

Notes from MI/RR Meeting - 19 March 2003

by Bruce Brown

Notes on 24 March 2003

Martin Hu -- Instrumentation

Emittance growth rate can be now measured with the new 1.75 GHz Schottky system and show a growth rate of about 18 pi-mm-mr/hr as have other recent measurements -- much larger than the 4 - 6 pi-mm-mr/hr measured before the January shutdown. The new electronic output will provide dedicated electronics to give an emittance signal which goes directly to an MADC which will then be put into the datalogger. It will not be immune to having changes in response due to changes in dp/p. John Marriner commented that we can expect coherent tune effects with this new system but the response at this frequency is broad so they will not be visible as they are with the low frequency Schottky system.

Dave Johnson -- Recycler Correctors

The I50 program now shows better the allotment of correction between orbit correction and the energy correction (match to MI momentum). They have now assumed that the large BPM offsets readings correspond to orbit excursions (rather than the BPM offsets demonstrated with previous BPM status in 2002). Smoothing has been done to reduce the horizontal orbit excursions from ~10 mm to about 3 mm peaks. Stan said that the display averaged over 400 ms because he had left the program doing that average -- needs to be put back in standard state and effects checked. In order to carry out the smoothing exercise, the tunes and chromaticity corrections had to be adjusted in steps to keep them at their nominal values. The scale factor for the energy correction had to be adjusted from 2 => 2.4. They then checked and set the tune and chromaticity. Then a check was made of the tune effect (centering) of each sextupole circuit (usually 4 sextupole magnets).

Other Discussions

On March 3, measurements of pbar emittance growth rate were done using the 5% scrape method. The indicated growth of 18 pi-mm-mr/hr. It was about 5 pi-mm-mr/hr before. On April 1 construction will start on the MI31 (electron cooling) Building. If there is shutdown time, surveys will be used to check the tunnel location now so it can be monitored through the construction. This part of the construction should not unload the MI tunnel but caution is appropriate.