

RHIC Run24 Preparations

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November 7, 2023

RHIC schedule, tentative

| Key dates | Event |
|---|--------------------------------------|
| January 8, 2024 | Booster on for NSRL |
| January 28, 2024 through February 4, 2024 | AGS Checkout |
| February 4, 2024 | Start AGS setup (with skew quads) |
| February 11, 2024 | Start AGS setup (without skew quads) |
| February 19 through February 23, 2024 | RHIC dry run |
| March 3, 2024 through September 3, 2024 | RHIC run (26 weeks) |

RHIC Run Preparations

- Lattice development is underway with zero DX shifts (GRD).
 - ▶ Investigating a 30 cm β^* at IP8 to improve luminosity.
 - ▶ Lattice development will influence items #2 and 3.
- Beam-beam effects with crossing angle simulations (X. Gu and Y. Luo).
 - ▶ Preliminary results show significant tune shift suppression from crossing angles.
- Dynamic aperture simulations with crossing angle simulations (X. Gu and Y. Luo).
- Longitudinal acceptance of RHIC (V. Schoefer).

Injector Preparations to Support RHIC

How to get 3×10^{11} protons/bunch at store?

- Two possible scenarios for achieving this
 - ▶ Take two pulses from OPPIS with a nominal injector configuration, merging at AGS flattop (long merge, bunch will be 40% longer, excess intensity can afford longitudinal scraping), polarization should be approximately the same as the current configuration.
 - ▶ Take a longer pulse from OPPIS, perform a bunch split in Booster, merge at AGS flattop.
 - ▶ Either scenario will have the goal of $\sim 3.5 \times 10^{11}$ protons/bunch at AGS extraction.
- Skew quads provide an absolute correction of resonances which will improved polarization
 - ▶ All magnets received.
 - ▶ PS testing is ongoing, delivery TBD.