

Notes from the 12/02/04 Tevatron BPM Upgrade Meeting
Stephen Wolbers

Gustavo Cancelo - Phase shift and position measurement

- Gustavo's slides can be found in AD doc #1482.
- Gustavo is using his simulation program to measure the effect of phase differences between the A and B pickups on the position measurement. For this he uses the envelope filter and studies phase shifts in steps of 2.57 degrees from 0 to 36 degrees.
- The result is that the phase shift has very little (<0.5 micron) effect on the measured positions.
- There was some discussion about what Gustavo's result shows a small shift and Rob Kutschke's calculation was much larger (1 degree gives about 10 microns). Rob's model was simpler (53 MHz only) and had a different filter. Gustavo is working on a model that should check his results and will have that ready fairly soon. In the end we may want to actually measure the effect.

Eric James - Test Stand Status and Plans

- Eric's transparencies can be found in AD doc #1483.
- Eric showed some results of work that has been done on the teststand to implement new filter and FPGA code to potentially improve the measurements and/or change the way that measurements can be made, calculated, stored and reported by the Echotek board.
- The FPGA modifications have been made by Ted Zmuda. Results were shown that gave similar results for the position with very good resolution.
- Further improvements and modifications will be made as soon as the test stand is re-established. We discussed the possibility of having a dedicated test stand for this work, as well as the "rotating" test stand that is being set up for B3, then C3, etc. as we install production crates.
- Future effort includes studying the filters, studying turn-by-turn, testing various possible configurations of the Echotek/Graychip/FPGA.

AOB:

- We ran out of time and so Rob Kutschke's discussion of calibrations will continue on Monday, December 6 at 11:00 A.M. in the

Penthouse.