CEBAF-ER Experiment – What needs to be achieved

March 19, 2003

Tasks, (26 shifts)

- **Energy change: 1GeV/pass, 56MeV inj, restore 1-pass machine**, ½ shift, Jay Benesch
- **Manual steering through SL chicane, beam to BSY dump** ½ shift, Mike Spata
- **Exercise ER Exp. for: 56MeV inj, NL&SL at 500MeV**, 9 shifts, Alex Bogacz/Dave Douglas
  - Downloading decelerating optics in SL, NL/SL Energy balancing, verify skew quad solution 1 shift, Mike Tiefenback/Dave Douglas/Alex Bogacz
  - Manual steering through SL chicane to BSY dump, 1 shift, Mike Spata
  - Hardware checks, 1 shift:
    - hardware check for emittance/halo measurements, Arne Freyberger/Chris Tennant
    - BLA/BLM system check, Ron Lauze/Doug Curry
    - hardware check for injector scrapers, Reza Kazim
    - RF measurement hardware check Hovater
  - Downloading special ER optics in Arc 2 and SL (design), verify skew quad solution ½ shift, Dave Douglas/Alex Bogacz
  - Special ORFP for ER machine setup, ½ shift, Alex Bogacz
  - Manual steering of re-injection launch to place ER beam in SL dump, ½ shift, Mike Spata
  - Phase-space/beam quality characterization, 4½ shifts, Dave Douglas
    - Emittance, Δp/p harp measurements: inj, Arc1 and Arc2, 1 shift, Y. Chao
    - 2L22 Harp scans with 'closed beta bump', 1shift, Dave Douglas/Chris Tennant
    - Halo measurement with injector scrapers (tomography), 1shift, Reza Kazimi
    - Halo measurement with the 2L22 Harp (Moeller scatt. correlations), 1½ shift, Arne Freyberger
      - Above halo measurement repeated for varying phase advance in 2R– bunch tomography (3 phases), ½ shift
  - RF measurements, 1 shift, Lia Merminga
    - RF transients at full charge (100microAmps, pulsed), ½ shift
    - klystron power (100microAmps, CW), ½ shift
- **Exercise ER Exp. for: 20MeV inj, 500MeV/linac**, 7 shifts, Alex Bogacz/Dave Douglas
- **Exercise ER Exp. for: 13MeV inj, (or lower), 500MeV/linac**, 7 shifts, Alex Bogacz/Dave Douglas