

Booster Study Issues on the Table

Revised on May 8, 2003

- **Dogleg correction:**
 - Remove Dog13 - Need solution for short batches:
 - Chop beam in the linac
 - ❖ Ion source chopping (Moehs)
 - ❖ Laser chopping at 750 keV (Tomlin, Yang)
 - ❖ RF chopper with a new front end (Chou)
 - ❖ Injection, acceleration and extraction of short batches (Pellico, Lucas, MacLachlan)
 - Dump in the MI-8 line (AP4) (who?)
 - Improve Dog3:
 - Short term: Use 3 legs instead of 4 (Lackey, Popovic)
 - Interim: Reposition the 4 legs to reduce the bend angle (Lackey)
 - Long term: Use pulsed doglegs (Lackey)
 - Under investigation:
 - Vibrating septum at 15 Hz (Foley)
- **Chromaticity modeling:**
 - Re-measure the sextupoles (Lackey, Harding)
(SEXTL has been sent to the MTF, SEXTS will be re-measured in the presence of a pipe)
 - Simulate the eddy current effect (Ostiguy)
 - Measure the main magnet field in dc and ac at the E4R (DiMarco, Schlabach)
 - Re-measure ac chromaticity (Tomlin, Chou)
 - Re-fit body sextupoles (Drozhdin)
 - Chromaticity spreadsheet (Ostiguy)

- Power supply experiments at the E4R: (D. Wolff)
 - 12 Hz operation
 - Dual-harmonic operation
- Space charge simulation:
 - ESME (Lucas, MacLachlan, Ng)
 - ORBIT (Ostiguy, Chou, Lucas)
 - Synergia (Spentzouris, Amundson)
 - Linac beam measurement (McCrary)
 - IPM data processing (Spentzouris, Amundson, Zagel)
- Lattice model improvement:
 - Trim quads (Huang, Drozhdin)
 - Steering dipoles (Huang, Drozhdin)
 - Alignment errors (who?)
 - Aperture limit (Prebys, Lackey)