

### 3<sup>rd</sup> Harmonic Monday Meeting Minutes

**Date:** January 29, 2007

**Time:** 9:30 A.M.

**Place:** Trailer 157 Conference Room

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

C. Antoine		C. Cooper		D. Mitchell	P	G. Wu	
T. Arkan	P	N. Dhanaraj	P	D. Olis	P	A. Hocker	
L. Bellantoni		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	P		

Minutes recorded by Dan

Minutes are posted at: [http://tdserver1.fnal.gov/dolis/39GHz\\_minutes.html](http://tdserver1.fnal.gov/dolis/39GHz_minutes.html)

3.9GHz Project page is: [www-a0.fnal.gov](http://www-a0.fnal.gov)

#### Meeting Minutes

##### Cavity-3

- Removed from vertical test. No F-probe modification to be attempted at this time.

##### Cavity-4

- Mike reports that B. Manus had some problems with E-beam welder. Welding should finish today and cavity should be received this Friday. Next steps: CMM measurements, RF measurements, outside etch, inside etch, bake, tune, inside etch, HPR = 4wks to vertical test.

##### End Groups

- Mike expects HOM cans expected this week and F-probes next week. Plan is to have (6) full sets for use on cavities 5-8, and possible replacements for cavities 1&2, or others. Mike has weld dates Feb.1-2 & Feb.8-9.
- Mike is waiting on etched weld samples before deciding on weld procedures to use for F-probes.
- D. Burke is optimistic that he could hand grind existing, installed F-probes to new length. This will be practiced on cavity-1.

##### Helium Vessels

- Distorted end ring on one of the weld sample end caps results in poor fit to jacket slip ring. E-beam weld out of the question. Mike will measure now measure end-rings on end groups before they are welded to cavities.
- Tug reports JLAB welds jackets onto SNS cavities with orbital TIG welder, without glove box, and with cavity back filled with argon. Pieces are first slowly tack welded while simultaneously doing a bead pull measurement to check for distortion and to correct, as far as possible, with consecutive tacks.
- Allan proposes using a similar method on cavity-1 as a test. There will be more discussion on procedure before welding is done.
- Don reports we have (3) helium vessels in hand and (3) more are expected. Don will also look at excess older design vessel for possible test sample.

##### Main Coupler Test Stand

- Elvin reports that couplers are quiet so far with 100microsec, 50kW pulses, 3sec repetition rate. Some tests will be done today on RF system into a dummy load and coupler processing should continue Tuesday.
- Check log book at: <http://www-ilc-crl.fnal.gov/ilc/Index.jsp>

##### Couplers

- Dan reports that two previously repaired Outer Conductors have lost some copper plating in depths of bellows convolutions during ultrasonic cleaning. CPI has been notified by email. No response yet on repair, delivery. So we have (4) qualified OC's, CPI owes us two more. One of

our qualified OC's was damaged on coupler test stand, yet so far conditions OK. Dan will get quote to have this fixed as well.

- Helen says worst subassembly parts should be sorted out for Tim Koeth's thesis project.

#### HOM Couplers

- Elvin reports Omley had problem with sapphire insulator's not meeting tolerance. This has resulted in slight delivery delay. We should receive complete order for (3) shortly and evaluate quality before ordering more.
- Elvin will talk to James in TD QC to find out if all HOM couplers get LN2 cycle before leak check.

#### Other Business

- Discussion of cavity field probes, appropriate tip design, and material choice. Don showed design of probe used for vertical test and Timer verified that the design is good for cryomodule installation. He will check whether stainless tips are acceptable. M. Champion also proposed using HOM coupler instead, with tip shortened. This is a possibility, only a question of \$\$.
- Harry learned at DESY last week that feasibility studies were done on shipping fully assembled XFEL cryomodules. Conclusion of studies is that assembled cryomodules can be shipped if properly secured. Baseline plan is now to try to ship assembled 3.9GHz cryomodule to DESY. Dan reports that he is starting to think about some kind of fragility study on the cold end assembly of the coupler using 7<sup>th</sup>/spare component from CPI.
- Don presented slides on cavity mockup plan for test of cavity string assembly procedures and tooling. Mockup cavities are on order. Dan reports that mockup cold end couplers are also ordered.
- Harry recommends a meeting to discuss details of HTS be called to include Andy, Tom P., Mayling, Helen, and himself.
- Helen, Tug, Harry, Elvin, and maybe Allan will meet separately to discuss schedule.