

Beam Studies in the Next Three Weeks (Oct 24 – Mid Nov '03)

- Re-commissioning (*Everyone*)
- Beam intensity limit and transfer efficiency (*Everyone*)
 - With the new L3 layout
 - Raise L13 septum by 1 inch and lower the dogleg current
- Linac beam measurements (*Elliott, Larry, Milorad, Peter L.*)
 - 805 MHz bunch length
 - Momentum spread
 - Beam profile
- 400 MeV line measurement (?)
- DC measurements:
 - Orbit, tune, lattice function (beta and dispersion) (*Ray, Eric, Xiaobiao*)
 - Chromaticity (*Ray, Francois, Weiren*)
 - o $dp/p = [-0.004, 0.003]$
 - o Test of the spreadsheet
 - Longitudinal emittance (*Ray, Weiren*)
 - Longitudinal acceptance (*Elliott, Weiren*)
 - Transverse emittance turn-by-turn (IPM) (*Ray, Panagiotis, James, Jim Z.*)
 - Aperture scan (*Jim L., Bill P., Eric, Linda*)
 - Injection painting (*Jim L., Ray, Weiren*)
 - Transverse impedance (*Xiaobiao, Bill N., Weiren*)
 - Stop band (*Chuck, Ray*)
 - Transverse quadrupole moment (*Jim L.?*)
 - Montague resonance (Can we create asymmetric beams?)

Beam Studies in the Next Three Weeks (cont...)

- AC measurements:
 - Orbit, tune, lattice function (beta and dispersion) (*Ray, Eric, Xiaobiao*)
 - Chromaticity (*Ray, Francois, Weiren*)
 - Test of the spreadsheet
 - RF capture (*X. Yang, Jim M.*)
 - Longitudinal emittance at 8 GeV (*Ray*)
 - Bunch area measurement by dipping RF voltage during the cycle (*Jim N., Ray*)
 - Transverse emittance at 8 GeV (*Ray, Panagiotis, James*)
 - Transverse emittance turn-by-turn (IPM) (*Ray, Panagiotis, James*)
 - Longitudinal impedance (*Ray, Bill P., Weiren*)
 - Transverse impedance (*Xiaobiao, Bill N., Weiren*)
- Transition crossing experiment:
 - Phase jump (*Chuck, Kathy, Ray*)
 - Chromaticity jump (*Ray, Francois, Weiren*)
 - Gamma-t jump (*Bill P., Chuck, Kathy, Jim M., Ray, Weiren*)
 - Taking out 1-2 cavities during transition crossing (*Bob, Ray*)
- Coupled bunch instability experiment: (*Ray, Bill P., Dave W., Weiren*)
 - Longitudinal beam profile as a function of beam intensity
 - Dampers on or off
- Collimator study: (*Eric, Ray, Peter K., Sasha*)
 - Loss distribution for different jaw positions

Beam Studies in the Next Three Weeks (cont...)

- Bunch rotation experiment: (*Bill P., Kiyomi, Milorad, Weiren*)
 - Longitudinal beam profile before and after the rotation
 - Momentum spread before and after the rotation (?)
- MI-8 line measurement: (*Ming-Jen, Jim L., Ray*)
 - Orbit, beta-function, dispersions
 - Longitudinal beam profile
 - Momentum spread
 - Transverse emittance
 - Change beam horizontal position (by a few mm) at MP02 at extraction
 - BPM reading at the last turn prior to the extraction
- MiniBooNE line measurement: (*Ming-Jen*)
 - Momentum spread (dispersion = 17 m)
 - Rotated beam experiment