100 GeV Polarized Proton Run

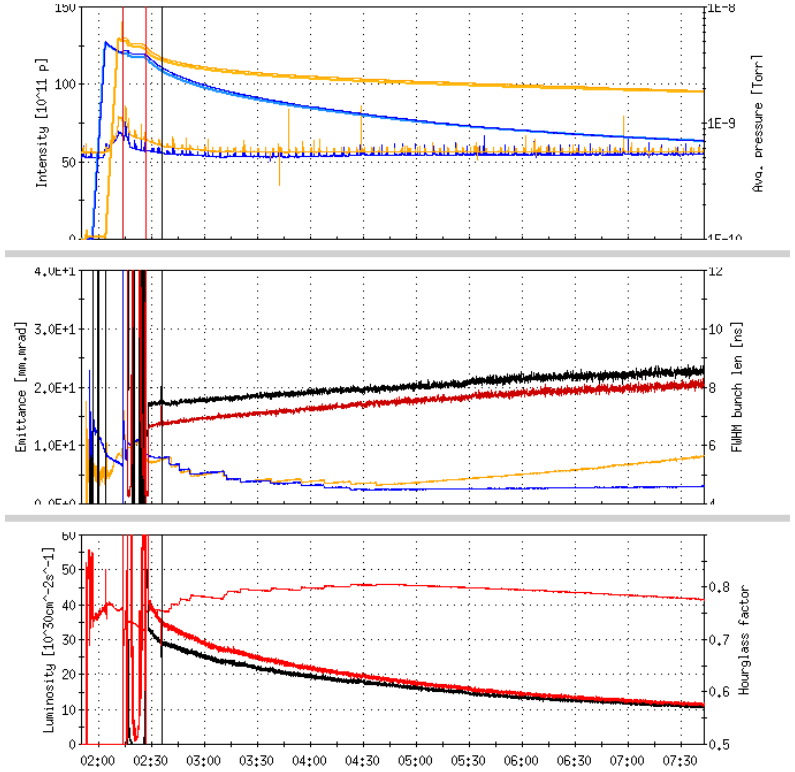
http://www.cadops.bnl.gov/AP/Spin2009_100GeV/

April 24, 2009

Present status

- Overnight stores with vertical polarization Saturday and Sunday, 4/17 and 4/18, 56x56, 1.05e11
- Rotator ramp development began Sunday, 4/18
- Stores with longitudinal polarization since Monday night
- Polarization in high 50s (presentations by Haixin, Yousef)
- Vernier scans: Cross sections are $10 - 15$ percent smaller than last year, 0.28/0.25 mbarn (PHENIX/STAR) vs. 0.31/0.29 mbarn

Best store, 10652



- Luminosity is at Run-6/Run-8 level
- Hourglass factor kept high by RF voltage increases during store
- Blue lifetime needs work; also momentum aperture limitation

Where to go from here

- Luminosity gains have to come from higher intensity, and reduced hourglass effect (shorter bunches)
- Increase bunch intensities by 0.05e11 on each store
- Reduce longitudinal emittance at injection by quad mode pumping in the AGS (today)
- Automate RF voltage increase at store

Open questions/issues

- Store length
- One more store with vertical polarization for STAR
- Low-luminosity store for STAR
- 9 MHz test (few hours)
- Spin flipper commissioning