

RHIC Run24 Preparations

Kiel Hock

February 20, 2024

RHIC schedule

Key dates

January 8, 2024

Week of February 20, 2024

February 29, 2024

March 12, 2024

April 1, through April 5, 2024

April 15, 2024 through October 14, 2024

Event

Booster on for NSRL

Complete AGS Checkout

AGS setup Began

approximate cold snake ready

RHIC dry run

RHIC run (26 weeks)

RHIC startup schedule is [here](#), by T. Shrey.

RHIC run schedule is [here](#), by C. Giorgio.

RHIC run webpage is [here](#), by K. Hock.

RHIC Preparations

$\beta^*=60$ cm lattice Dynamic Aperture simulations look good:

Analysis of DX aperture indicates a (-) crossing angle is still required.

Squeezing 3 hours into store will provide a 21% increase in luminosity.

60 cm necessitates reaching 2.5×10^{11} protons/bunch

Overview of AGS setups:

1. Standard setup with jump quads
2. Booster merge split+AGS bunch merge
3. Two LINAC pulses+AGS bunch merge
4. Skew quad commissioning (and possible combinations with setups 2+3)

Meeting this week to discuss:

DA simulation results for $\beta^*=85$ cm, 60 cm, and 50 cm lattices

Aperture analysis of $\beta^*=85$ cm, 60 cm, and 50 cm lattices

AGS status

AGS setup status:

Standard setup with unpolarized beams completed, 1.8×10^{11} at AGS extraction,

Setup of split+merge started March 5,

Skew quad setup occurs concurrently.

Skew quad commissioning status:

All magnets installed,

6 PS installed with 3 more available,

Verification of skew quad installation being performed with beam,

Simulations indicate 9 skew quads can be competitive with jump quad setup.