sPHENIX Status
RHIC Coordination Meeting

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sPHENIX Status

- Chillers and AC have been working fine
- Completed our first laser dance for TPC static corrections
  - Line lasers seem to have lower intensity than previous week which will be investigated
- Updating run documentation from last year in order to be prepared for beam
- EMCal bias adjusted so that photon saturation occurs ~45 GeV instead of 25 GeV
  - Also standardize the ADC ←→ MeV relationship via gain matching

Step	Collider Requirement	sPHENIX Requirement	Subsystem	Events/Time	Task	Notes
1	Single Yellow	None	Donuts	30 Minutes	Check the background in outer donuts	Can be done during set-up
2	Single Yellow	None	Donuts	60 Minutes	Measure background in inner donuts	Can be done during set-up
3	Single Blue	None	Donuts	60 Minutes	Check variation in donuts	Can be done during set-up
4	Collisions	None	ZDC	~30 minutes	Set crude timing	Want plots to look ok
5	Good Physics Collisions	None	MBD	15 Min (10 M)	Timing calib, generate finely tuned LL1 trigger LUTs	iterate if the beam isn't clean enough
6	Good Physics Collisions	MBD	EMCal	1 hour	Time in EMCal	Timing for Calo types can be done simultanously
7	Good Physics Collisions	MBD	HCal	1 hour	Time in HCal	Timing for Calo types can be done simultanously
8	Good Physics Collisions	MBD	ZDC	1 hour	Time in ZDC	Timing for Calo types can be done simultanously
9	Good Physics Collisions	MBD	sEPD	1 hour	Time in sEPD	Timing for Calo types can be done simultanously
10	Collisions	None	Donuts	60 Minutes	Check signal + background in outer donuts	Need clean beam (timed in MBD irrelevant
11	Collisions	None	Donuts	60 Minutes	Inner Analog - 4 ch picoscope (or CAEN) to measure pulse-height of signal and background	Need clean beam (timed in MBD irrelevant
12	Collisions	None	Donuts	60 Minutes	Threshold scan to find where the rate drops to zero, leave thresholds above - probably after analog	Need clean beam (timed in MBD irrelevant
13	Single Yellow	None	Donuts	60 Minutes	Set threshold between background and signal if there is a break between the two	Drop Blue for this
14	Good Physics Collisions	MBD	Trackers	60 Minutes	Confirm timing via online monitoring for MVTX, INTT, TPC, TPOT	Can be done during donut tests
15	Single Bunch Yellow	MBD	MVTX	Very short	Test streaming vs Extended vs Triggered Mode	Yellow is the "dirty" beam
16	Single Bunch Blue	MBD	MVTX	Very short	Test streaming vs Extended vs Triggered Mode	Blue is the "clean" beam
17	12x12	MBD	INTT	60 Minutes	INTT Timing Scan	Can be done stand-alone
18	12x12	None	MVTX	60 Minutes	MVTX streamed in baseline	
19	12x12	MBD	MVTX	60 Minutes	MVTX in "extended" mode	
20	12x12	MBD	MVTX	60 Minutes	MVTX in "triggered" mode	
21	12x12	MBD+Donuts	MVTX	60 Minutes	Donuts vs MVTX	MVTX in streaming?
22	12x12	MBD+ZDC	TPC	??	Increase voltage watching FOM for TPC stability	TPC Luminonsity Scan - Step 1

Conclusions

- Prior to MVTX tests, there are a few items we need to do in order to be ready for physics so we can run during the evening
- There are some additional tests (not listed here) that would be helpful for subsystems that might require different configurations
  - Useful to know how RHIC can be run during the evening/night for such activities (for example, can we switch from 111x111 to 12x12 and back?)
- Due to the delays, our onsite MVTX experts are more junior, Cameron will only be available remotely during the testing time