

3rd Harmonic Monday Meeting Minutes

Date: February 5, 2007

Time: 9:30 A.M.

Place: Trailer 157 Conference Room

Attendees (P=Present, Ph=attended by phone):

C. Antoine		C. Cooper	P	D. Mitchell	P	G. Wu	P
T. Arkan	P	N. Dhanaraj	P	D. Olis	P	A. Hocker	
L. Bellantoni	P	H. Edwards	P	P. Pfund	P	J. Li	P
C. Boffo		M. Foley	P	S. Reeves	P		
H. Carter	P	E. Harms	P	A. Rowe	P		
M. Champion	P	T. Khabiboulline	P	N. Solyak			

Minutes recorded by Dan

Minutes are posted at: http://tdserver1.fnal.gov/dolis/39GHz_minutes.html

3.9GHz Project page is: www-a0.fnal.gov

Meeting Minutes

Meeting will move to Hermitage (ICB, 2nd floor, East end) starting next week.

Cavity-2

- Mike showed weld sample for test of patch repair for Cavity-2. Sample looks so promising that he proposes actually repairing cavity by welding in a section of end tube complete with HOM can. Helen and Harry will consider this. Harry reminds group that there was a desire to test a cavity without any HOM's.

Cavity-4

- Mike reports that B. Manus had some more problems with E-beam welder. Cavity finished Friday, bead pull measurement this morning, and will ship today. Mike and Allan will watch for delivery.
- Harry reports that TD Inspection will be ready for CMM measurements of cavity on Thursday.

End Groups

- Charlie showed slides of etched weld samples for test of F-probe to can weldment. 'Old' weld method was full heat of leg end while proposed 'new' method is perimeter/annular weld of probe legs to can. Neither sample showed any evidence of micro-cracks. Analysis shows new method has smaller grain structure = good. New method has small weld fillet and a notch in some section of the fillet = bad. Mike reiterates that new method requires more precise setup for weld which is difficult so it gives more process variability = bad. Results are inconclusive and will be further discussed on Wednesday with DESY personnel.

Helium Vessels

- Mike will test fit vessel slip ring on cavity-1 and some end groups.
- Mike, Allan, and Don will meet Wednesday at 2p to discuss TIG weld test plan. Test will determine weld shrinkage and test procedures.
- Don is doing FEA to determine loads imparted on cavity from weld shrinkage. Allan reports, for reference, that during leak test, cavity delta-L = .012 to .014inches and then springs back when vacuum is released.
- A video conference meeting is scheduled with DESY personnel to discuss welding of helium jackets to cavities. Meeting time and place are: Wednesday, 10am, WH10. Don will make sure that both he and DESY people have Vis View operational on their machines so JT models can be shared and pointed to during the meeting. Allan will edit existing MS Word document that shows all weld steps to include some descriptive text.

Main Coupler Test Stand

- Elvin reports that couplers are quiet so far with 1300microsec, 51kW pulses (current maximum of klystron), and 3sec repetition rate. To increase average power, repetition rate will be increased.

- RF folks still working on achieving 80kW.
- Dan ordered a second RF volume for shortening changeover time on coupler conditioning.

Couplers

- Dan reports that two rejected Outer Conductors have been sent back to CPI for repair. No news yet on delivery.

HOM Cans

- Mike showed old v. new designs of finished cans. New design is shorter, leaving little material between can end and HOM port. This will make welding difficult. Mike is afraid e-beam might strike HOM coupler port tube.

HOM Couplers

- No new updates on delivery of sample pieces from Omley.

Single Cell Cavities

- Roark finished forming half cells. QC at Fermi on 3 of 18pcs shows good cavity form but iris lengths are incorrect. This does not affect RF but longer end tubes will have to be welded on to get desired overall length.

Other Business

- Timer OK'd stainless steel tip for cavity field probe. Don is having tips made. Elvin will let Don know how many MDC SMA feed-throughs should be ordered. Allan will get tips welded.
- Harry says T4CM information is posted at the following URL:
<http://ilcagenda.linearcollider.org/confRegistrantsDisplay.py/list?confId=1306>
- Don reports that mockup cavities are finished and should be delivered tomorrow. Dan checked on delivery of mockup cold end couplers after the meeting. They should ship tomorrow. Holes will need to be tapped and weights added after receiving.
- Don gave update on status of vacuum vessel, cold mass parts, shields, etc. for cryomodule. Don and Chuck Grimm will test fit of magnetic shielding to mockup cavities when cavities are rec'd.