

# Polarized Proton Run Preparation

January 15, 2008

## Polarized protons run schedule

- d-Au run ends 1/28 at 8 AM, followed by Maintenance Day(s)
- 6 weeks of polarized protons at 100 GeV, followed by two days of Au at low energy

# Machine configuration and parameters

- Beam energy: 100 GeV
- Polarization orientation: radial at PHENIX, vertical at STAR
- $\beta^* = 90$  cm (=Run-6, further squeeze during APEX)
- Ramp tunes: (.73/.72) in Yellow, ( $\approx$ .89/.88) in Blue
- Mains harmonics:  $Q_x = .893$  or  $.886$  preferred
- Store tunes: (.695/.685) in Yellow, (.96/.95) in Blue (below diagonal)

# Setup plan

<http://www.cadops.bnl.gov/AP/Spin2008/runplan.txt>

## Day 1-2:

- AGS to RHIC synchro (RF group)
- Establish AGS extraction/RHIC injection (Nick)
- Injection kicker timing (Wolfram)
- Turn on snakes (Waldo, Mei)
- Adjust bend trim (Vadim)

- Check injection damper (Rob)
- Check snake bumps, establish Golden Orbit (Vadim, Waldo)
- Establish RF capture (RF group)
- Setup WCM, BPMs, IPM, BBQ, Artus, Polarimeter (Roger L., Todd, Roger C., Al, Angelika, Mike)
- Correct orbits, tunes, chromaticity and coupling
- Check spin pattern

## Day 3-5:

- Snake current scan at injection (Mei)
- Ramp development (no rotators yet), using tune feedback
- Check separation bumps

## Day 6-7:

- Rotator ramp development, using tune feedback (Waldo)
- Optics correction in blue, at near-integer store working point (Todd, Mei)
- Collision setup

## Day 8-14:

- Setup collimation (Angelika)
- Overnight stores
- Increase number of bunches and bunch intensity
- Fine-tune the ramp to maximize polarization
- IR nonlinear corrections (Fulvia)
- Nonlinear chromaticity correction (Yun)

## Day 15-:

- Physics
- Development during Day shifts
- Maintenance every other week (Feb. 13 and 27), APEX every Wednesday