

Report by Pbar

- Power Estimate
 - Present
 - 5 Watts max into 1 GHz of bandwidth
 - Common mode signal as large or large than betatron signal
 - Future → 7 Watts/band (1.3 GHz bandwidth)
 - Better signal/Noise can bring this down
 - Common mode rejection on PU?
- Electronics
 - One Trunk (per plane). Three PU bands Fan-in
 - One TWT (per plane). TWT followed by a wideband circulator (20-50Watts)
 - Three band Fan-out. Narrowband Filter for each band to reject power in band side-lobes. Has to handle power
- Electrical / Mechanical
 - Pickup
 - Hybrid outside tank (Common mode rejection biggest worry)
 - Adjustable delay line on side of hybrid input
 - Need a spec. on how well we need to center array (power implications)
 - Kicker
 - Hybrid outside tank
 - Magic T with input and output coax launchers works okay
 - Power test of Petter hybrid
- Peterson asked about intermod problem with a single core transverse TWT sourcing all 3 bands

Report by RFI

- Ding Sun
 - With standard waveguide design and magic T in tank, tank diameter can be about 15” compared to Debuncher kicker tank of 16”
 - Magic T outside tank tested
 - Need to have coax to waveguide launchers on all ports
 - Extra launchers add about 0.4 dB of insertion loss
 - Measured Petter hybrid
 - Did not use latest Cullerton version
 - Tested version with 1.5 dB of insertion loss.
 - Hybrid failed at 23 W of input power on delta port.
- Mueller
 - Stacktail Kicker fan-out has been modified so that 2-4 GHz momentum system can be added to stacktail fan-out.
- Cullerton
 - Has located a couple of vendors that can supply 4-8 circulators that can handle > 20W of power

Report by Mechanical Support

- Soldering of absorbers extremely time consuming
- Hurh proposed a clip scheme that with 7 Watts of power per band input gives rise to a delta T of 10-27 degrees C
 - Would like to get definite calculations (from pbar) on how much power goes into sidebar absorber, waveguide absorber, termination.
 - Need to measure outgassing rates of absorber material at elevated temperatures
- Clip design would take about 7.5 months to build @ 160k\$ for all 4 tanks
- Solder design would take about 9 months to build
- Personnel
 - Dave Tinsley might be the full time mechanical engineer with Hurh and Misek consulting @ about 15% time
 - Need to get Klen on bake-out ttest
 - Techs not available till after shutdown
 - Drafter (who did Debuncher) should be back from sick leave after Thanksgiving
- Need to start thinking about tank construction area
 - NWA, Booster West 1st floor, Da Vinci lab

Discussions

- How do we pump out beam pipe chamber?
 - Large holes in waveguide absorber
 - Holes in waveguides
- What type of feed-thrus should we use
- What type of coax should we use in the tank?
- How long (or short) can the coax be?
- Should we use a termination absorber or absorber load

Assignments

- McGinnis – detailed power calculations
- Sun – start absorber design
- Cullerton – Choose circulator vendor and find out delivery time
- Mechanical Support
 - Find out about supply of type N vacuum feedthroughs
 - Start bake-out test
 - Assign full time Engineer
- Next Meeting will be on Fri. Nov. 16 at 10 am in the Penthouse

Accumulator Core Cooling Upgrade

- Note from John Marriner

Hi,

Dave McGinnis has informed me that he has finished the design of the Accumulator core cooling system retrofit. The cooling rate is a key problem for Run IIa and the upgrade is essential. I want to proceed with the fabrication as rapidly as possible. We are in relatively good shape to do this since the design is essentially the same as the Debuncher upgrade. We have said that there will be no planned shut down until July 1, 2002. I would like to plan to be ready to install the modified pickups by June 1, 2002 (leaving one month of schedule contingency).

The priority of this project is the highest, namely Run IIa level. Other projects should be delayed if necessary to implement our goal. In particular, I am requesting that we interrupt either Joel Misek or Pat Hurh to get this project going and that we use at least some of the technicians (like Chris Kelly) who were used on the original Debuncher project. Danny Snee should get this going as quickly as possible, delaying other projects if necessary to get this done. Ralph Pasquinelli should start working on the electronics, especially ordering parts. The only thing higher in priority is anything that needs to be done to keep the shut down on schedule.

I would like to get budget estimates from Fritz Lange and Ralph Pasquinelli. I would like Harlan to set up two budget codes:

"Accumulator Core Cooling Electronics Retrofit" and "Accumulator Core Cooling Electrode Retrofit."

The budget codes should be coded for operating in the Antiproton Source organization. Until we get the estimates, let's start with a budget of 25 k\$. Please provide the budget estimates promptly but don't wait for the estimates to start work. Funding for this project will come out of division contingency.

Regards, John

Budget Codes

Budget Code	Description	B&R	WBS
4-TPA	BD ACC Electronics Retrofit	KA0501010	1.1.2.4
4-TPB	BD ACC Electrode Retrofit	KA0501010	1.1.2.4