

Minutes, 2/07/05 Tevatron BPM Upgrade Meeting  
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The agenda as announced consisted of:

- Teststand and A3 debugging and results
- Status and plans for B3 installation
- AOB

1. Teststand and A3 debugging and results

Bob Webber -- A3 BPM Signals

- Bob showed plots from the note found in Beams docDB #1562.
- The plots show the signal sizes seen after the filter board and into the Echotek boards for uncoalesced protons, and 36x36 protons and antiprotons.
- The bottom line is that the signals are more or less what was expected, the attenuations in the boards are correct and adequate, and the pattern of pbar signals shows the expected level and time pattern from the proton contamination.

Jim Steimel -- A3, B3, teststand status

- Jim described some debugging that has been going on late last week and over the weekend of TCLK signals and the TeV BPM systems logging and response to them.
- The front end was instrumented to collect 500 TCLKs, corresponding to about a store's worth of TCLKs, to debug the sequence of TCLKs seen and responded to in the system. This was done at A3, B3 and fct1. It is assumed that the B3 teststand system has "correct" behavior (this was checked by Mike Martens separately) and A3 was checked against B3.
- Jim showed lists of TCLKS for the time period 09:00 Saturday Feb 5 and for the next couple of hours. There were definite differences between A3 and B3 and they were significant. There was a fair bit of discussion about the B3 TCLKs and whether they were "correct" in the sense of making sense to the

accelerator experts.

- Given all of that one question is what is different between A3 and B3. One difference was the logging rate -- B3 was at 100 Hz for closed orbit measurements and A3 was at 500 Hz. (That may not be the only difference.) Saturday evening Jim updated A3 to take data at 100 Hz. Data taken since that time has looked quite good.

Mike Martens - A3/B3 strategy

- Mike believes that most if not all troubles seen last week are related to the problems listed above. All data examined since Saturday night looks reasonable.
- There was a failed TeV BPM debugging test over the weekend and that still needs to be solved.
- Mike urges the project to continue to debug the 500 Hz problem. Everyone agreed that this will continue to get high priority.

## 2. Status and Plans for B3 installation

Jim Steimel - Given all of the above information and Mike's approval we decided to move forward with the B3 installation.

- Jim will work with Joe Morgan and Ron Moore to schedule the time for installation. Jim will work with Bill, Marv, others to prepare and install the crate.

## 3. AOB

- Mike Martens mentioned that Roger Tokarek's TBT application is working and has new features. A more grandiose program is in the works.
- Rob Kutschke showed additional data analysis on the TBT data, including a finer-grained time series of fourier transforms, proper scales for the fourier transforms, etc. This will be included in the next version of Beams docDB 1552. Bob asked for the resolution of the measurement.
- Bob asked about the diagnostics signal (from the timing-card through the filter board and into the pickups). No one has an application for that yet. We need to identify someone.

- Bob asked about the BPM/BLM synchronization. It was thought that having them be logged independently was acceptable. This may have to be revisited if the BPM system is not able for some reason to achieve 500 Hz.