

31st Summary of Meeting for S1-Global module design, Cryomodule and Cryogenics

Date: 2010/02/23

Time: 23:00-24:00 (Japan Time)

Attendant: Tug Arkan, Serena Barbanotti, Tom Peterson, Eiji Kako, Toshihiro Matsumoto, Tetsuo Shidara, Nobu Toge, Yasuchika Yamamoto, Norihito Ohuchi

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Agenda

1. S1-G Module-A cavity status (Eiji Kako)
2. S1-G Module-C assembly status (Norihito Ohuchi)

Discussion

(1) S1-G Module-A cavity status (Eiji Kako)

- At 29th January, the He jacket welding works of 4 KEK cavities were almost completed. The personnel of MHI checked the dimensions, vacuum leak and pressure tests of 4 cavities after welding.
- At 16th February, four MHI cavities arrived at KEK. MHI-05 and -06 have the tuners at the center of the jacket, and MHI-07 and -09 have the tuners at the end of the jacket.
- At 19th February, the cavity support posts were prepared in the C1000 clean room.
- At 23rd February, the KEK cavities were cleaned with car washer. The cavities were moved to the C1000 clean room with the carrier, and they were set on the support posts. Now four cavities were set on the support posts in the C1000 clean room.

- Working schedule

Feb. 22~: In the C1000 clean room.

Cleaning and setting of 4 KEK cavities

Cleaning and disassembly of 4 input couplers

Preparation of Gate-valve, Taper & 3 Bellows

March 1~: In the C10 clean room

String assembly of 4 KEK cavities

Leak check, Ar gas slow leak up to 1 atm

March 08: Outside of the clean room

Slide-jack tuner assembly, alignment of 4 cavities

March 15: Outside of clean room

Tuner drive check, RF measurements of F_0 , Q_{ext} and the strokes of tuner and piezo

Q: When will the cold couplers be installed?

A: At the next week, the cold couplers, pick-up antenna of HOM couplers, taper pipe and bellows and the gate-valve will be installed in the C10 clean room.

(2) S1-G Module-C assembly status (Norihito Ohuchi)

- Assembly works from Feb. 10~22;
 - Feb. 10~12: Tuner and magnetic shield assembly by INFN and FNAL
 - Feb. 15~19: Alignment of four cavities after attaching them to GRP
 - Locking the cavity-jackets to the Invar rod
 - Attaching T-sensors and pin-diodes
 - Assembling 5K thermal intercepts on the input couplers for three cavities
 - Connecting RF cables
 - Assembling magnetic shields at the string ends in the FNAL side, and between FNAL and FNAL cavities, and FNAL and DESY cavities
 - Feb. 22~23: Assembling magnetic shields between DESY and DESY cavities, and at the string end in the DESY side.
- Two piezo components of Z109 had voltage break-down at 90 and 190 voltages. After cleaning the piezo components, they were able to work up to 200 voltages.
- Four input couplers were aligned with the distances of 1384mm, 1384mm and 1385mm for the design of 1384.15mm.
- Working schedule of this week
 - Feb. 24: Completing the magnetic shields, and connecting the RF cables
 - Assembling cool-down/warm-up line
 - Feb. 25: Assembling one set of 5K thermal intercept for Z109

Welding bellows to cool-down/warm-up line

March 1~: Assembling and welding 5K shield

Q: Is the T-sensors on the ends of the input coupler Cu strap for measuring heat load of the intercept?

A: The measured data will be used for estimating the performance of the intercept. By the measured temperature profile of the input coupler, the heat load will be studied and compared with calculation by ANSYS.

Next meeting dates

Meeting Date: 9 March 23:00 (Japan time), 8:00 (FNAL), 15:00 (INFN and DESY)