Minutes of the 33rd "ILC-CLIC e+ studies" meeting (corrected)

Date: 20th November, 2012
  23:00(Jpn) 15:00(Eur) 16:00(Ukr) 6:00(US-CA) 8:00(US-IL)
  time slot (c)

A part of Attendees (whom Omori was able to hear the voices):
Louis(CERN), Steffen(CERN), Eugene(NSC-KIPT), Peter(NSC_KIPT),
Sabine(DESY), Friedrich(DESY), Andriy(Hamburg), Jeff(LLNL),
Wei(BNL), Wanming(BNL), Yakimenko(SLAC), Valendy Kevalenko,
Femi, Dadoun(LAL), Takahashi(Hiroshima), Urakawa(KEK),
and Omori(KEK)

Agenda:
1. Target stiffness study : Friedrich-san
2. LLNL target R/D in FY2013 : Jeff-san
3. Posipol 2013 : Wei-san
4. Chinese Higgs factory proposal : Wei-san
5. FACET II and e+ source experiment : Yakimenko-san

Presentations:

http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20121120/
20121120-Yakimenko_FACET_II

1. Target stiffness study:

   Friederich-san reported the results of the target
   stiffness study. He studied the effect of the heat
   generated by the EM shower. The study was simulation
   performed with using ANSYS.

   The report was essentially the same as a part of
   his presentation in LCWS12 last month. So if slide
   is necessary, please get his slide from LCWS12
   web-site. In the phone meeting, Frederich-san's report
   was concentrated on the stress and deformation of the
   target wheel. The report was much more detailed
   than that in LCWS12.

   The material of the wheel is titanium.
   Small thermal conductivity of titanium makes
   the treatment of the heat more difficult.

   At present rotation speed, the beam hits the same
   place of the target rim in every 7.4 seconds.

   In the current design, hight of the rim is 30 mm
   and the rim has one cooling channel which diameter
   is 10 mm.

Deformation of the rim reaches up to 20 micron.

In Friederich-san's opinion, this deformation could yield imbalances which could influence the smooth operation. His main concerns are
- the stiffness of the target rim which seems to him not good enough,
- the number (and/or size) of the cooling channel(s).

Both items need further studies.

He suggested to increase the height of the rim. He performed a simulation with a rim of 100mm height, the overall stiffness looks better.

Friedrich-san stressed that the study was just started. He did not conclude that a 100 mm high rim is an optimized solution. The target design has to be updated - the available drawing is very old.

Jeff-san pointed out that rotational stress, hydrostatic pressure, and centrifugal forces should be take into account. Jeff-san also pointed out that the saturation temperature should be calculated.

2. LLNL target R/D in FY2013:

Jeff-san reported the status of target R/D at LLNL.

Right now all hardware R/D's are suspended. Analysis and compilation of the data taken in FY 2012 are ongoing.

The target R/D budget for FY 2013 was promised, but not delivered yet due to bureaucratic process.

3. Posipol 2013:

About the date and the venue of Posipol 2013, Wei-san made a proposal.

Date: the 1st week of the September
Venue: ANL

As a accommodation, we can use the guesthouse of ANL. According to Wei-san, the guesthouse has

a good restaurant and the rooms are excellent.

If we choose a downtown Chicago as a venue, the cost will be very high. It is the reason the Wei-san proposed ANL.

Please send your comments/opinion/preference to Wei-san.

4. Chinese Higgs factory proposal:

Wei-san visited China about three weeks ago.

Based on the information got in the visit, he reported the situation in China about a proposal of the ring-based Higgs factory and ILC.

The IHEP people proposed the ring based Higgs factory. It will be constructed as an electron-positron collider, then later the tunnel will be used for a proton-proton collider.

On the other hand, university people like a linear collider.

5. FACET II and e+ source experiment:

Yakimenko-san reported the prospect of the FACET II project at SLAC.

Please look at "20121120-Yakimenko_FACET_II".

FACET II is an evolved version of the current project FACET. FACET stands for "Facility for Advanced Accelerator Experimental Tests".

Yakimenko-san presented the possible/proposed programs in FACET II. He also suggested a study of gamma-gamma collider (LLNL) and a study of polarized positron source (KEK) at FACET II.

Reported by T. OMORI

We will have no meeting in December.

The date of the next meeting is January 17th, 2013, time slot (b).

(b) 16:00(Jpn), 9:00(Ukr), 8:00(CET), 1:00(US-IL), 23:00*(US-CA)
    (* In US-CA, it is the previous day)