

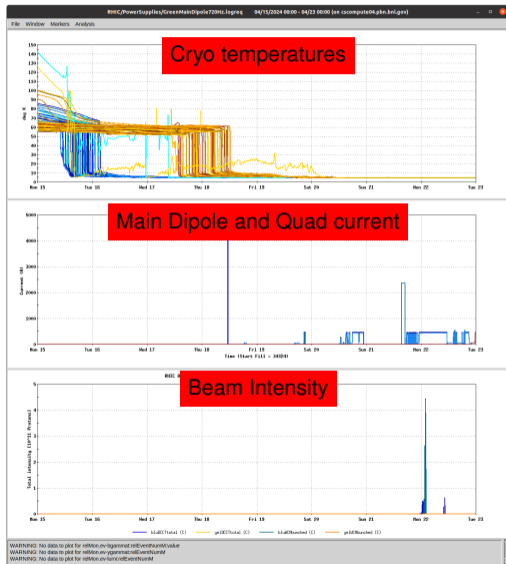
# RHIC Run24 Preparations

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April 23, 2024

# RHIC last week

- RHIC cooldown began on Monday 4/15
- Power dip on 4/16 @2300, caused OPPIS to be down for approximately 6 days
- Blue main quad PS current jump at shutoff, causing prolonged investigations.
- Ongoing issue with blue injection kicker, investigations continue
- Blue injection setup (off-hysteresis) complete
- 56 MHz conditioned up to 1.1 MV (now need ~16 hours of time before testing with Au)



# RHIC Startup Schedule

Current schedule

April

Blue 4k Wave

Yellow 4k Wave

He lead flow tests\*

PS testing\*

Injection checks

Blue Injection

Yellow Injection

Ramp setup

Rebucketing setup

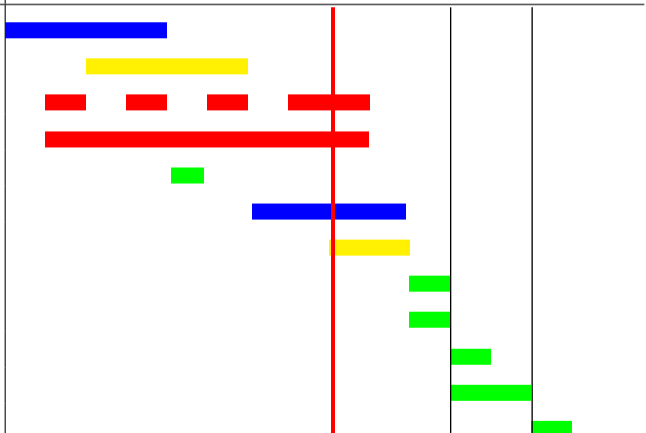
Rotator ramps&store setup

Ramp-up

Physics

Currently a 3-day delay to physics.

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



# RHIC Startup Status

- ✓ Blue 4k wave started
- ✓ Blue PS testing started
- ✓ Blue helium lead flow tests started
- ✓ Blue 4k wave completed
- ~ Blue helium lead flow tests completed (Okay to ramp blue)
- Blue PS testing completed (Hysteresis complete)
- ✓ Injection checks
- ✓ Injection into Blue
  - ✓ Capture
  - ~ Instrumentation setup
  - ~ Feedback setup
  - ~ Polarimeter targets conditioned
- Blue setup complete
- ✓ Yellow 4k wave started
- ✓ Yellow PS testing started
- ✓ Yellow helium lead flow tests started
- ✓ Yellow 4k wave completed

- ~ Yellow helium lead flow tests complete (Okay to ramp Yellow)
- Yellow PS testing complete (Full hysteresis complete)
- Injection into Yellow
  - Capture
  - Instrumentation setup
  - Feedback setup
  - Polarimeter targets conditioned
- Yellow setup
- Ramp setup complete
- Rebucketing setup complete
- Rotator ramps & store setup
  - instrumentation setup
  - collisions setup
  - collimation setup
  - polarimetry setup
  - abort kicker optimized
- Experimenter Setup & ramp up
- Physics, setup complete

# Injector Tracker

## Injector Performance

OPPIS polarization nominal following weekends maintenance

AGS Polarization is at 63% with  $2.0 \times 10^{11}$  protons with standard JQ setup, tuning for stability and intensity

Two LINAC bunch+Merge setup with snakes, needs more time to study

Booster bunch split+AGS merge setup with snakes.

## Skew quad commissioning status

All magnets have been installed and verified.

Commissioning ongoing outside of optimizing normal setup.

# Physics Checkpoints

$\beta$  squeeze at IP8

1.0e11 protons per bunch @physics

complete low-luminosity run for STAR

sPHENIX running with nominal store conditions

1.7e11 protons per bunch @physics (Run12 maximum)

2.0e11 protons per bunch @physics

2.4e11 protons per bunch @physics (Run15 maximum)

switch to alternate AGS setup

2.5e11 protons per bunch @physics

3.0e11 protons per bunch @physics