

# **Draft: Minutes of ML-SCRF Technology Meeting (090413)**

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## **Date & Time:**

13:00-14:20 GMT, April 13, 2009, using WebEx.

## **Participants:**

L. Lilje, R. Geng, H. Hayano, N. Ohuchi, T. Peterson, S. Fukuda, C. Adolphsen, A. Yamamoto, J. Carwardine, J. Kerby, N. Toge, R. Kephart, R. Rimmer, T. Shidara

Presentation files are available at the following Indico site;

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3523>

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

- Contribution to the VECC-KEK Joint School on SC Technology was asked and organized as follows;  
Fundamental of superconducting cavities by S. Noguchi,  
Low beta superconducting cavity by P. N. Parkash,  
High current SC cavity by K. Hosoyama,  
Cryogenics by T. S. Datta, and G. Pal,  
ILC SCRF R&D served by A. Yamamoto, etc.
- Visit to JLab:  
Project managers (M. Ross and A. Yamamoto) visited J-lab, discussed with J-Lab management and successfully concluded that Rongli Geng will take the responsibility of the Cavity Group Leader succeeding Lutz. Lutz has difficulty to continue the role of ILC-TDP SCRF Cavity group leader because of laboratory's priority at DESY. Transfer of the leader role from Lutz to Rongli will be expected during the coming TILC09 meeting. Lutz will keep his leadership to prepare for the AAP review and the presentation to the AAP. Lutz will organize the Cavity (S0) parallel session together with co-conveners.

## **2) TILC-AAP Review (A. Yamamoto)**

- The TILC-09/AAP agenda and related material are available at the following Indico site: <http://ilcagenda.linearcollider.org/conferenceOtherViews.py?view=standard&confId=3154>  
Draft presentations are currently frozen for the AAP members to make pre-review, and further updates are only allowed in the physical presentation during the AAP review.
- Response from AAP  
Presenters are requested to read the feedback from AAP distributed via Marc, and send comments or questions through the PM's. The panel's feedback includes a number of specific comments on cavity - related activities. It would be beneficial for the committee to have a short introductory review of the critical R&D gradient goals for TDP 1 and 2 and their timelines, with mention of targets for number of cycles/number of cavities, and number of cryomodules, as laid out in the TDP document. The status report should cover activities in both cavity gradient and cryomodule. On the continuing R&D Plan, there is a need to discuss fully how the gaps between the current status for cavity gradients and the goals for TDP phases 1 and 2 will be addressed.  
Cavity Gradient related points are:
  - What are the sources of present limitations in gradient yields due to preparation processes?
  - What approaches are underway to increase the process yield?
  - How will sufficient number of cycles be made available?
  - What are the sources of present limitations in gradient yields from cavity to cavity?
  - What approaches will be pursued to increase the cavity yield/vendor yield?
  - How will sufficient number cavities/cycles be made available to 2012?C: The TDP plan should be revised taking into account the effect of US stimulus fund.  
The topic of "Plug compatibility" relates both to R&D and industrialization phases, and the related issue that would be helpful to address is:
  - What is the expected cost/performance advantage of each option being considered (for cavities, couplers, tuners), especially relative to the XFEL choices?

- Outline of SCRF presentation at AAP review

09:30 Introduction

A. Yamamoto

09:40 Path to finalizing cavity field gradient

09:40	Cavity R&D for gradient improvement	L. Lilje
10:15	Gradient re-baseline and decision process	A. Yamamoto
10:30	Coffee break	
11:00	Path towards industrialization	
11:00	- Cavity Integration	H. Hayano
11:30	- Cryomodule	N. Ohuchi
12:00	Role of plug-compatibility (with cavity and cryomodule)	A. Yamamoto
12:15	- Cryogenics	T. Peterson
12:30	Lunch	
14:00	Path towards industrialization (cont)	
14:00	HLLRF	S. Fukuda
14:20	MLI: Beam Dynamics and Quadrupoles	C. Adolphsen
14:40	Lesson expected from system tests	
14:40	STF at KEK	H. Hayano
15:00	NML at FNAL	M. Champion
15:20	SCRF summary	A. Yamamoto
15:30	Adjourn	

- Each presentation was briefly summarized by the relevant presenter based on the uploaded file.

### 3) TILC-SCRF Parallel session

- Agenda
  - The primary goal of the TILC09 parallel session 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 on the re-baseline process (to be completed by early 2010). Parallel session conveners are asked to help the re-baseline process by: 1) Collecting input from the community - starts at TILC09; 2) Submitting preliminary recommendations - next GDE meeting (ALCPG09 - late September 2009); and 3) Reviewing and approving recommendations - February 2010.
  - Parallel session agenda will be uploaded at the following Indico site soon;  
<http://ilcagenda.linearcollider.org/conferenceOtherViews.py?view=standard&confId=3154>
- SCRF parallel session arrangement
  - 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, J. Kerby, 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) HLLRF; Cluster and Distributed RF source
    - Conveners: S. Fukuda and C. Adolphsen, joint with CFS convener (V. Kuchler)
    - Time slot: April 20, 9:00 – 12:30
  - e) MLI; Quadrupole magnet alignment, low-energy cavity alignment
    - Conveners: C. Adolphsen, joint with Simulation, RTML convener (K. Kubo and N. Solyak)
    - Time slot: April 20, 14:00 – 18:00

### 4) SCRF Meeting Schedule

- Next SCRF WebEx meeting: May 20, 13:00- GMT.
- GDE meeting and AAP (interim) review in Tsukuba: April 17 – 21, 2009.
- Design and Integration meeting at DESY: May 28 -29.