

Operability Report

3/21/2007

Accelerator

Refurbished cryomodule in NL05

- Commissioning is still in progress.
- New fiber laser installed for hall B, 3 independent lasers again
- Balanced the hall A and C dipole strings with the arc 2 slow lock
- Linac RF needs to remain optimized for high current running

Hall A

(e,e',p)

- 4 pass 2649 MeV
- Up to 100 uA
- FFB position and energy
- Low energy spread is critical ($dE/E < 3.5 \times 10^{-5}$)
 - Use Hall A SLI to monitor energy spread. Most likely caused by non-optimal linac RF, gang phase, or pathlength errors.

Hall B

Kaon Photoproduction on the Deuteron Using Polarized Photons

- 5 pass 3302 MeV sometime during the next 5 days
- Up to 60nA
- **Current stability**
 - **Caused by 60 Hz noise on the beam**
 - **Try adjusting the Hall B laser phase, atten, and slit position**
- **Position stability at nA BPM**
 - **Caused by dispersion leaking into the Hall B line**
 - **Use CS tool and arc 9 dispersion quads (ORFP)**

Hall C

G0 Backwards Angle

- 1 pass 690 MeV
- Up to 20 uA
- Weekly polarization measurements (Mott, Moeller)
- Halo rates
- Position asymmetry distribution
- FFB position and energy
- Low energy optics so beam is very sensitive
- High halo counts
 - Dispersion leaking out of hall C arc
 - Fixed with 3C12 quad
 - Also can be caused by scraping in the 2T line
 - Check 2S, 2E, and 2T orbit
 - Check aperture using the viewers at Lambertson
 - Check injector warm RF phases
- Position asymmetry growth at end of hall C line
 - Caused by bad aspect ratio at G0 target
 - Fixed using quads at 3C20 or 3C20A and G0 online asymmetry tool
 - Check steering at 0I07 before the $\frac{1}{4}$ cryo unit