

Run 20 RHIC Machine/Experiments Meeting

March 10, 2020

Agenda:

- General discussion of Run 20 & 9.2 GeV running - W. Christie
- Collider Update - C. Liu
- LEReC Update - A. Fedotov
- STAR Status/update - J.H. Lee
- Update on CeC - V. Litvinenko
- All Other Business (AOB)

BLUEJEANS CONNECTION INFO:

To join the meeting on a computer or mobile phone: <https://bluejeans.com/273705843/1875?src=calendarLink>

Phone Dial-in +1.408.740.7256 (US (San Jose))

+1.866.226.4650 (US Toll Free)

+1.408.317.9253 (US (Primary, San Jose))

Global Numbers: <http://bluejeans.com/numbers>

Meeting ID: 273 705 843

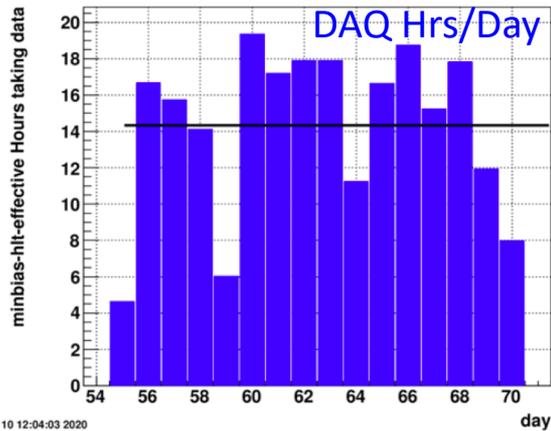
STAR Beam Use Request for Run20

	Beam Energy (GeV/nucleon)	$\sqrt{s_{NN}}$ (GeV)	μ_B (MeV)	Run Time	Number Events requested / collected	
	9.8	19.6	205	4.5 weeks	400M 582M	Done
	7.3	14.5	260	5.5 weeks	300M 324M	Done
Run20	5.75	11.5	315	9.5 weeks	230M ~ 235	Done
	4.55	9.1	370	9.5 weeks	160M ~ 25.1	Mevts at present
	3.85	7.7	420	12 weeks	100M	
Run20	31.2	7.7 (FXT)	420	2 days	100M	Done
	19.5	6.2 (FXT)	487	2 days	100M	Done
	13.5	5.2 (FXT)	541	2 days	100M	Done
	9.8	4.5 (FXT)	589	2 days	100M	Done
	7.3	3.9 (FXT)	633	2 days	100M	Done
	5.75	3.5 (FXT)	666	2 days	100M	Done
	4.55	3.2 (FXT)	699	2 days	100M 201M	Done
	3.85	3.0 (FXT)	721	2 days	100M 3.7M+300M (run18)	Done

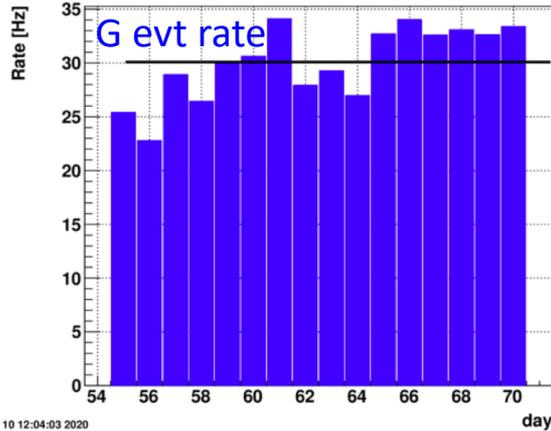
- Top priority for Run20 is measuring next two energies in BES-II at $\sqrt{s_{NN}} = 11.5$ GeV and 9.2 GeV
- Finishing **fixed target** measurements at $\sqrt{s_{NN}} = 3.5, 3.9, 4.5, 5.2, 6.2, 7.7$ GeV

Some Summary Plots for the ongoing 9.2 GeV Au-Au Data Set run

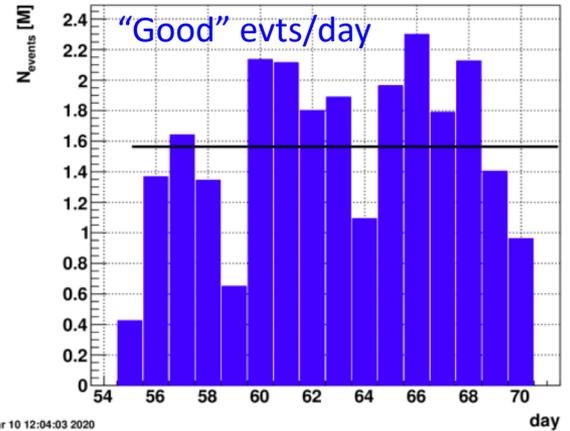
hours_perday_mb_hlt-effective.txt



minbias-hlt-effective Average Rate [Hz]



minbias-hlt-effective N_{events}



Some Estimates based on *observed* (3/6- 3/9) performance:

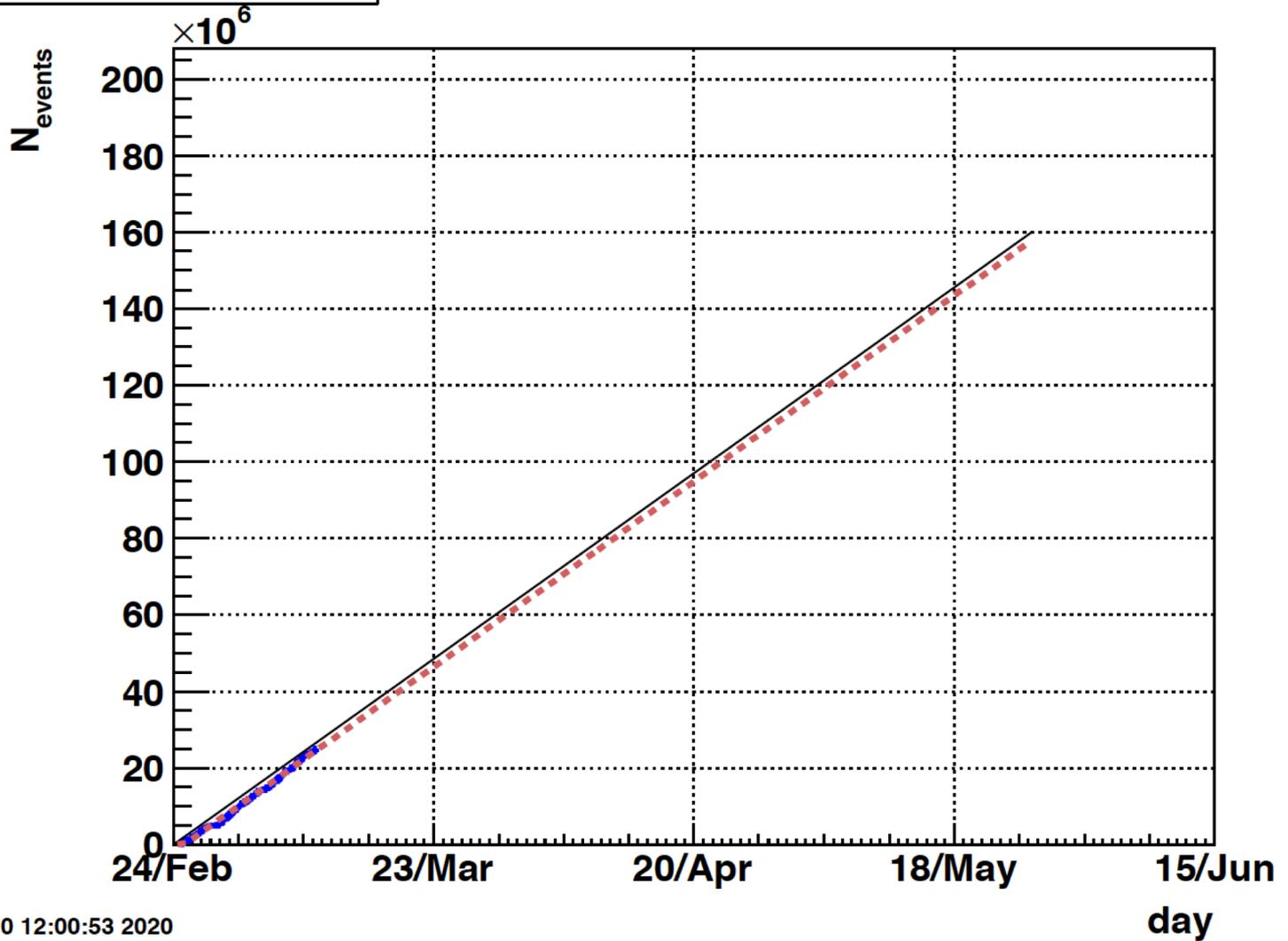
Average is ~16 Hrs/day of DAQ running, at an average rate of 33 Hz:

- 16 hrs/day x 3600 sec/hr x 33 evts/sec = 1.78 M ~ **1.9 Mevts/day**
- Data set goal is 160 M “good” evts (Currently have 25.1 Mevts)
- 134.9 Mevts/1.9 Mevts/day = 71 days = 10.1 wks
- Add 6 maintenance half/days makes estimate ~ **11 wks**

- ~ **May 26th**

What is not included in the projection above is the time that is expected to be spent on the CeC program (~ 8 days), and the 7.7 GeV LEReC commissioning (7 – 10 days?).

minbias-hlt-effective



Tue Mar 10 12:00:53 2020

Ignoring the CeC and LEReC commissioning, the projection shows an estimate of May 26th to reach the 9.2 GeV data set goal.

A possible Scenario for how the rest of Run 2020 might proceed

January						
Su	Mo	Tu	We	Th	Fr	Sa
		1	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	27	28	29	30	31	

February						
Su	Mo	Tu	We	Th	Fr	Sa
						1
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	27	28	29

March						
Su	Mo	Tu	We	Th	Fr	Sa
1	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	27	28
29	30	31				

April						
Su	Mo	Tu	We	Th	Fr	Sa
			1	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	27	28	29	30		

May						
Su	Mo	Tu	We	Th	Fr	Sa
					1	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	27	28	29	30
31						

June						
Su	Mo	Tu	We	Th	Fr	Sa
	1	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	27
28	29	30				

Start 9.2 GeV Physics running Monday evening, February 25th.

With *observed* rates for 9.2 GeV collisions, we should be able to achieve the full 160 Mevts goal after ~ 11 weeks of “straight” (uninterrupted) running. This gets one to ~ May 26th.

11 days of 7.7 GeV LEReC commissioning (from May 26th) gets one to June 7th.

8 days of CeC then gets one to June 15th, the end of a 28 Cryo week run (N.B. assumption of 28 Cryo week run.

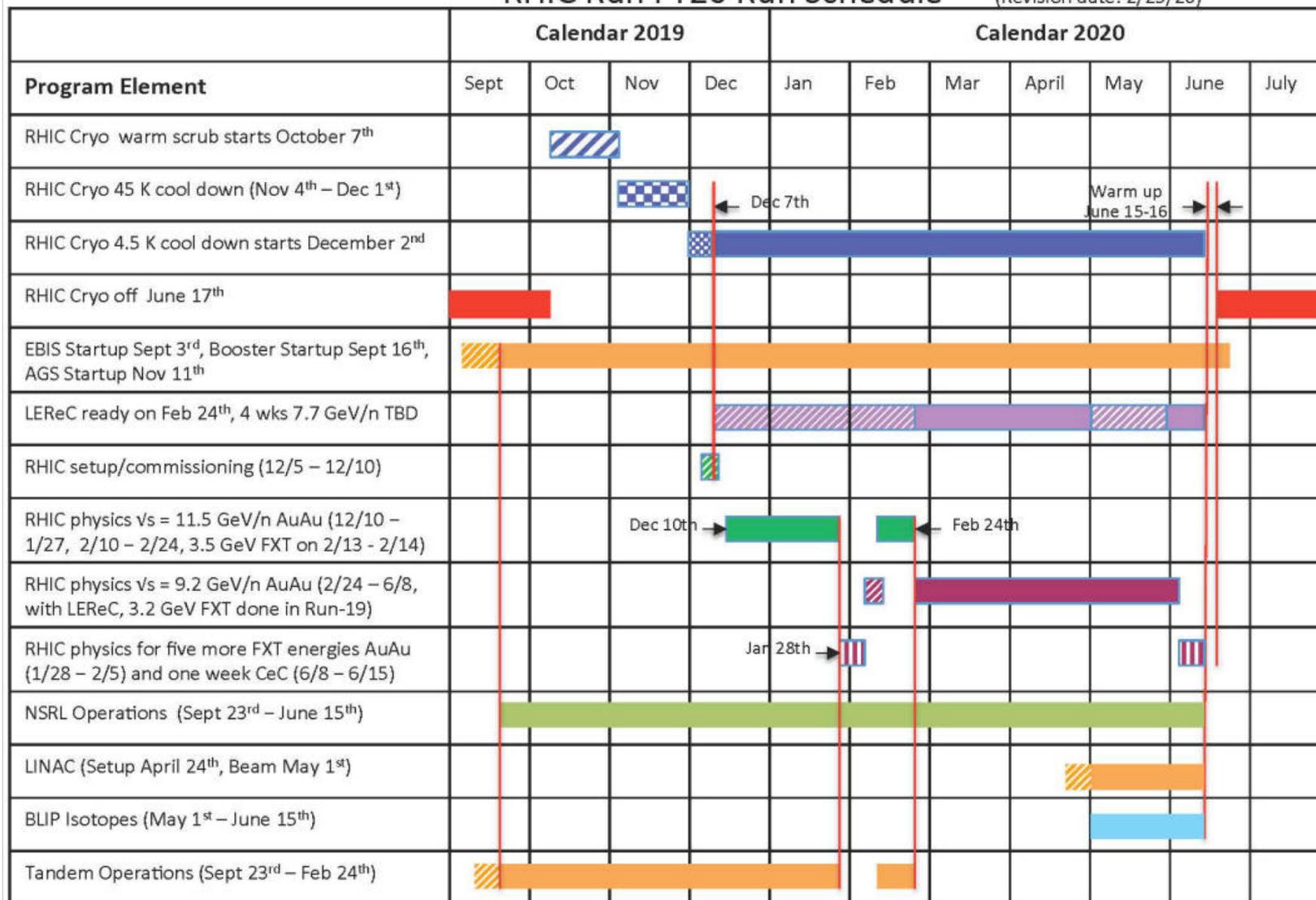
N.B. The 9.2 GeV Physics running, 7.7 GeV LEReC commissioning, and CEC time may well be run in an interleaved mode from now to the end of the run.

Not included or discussed yet may be 1 – 2 days of diode testing.

All Other Business (AOB)

RHIC Run FY20 Run Schedule

(Revision date: 2/25/20)



Note: FXT program is completed and transition date from 11.5 GeV/n AuAu to 9.2 GeV/n AuAu was Feb. 24th

N.B. The Schedule above assumes that RHIC Run 2020 will be 28 Cryo weeks long.