

Physics and Experiment Board Meeting

June 30, 2009 1400 GMT

Minutes (prepared by J. Brau)

Present via Webex: Akiya Miyamoto, Catherine Clerc, Francois Richard, G.P. Yeh, Harry Weerts, Hitoshi Yamamoto, Jim Brau, John Hauptman, John Jaros, Karsten Buesser, Marcel Demarteau, Sakue Yamada, Yasuhiro Sugimoto, Michael Peskin, Mark Thomson

Absent: Ties Behnke.

Minutes from May 26 meeting

There were no comments on the minutes from the May 26 meeting. The minutes were accepted.

IDAG meeting at Orsay

Sakue reported that the IDAG appreciated the preparation for and participation in the meeting in Orsay by the LOI groups. It was a very productive meeting. The IDAG is continuing discussions and a conclusion on their recommendations is expected this summer. As soon as Sakue has those recommendations he will transmit them to the LOI leaders.

It was noted that the CLIC detector leadership took advantage of this meeting to meet with each of the detector groups, and the ILC Research Directorate leadership.

Report from each common task group

MDI Common Task Working Group (Karsten Buesser)

Karsten reported on the "ILC Accelerator Design and Integration" meeting at DESY, May 28-29. The agenda is posted:

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3526&view=ilc&showDate=all&showSession=11&detailLevel=contribution>

The meeting was attended by Karsten and Phil Burrows as observers for the detector community.

The GDE is in the process of re-baselining the machine. This will continue until the end of the Technical Design Phase 1 in 2010. This process starts from the design of the RDR.

There will be a thorough discussion of this activity at the ALCPG working at the end of September.

Some of the issues under discussion are the average accelerating gradient of 31.5 MeV/m, the possibility of a single tunnel design, an undulator positron source at end of linac (250 GeV instead of 100 GeV), a low P parameter set, a 3.2 km radius damping ring at 5 GeV, a single stage bunch compressor, and integration into single campus. The potential cost savings might be 10-15%.

The discussion covered the traveling focus concept, new positron source ideas, and the low P parameter set and its potential impact on luminosity.

Engineering Tools Common Task Working Group (Catherine Clerc)

Catherine reported that she is looking for a date to meet with Lars Hegge at DESY.

Detector R&D Common Task Working Group (Marcel Demarteau)

Marcel reported that the Detector R&D group working on defining list of R&D items which are considered high priority to be completed by 2012. They are attempting to make a short list. PFA and dual-readout are expected to be on the list. The group is struggling with where to draw the line on which technologies to include. The group expects to have a list in the next couple of weeks, with a short write up, and plans to present it at the next PE Board meeting in July.

There will be a test beam workshop at Orsay in November.

Software Tools Common Task Working Group (Akiya Miyamoto)

Software group has been working to identify areas of common work with CLIC. These include root and LCIO, PFA development, geometry and generator models. The size of CLIC human resource commitment to this common work is presently uncertain. The LHC experience will be valuable.

Physics Common Task Working Group (Michael Peskin)

Michael reported that the Physics group's study of early LHC physics and the impact on ILC is not really started. Some scenarios are already well explored in the literature. Others are not.

Michael will give a plenary report in Albuquerque at the ALCPG meeting.

CLIC-ILC Meeting at CERN June 11-12

Mark Thomson represented the Research Directorate at the June CLIC-ILC meeting, as neither Sakue nor Francois was able to attend. There were two parts to the meeting, the

machine side, and the detector side. Mark reported on the meeting to the PE Board. The agenda is posted:

<http://indico.cern.ch/conferenceDisplay.py?confId=59834>

On the machine side, a joint ILC-CLIC statement is being prepared that physics will decide which machine is appropriate. John J. noted that physics will dictate the energy, but not necessarily the machine.

A joint ILC-CLIC report is being planned by 2012, for input to the European strategy discussion. Moving to a common cost methodology will allow the cost crossover point to be determined.

Michael pointed out that the low energy operation also needs to be considered, since it could be important for physics, not just the energy reach.

Hitoshi cautioned that the efforts on cold technology need to be protected.

A member of the CLIC leadership will now sit on the GDE EC, and a member of the GDE EC will sit on the CLIC Steering Committee.

On the detector side, there was an agreement that close collaboration is helpful. The CLIC effort is much smaller than the ILC effort, and this makes the collaboration difficult. The CLIC group plans that the detectors presented in the CLIC CDR will be based on the current ILC concepts.

Sakue reported that CLIC collaborators proposed during the short discussions in Orsay that RD also sign a drafted Statement of Cooperation together with the GDE. After discussions, it was agreed that the matter should be first discussed with the ILCSC as the document includes aspects which go beyond the given mandate of RD and that we should consider in depth the possible consequences of RD's signing on the post-validation activities of the ILC detector groups.