

Notes from the 09/26/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

- Project announcements - Steve and Bob
- Transition board controller status - Stefano
& Board by board gains - Stefano + Steve + Bob W.
- Transition board modifications - Manfred, Andrea
- Alarms - Dave, Steve, Luciano, Brian
- Diagnostic/testing - Marv, Manfred, Peter, Steve
- Software - Steve, Luciano, Brian
- 2.5 MHz pbar measurements - 1st, last turn
- MI BPM status list ("punch list") - Dave
- Validation - Rob
- AOB

0. Announcements.

- Pizza at Pal Joey's Friday at 12:00. So far 18 (now 19) people have indicated they are coming. If you have any favorite pizza toppings please tell Steve before Friday.

- Work continues on the MOU. Manfred made a suggestion to clean it up a bit to separate project work from ongoing support. That is being looked into.

- We will continue to meet every week even though the "project" officially completes on September 30. There is still work going on and data to look at and the meetings are starting to get shorter. But these are good opportunities to meet, plan, and tie up any loose ends.

1. Transition board controller status - Stefano
& Board by board gains - Stefano + Steve + Bob W.

- Stefano's slides can be found at:

http://www-ese.fnal.gov/mi_bpm_tb_ctl/MI_BPM_TB_Controller_Report_2006_09_26.pdf

- New firmware was installed in MI60S to enable the implementation of the board-by-board gains. Steve has tested that he can set and read back the gains. There was a discussion of implementing the board by board gains in MI60S. This included a discussion of the interface (in dB or counts or both), etc. Bob Dysert will help to organize setting

the gains in MI60S. The gains are available in Bob Webber's note beams-doc-2469.

- Stefano is working on diagnostics for the new firmware version.

- The remaining crates will be upgraded one at a time at the same time that the transition boards are upgraded with boards with changed capacitors.

2. Transition board modifications - Manfred, Andrea

- MI60N was modified on Monday 9/18/06. MI60S was modified on Thursday 9/21/06.

- Andrea now has enough transition boards to modify 10 boards and once that is done the next crate (MI50) will be upgraded. The order proposed is to move around the ring MI50->MI40->MI30->MI20->MI10. It takes on order 2 days to modify 10 boards so it will take about 10 working days to complete all of the crates.

- Manfred pointed out that "in-band" noise was a problem in the rapid transfer line BPM upgrade. In that case new cables were needed in some cases.

- Work will proceed to reduce the noise including the capacitor change, grounding, cables, etc. This work will continue beyond the life of the project. Because of this there was some discussion of having tools available to look at raw data, or other data. Marv will update the diagnostic specs to include this and Peter, Brian and others will discuss this.

3. Software issues - Steve Foulkes

- Alarms are enabled at 60S. This code will be pushed to the rest of the ring.

- User definable thresholds are being discussed and implemented with Bob West in I43.

- Work continues on the diagnostic application.

- Planning to take 128K points per BPM to help diagnose noise and other issues in pbar transfers. The data will be taken as soon as possible.

4. 53MHz gains - Bob Dysert

- Now that the 53MHz gains have been set it is clear that board-by-board gains are necessary.

- In some cases there are different gains required for two different beam conditions (tune up and coalesced p to TeV) but a single state (state 4 I think) is used so the same gains are currently in place.

5. MI - Dave Capista

- Dave is proposing various strategies for producing consistent or repeatable FLASH injection and extraction measurements from the 2.5 MHz pbar transfers.

- The new Echotek and its effect on the seam location needs to be checked.

6. Validation - Rob Kutschke

- Rob's slides can be found in beams-doc-2461.

- The 2-turn problem in the 2.5MHz measurements seems to be gone. This does need to be verified.

- The "kicker noise" measurement may not be so wrong as was first reported. It may in fact reflect the position of the beam as it comes into the accelerator. The absolute value of the measurement (+40mm to -20mm) may not be correct but looking at the raw data it is clear that the beam is moving from one side of the BPM to the other from the first to second turn (BPM 522, I believe).

- Investigations will continue.

7. AOB.