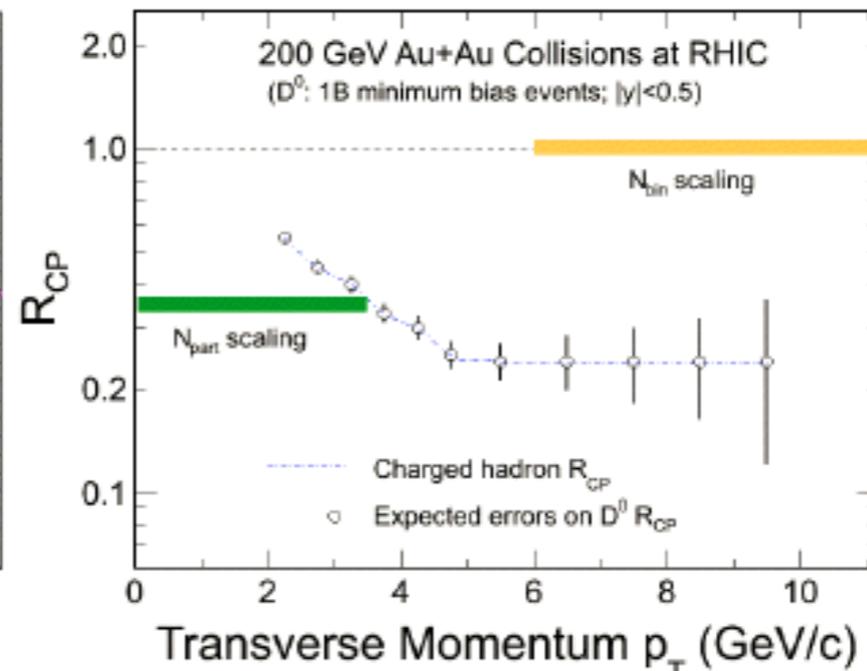
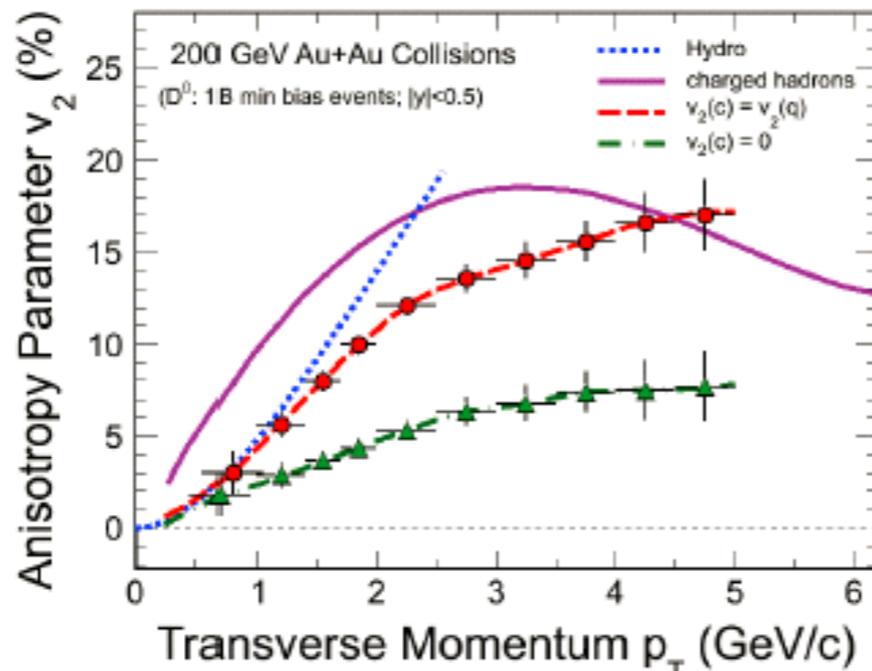


$^3\text{He}+\text{Au}$ in Run-14

Dave Morrison

What has been requested for Au+Au @ 200 GeV?

D^0 flow



$D^0 R_{CP}$

- a) Fourteen weeks: $\sqrt{s_{NN}} = 200$ GeV Au+Au collisions with the completed Heavy Flavor Tracker (HFT) and Muon Telescope Detector (MTD). This will be the first run in a multi-year program of precision measurements in the charm and bottom sector. The HFT will be used to directly reconstruct open charm hadrons, extracting the charm hadron collectivity and energy loss. The completed MTD will be used to measure quarkonium production in di-muon channels and extend $e-\mu$ correlations. At the beginning of the run, we will commission the full HFT along with other subsystems Intermediate Silicon Tracker (IST) and Silicon Strip Detector (SSD). Further running will be needed in subsequent years for measurements of the \mathcal{A}_C , and to extend the precision of the measurements of higher Upsilon states.

What did the PAC say?

For Run 14 the PAC recommends the following (*in order of priority*):

1. 14 weeks of 200 GeV Au+Au collisions to exploit new capabilities to investigate the heavy quark sector, and
2. 3 weeks of 15 GeV Au+Au collisions to complete the BES I program.

Consistent with STAR BUP

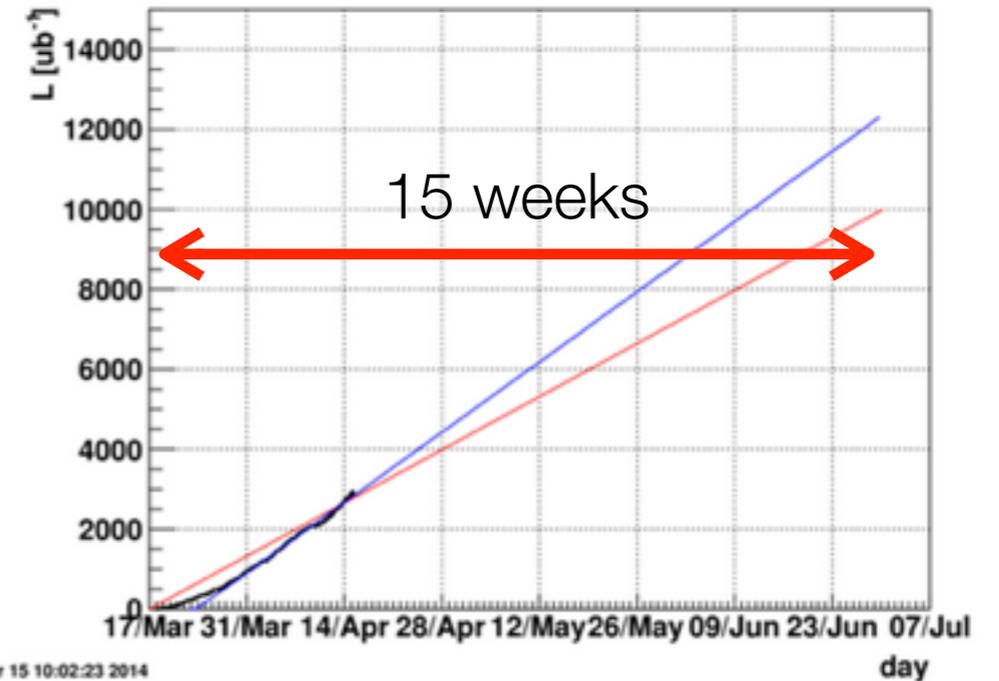
Snapshot of progress from last week

- ✓ 15-Mar (~14:00, store 18046), Begin $\sqrt{s} = 200$ GeV/n AuAu physics run
 - ✓ PHENIX 1st physics store = 18046 (15 March)
 - ✓ STAR 1st physics store = 18064 (17 March)

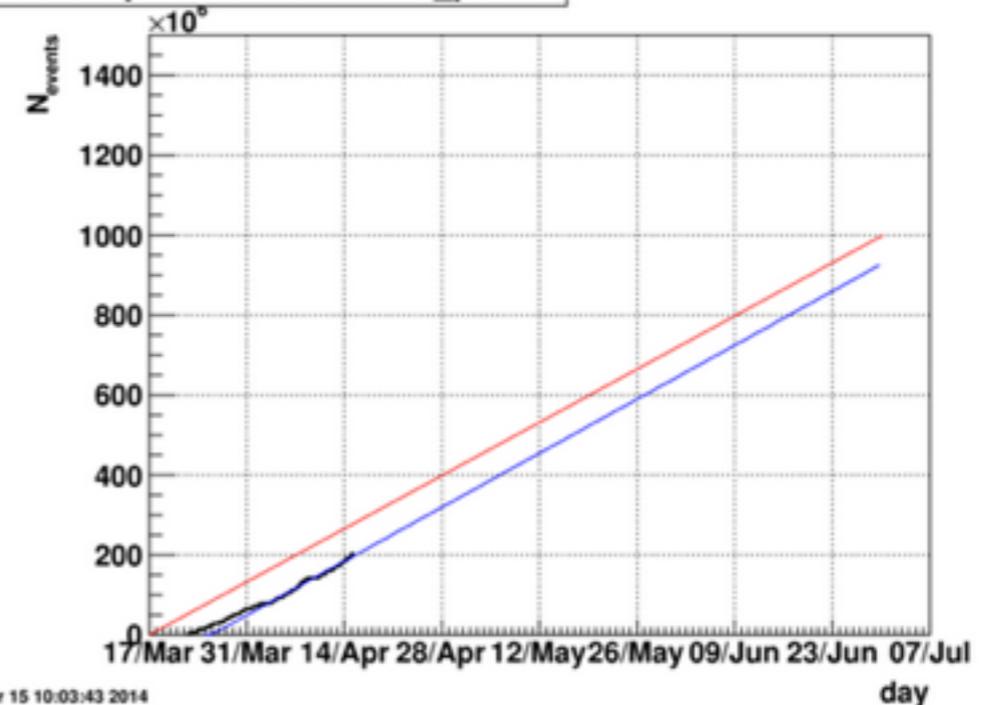
today, 22 Apr...

- 27-Jun, End 15 week $\sqrt{s} = 200$ GeV/n AuAu run
- 27-June through 4 July, 7 days contingency/TBD
- 4-July, begin cryo warm-up
- 7- July, warm-up complete, 22.0 cryo weeks of operation

dimuon_upsiloneff



VPDMB-5-p-nobsmd-effective_pxlist



March 17 + 14 weeks = June 23

CeC PoP

coherent electron cooling
demonstration in Run-16 would
restrict aperture; not compatible
with p+A running

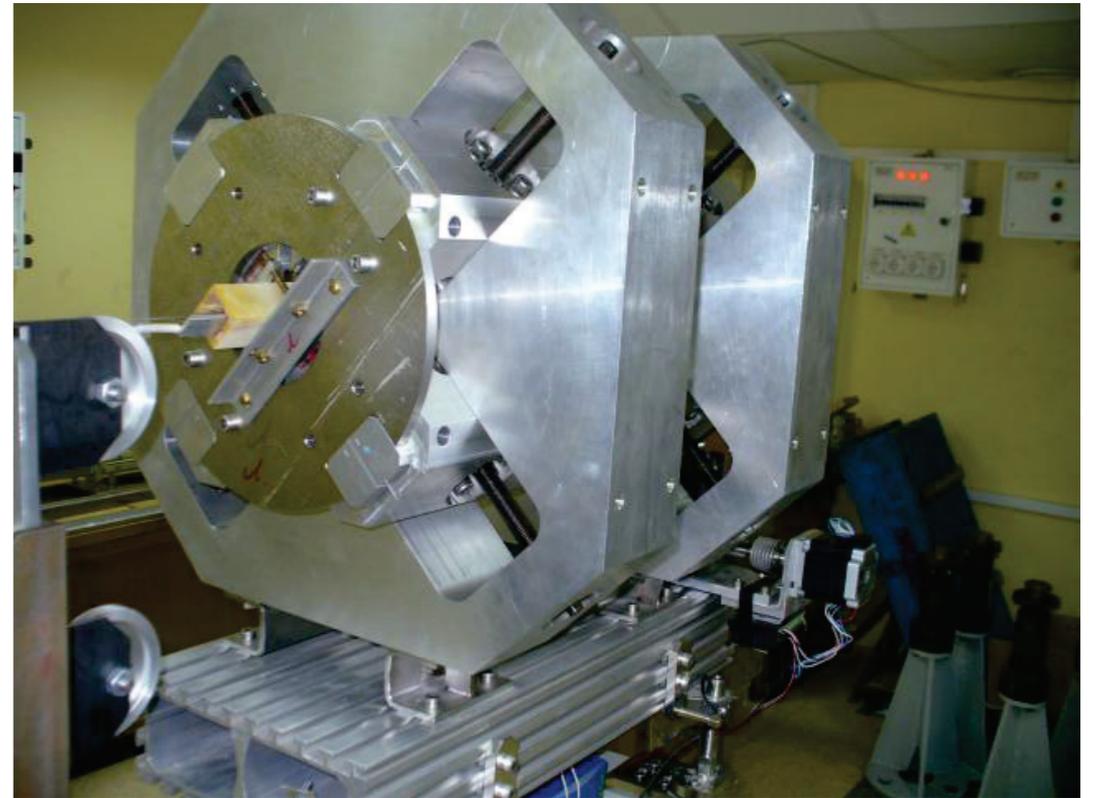


Figure 6: The prototype helical undulator undergoing magnetic measurements.

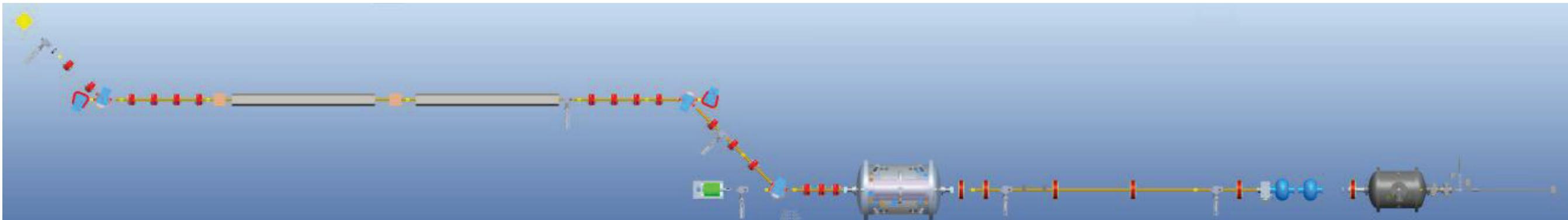


Figure 1: The layout of the CeC PoP experiment.

From last year's PHENIX BUP

Run-15 Proposal (22 cryo-weeks)

- $p+p$ @ 200 GeV with transverse polarization for 9 weeks [Physics driven goal is 50 pb^{-1} recorded within $|z| < 40$ cm and $\langle \mathcal{P} \rangle = 60\%$]
- $p+\text{Au}$ @ 200 GeV with transverse polarization of the proton for 4 weeks [Physics driven goal is 150 nb^{-1} sampled within $|z| < 40$ cm and $\langle \mathcal{P} \rangle = 60\%$]
- Geometry studies with $d+\text{Au}$ @ 200 GeV and $^3\text{He}+\text{Au}$ @ 200 GeV for 1 week each [Physics driven goal is recording 1 billion minimum bias events for each]
- $p+\text{Si}$, $p+\text{Cu}$ @ 200 GeV for 2 weeks each [Physics driven goal is 450 nb^{-1} and 225 nb^{-1} , respectively, sampled within $|z| < 40$ cm and $\langle \mathcal{P} \rangle = 60\%$]

PHENIX proposal for Run-15. Very ambitious

And so?

- STAR and PAC recommended 14 weeks of Au+Au at 200 GeV for Run-14. 14 weeks ends on Monday, June 23.
- STAR BUP calls for additional full energy Au+Au to target Λ_c measurement and one expects reduced backgrounds and cleaner signal with aluminum cables.
- CeC PoP in Run-16 limits p+A to Run-15. Hard to see room for $^3\text{He}+\text{Au}$ also in Run-15. Does it slip to Run-16?
- Useful and timely demonstration of RHIC versatility for good physics