

## **Draft: Minutes of ML-SCRF Technology Meeting (090318)**

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### **Date & Time:**

13:00-14:05 GMT, March 18, 2009, using WebEx.

### **Participants:**

L. Lilje, H. Hayano, N. Ohuchi, T. Peterson, S. Fukuda, C. Adolphsen, A. Yamamoto, M. Ross, N. Walker, J. Carwardine, W. Bialowons, J. Kerby, E. Paterson, N. Toge, C. Pagani, S. Mishra, M. Champion, R. Kephart, T. Shidara

Presentation files are available at the following Indico site;

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3458>

### **1) Report from Project Managers (A. Yamamoto)**

- Visiting mission to SCRF cavity manufacturers (AES, Niowave, ACCEL, ZANON, MHI) was completed.
- PMs are intensively preparing for AAP review at TILC09.

### **2) Brief Reports from GLs**

- Cavity Technical Area Group (TAG) Status (L. Lilje)
  - S0 Webex meeting was held yesterday, March 18.  
<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3472>
  - Status reports from 3 regions were presented and preparations for AAP review and S0 parallel session were discussed.
- Cavity Integration TAG Status (H. Hayano)
  - Response behavior of the piezo tuner is on going at STF in order to check the hysteresis problem.
  - Magnetic shield effect in the cryomodule will be measured soon at STF.
  - Two MHI cavities were tested at the STF VT stand. Both cavities reached at the field gradient of 27 MV/m at the 1<sup>st</sup> test, but reduced down to 20 MV/m level in the following tests.
- Cryomodule TAG Status (N. Ohuchi)
  - Webex meetings on design works of S1-Global cryomodule and cryogenics are held biweekly.  
<http://ilcagenda.linearcollider.org/categoryDisplay.py?categId=147>
  - Drawings of Module-C and the cold mass components by Zanon are completed at the 70% level.
  - The working group is standing at the detail design stage, and assembly procedures and necessary tools should be discussed soon. For example, the KEK rail-guide system from clean room to assembly area is completely different from the DESY and FNAL system and KEK will prepare the cavity stands for DESY and FNAL cavities. The working group asks to assign contact persons who can provide information (including the detail CAD data) and participate in the S1-Global meeting from related laboratories.  
C: Jim commented that FNAL will provide necessary information on FNAL cavities soon. Lutz commented that Hans is the contact person for DESY cavities, and those will be the same ones with FNAL cavities.

### **3) SCRF Session at AAP Review (A. Yamamoto)**

- While the AAP review is not closed, attendance might be limited by the constraints of the available room space for AAP review. Participation of those not directly involved in the proceedings (i.e. those who are not panel members, speakers or organizers) is limited to 'observers' only.
- A document of AAP review introduction and charge, as well as the related presentation files (ex. CFS and FLASH) are available at the following site.

<http://ilcagenda.linearcollider.org/conferenceOtherViews.py?confId=3154&view=standard&showDate=all&showSession=1&detailLevel=contribution>

- Outline of SCRF presentation at AAP review

Session 1 (April 19, AM)

9:00 Introduction by PM (A. Yamamoto)  
9:10 [Path to finalizing cavity field gradient (S0)]  
9:10 -R&Ds to improve the gradient (L. Lilje)  
9:40 -Decision process (A. Yamamoto)  
9:50 [Path towards industrialization (S1/S2)]  
9:50 -Cavity integration (H. Hayano)  
10:20 -Cryomodule (N. Ohuchi)

- 10:50 Coffee break
- 11:20 -Role of plug-compatibility
- 11:30 [Path towards industrialization (cont)]
- 11:30 -Cryogenics (T. Peterson)
- 11:45 -HLRF (S. Fukuda) =>might be extended a little by adjusting MLI slot.
- 12:00 -ML Integration: Beam Dynamics and Quadrupoles (C. Adolphsen)
- 12:30 Lunch

#### Session 2 (April. 19, PM)

- 14:00 [Lesson expected from system tests]
- 14:00 -STF at KEK (H. Hayano)
- 14:30 -NML at FNAL (M. Champion)
- 15:00 -Summary and Discussions (all subjects)
- 15:30 Adjourn

- Preparation of the Documents

Tom had already prepared the presentation file for cryogenics, and other expected presenters are strongly requested to prepare their reports till March 27 and post them to the following SCRF site.

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3451>

The final destination of these presentation files should be at the TILC09/AAP review site.

<http://ilcagenda.linearcollider.org/conferenceOtherViews.py?confId=3154&view=standard&showDate=all&howSession=1&detailLevel=contribution>

#### 4) SCRF Parallel Sessions at TILC09 (A. Yamamoto)

- Many GDE TAG leaders will be asked to present material to the review and their presentation time must be taken into account in the parallel session organization. Therefore, less time will be available for parallel sessions than there had been at previous GDE meetings.
- The primary goal of the TILC09 parallel sessions is to present and discuss the R & D and design activities now in progress in order to bring the latest results to the GDE community.
- The focus of the parallel sessions will be also on the re-baseline process (to be completed by early 2010). Parallel session conveners are asked to help to guide the re-baseline process by: 1) providing a forum for stakeholders to give input; 2) collecting their input and developing a summary for Project Managers and for the TILC09 closing plenary; and 3) evaluating current status, recommending and organizing further studies as proactively as possible. The key re-baseline activities and milestones are:
  - Collecting input from the community - starts at TILC09
  - Submitting preliminary recommendations - next GDE meeting (ALCPG09 - late September 2009)
  - Reviewing and approving recommendations - February 2010
- There will be a special parallel session on Accelerator Design and Integration (co-convened by N. Walker and E. Paterson, and scheduled from 16:30 till 19:00 on Saturday, April 18), focus on the re-baseline options in particular on the optimization of the central injector complex. All TAG leaders are expected to participate this special joint session.
- SCRF Parallel Session Arrangement (tentative)
  - a) Cavity Gradient R&D (scope for progress in 2009 and re-baseline)
    - Conveners: L. Lilje, H. Hayano, M. Champion, R. Geng
    - Time slot: April 18, 9:00 – 12:00
  - b) Cavity Integration; tuner, coupler plug-compatibility
    - Conveners: H. Hayano, (M. Champion), C. Pagani
    - Time slot: April 18, 14:00 – 16:30
  - c) Cryomodule; S1-Global cryomodule
    - Conveners: N. Ohuchi, D. Mitchell, P. Pierini
    - Time slot: April 20, 9:00 – 12:30??
  - d) HLRF; Cluster and Distributed RF source
    - Conveners: S. Fukuda and C. Adolphsen, joint with CFS conveners
    - Time slot: April 20, 9:00 – 12:00, +??
  - e) MLI; Quadrupole magnet alignment, low-energy cavity alignment
    - Conveners: C. Adolphsen, joint with LET convener (K. Kubo)
    - Time slot: April 20, 14:00 – 18:00??

#### 5) SCRF Meeting Schedule

- Next SCRF WebEx meeting: April 13, 13:00- GMT. Note: Not usual Wednesday.
- GDE meeting and AAP (interim) review in Tsukuba; April 17 – 21, 2009.
- We would like to remind everybody that the deadline of TILC09 registration is April 2. Those who plan to attend the meeting, please go to the web page <http://tilc09.kek.jp/registration.php>. Those who need visa to Japan, please visit the site <http://tilc09.kek.jp/visa.php>.