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June 5, 2006

This note describes the content and purpose of the multiple files associated with this document.

This "ReadMe" file.

"MIBPM_Cable_Measurements.pdf" describes and summarizes the results of the relative transmission amplitude and phase measurements made of Main Injector BPM system tunnel-to-service building cables during March and May 2006.

"3-13-06 MI BPM Tunnel Measurements.xls" is Marv Olson's compilation of the manually recorded amplitude and phase measurement data.

The file "scopetracedata.zip" is a zip of all the original scope trace data files made as part of the measurements. These files are named so as to identify the MI BPM location and the test signal frequency (25 for 2.5 MHz and 53 for 52.8 MHz) associated with the respective data. Each file has three columns, time, channel 1 ("A" cable) signal (volts), and channel 2 ("B" cable) signal (volts).

The file "sine_fits_local.mcd" is a MathCad program that reads the scope trace data files, fits the traces to sinusoids, and writes an output file, "fitarray.txt", which is used by a second MathCad file. This second MathCad program, "fitarray_reader.mcd", further processes the fitted parameters, generates gain correction factors, and writes the final output files. The second MathCad program is also provided in .pdf form so it can be read independent of the MathCad application.

Files "_outputfile.txt", "_phases.txt", and "_normalized_ratios.txt" are the output files described in "MIBPM_Cable_Measurements.pdf".

"_normalized_ratios.txt" is the file of gain correction factors that can be used in beam position computations to compensate for the differential attenuation in cable pairs.

"_outputfile_with_plots.xls" is a compilation of data and source of plots contained in "MIBPM_Cable_Measurements.pdf".