorber installation		
Friday Oct 18	19			
Saturday Oct 19	20			
Sunday Oct 20	21			
Monday Oct 21	22	End of run; leave magnet on for TPC laser tests		
Tuesday Oct 22	23	Turn off magnet, go to watch shifts		

6x6 store a day early, but stochastic cooling not fully set up yet.

Turning on MVTX, INTT, and also, now TPC/TPOT

sPHENIX is interested to move on to 28x28 next.

Discussion on integrating steps with C-AD work on stochastic cooling