

Minutes of the 58th "ILC-CLIC e+ studies" meeting

Date: 14th (Wed.) October, 2015, 15:00 Jpn (Time slot (b'))
(b') 15:00(Jpn), 9:00(Ukr), 8:00(CET), 1:00(US-IL), 23:00*(US-CA)
(* In US-CA, it is the previous day)

A part of Attendees (whom Omori was able to hear the voices):

Andriy(Hamburg), Wanming(ANL), Wei(ANL), Jeff(LLNL),
Eugene(NSC-KIPT), Mikhailichenko(Cornell), Sabine(DESY),
Louis(CERN), Iryna(LAL), Song(IHEP), Stefen(CERN),
Kuriki(Hiroshima), Takahashi(Hiroshima), Urakawa(KEK),
Yokoya(KEK), and Omori(KEK)

Agenda:

1. Possible venue of POSIPOL 2016: All
2. Preparation of Change Request: Wei/Kuriki
3. Agenda of LCWS 2015 at Whistler: Wei/Kuriki
4. Shock study for the conventional source: Song

Presentations:

[http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/
20151014-CR_BDS.pdf](http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/20151014-CR_BDS.pdf)

[http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/
20151014-LCWS2015_Agenda.pdf](http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/20151014-LCWS2015_Agenda.pdf)

[http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/
20151014-Song_ShockStudy.pdf](http://www-jlc.kek.jp/~omori/ILC-CLIC-e+Studies/20151014/20151014-Song_ShockStudy.pdf)

Summary of the discussions:

1. Possible venue of POSIPOL 2016: All

Omari introduced that Chehab-san expressed the interest to host the next POSIPOL at LAL. Omori received the interest via an e-mail. Omori also told that LAL DG agreed to support the POSIPOL at LAL.

Then, Omori asked Jeff-san and Wei-san to explain their opinions. In the POSIPOL 2015 at CI, both of them expressed the interest to host the POSIPOL at their institutes.

Jeff-san described the situation at LLNL. He asked the LLNL management about the possibility to host. The LLNL management was supportive.

But, he needs time to get the conclusive answer from the management. He can report the answer at the next phone meeting.

Wei-san said that he supports Jeff-san.
And if LLNL can not host the POSIPOL, ANL can host the POSIPOL as a backup.

So, now we have three possibilities; LAL, LLNL, and ANL. We think that the situation is very healthy. The POSIPOL is supported by many institutes.

We made discussions and got consensus.
Anyway, we need to wait the answer from LLNL. So we wait for a while, 1-2 months, and we will make discussion again. We did not make the conclusion at the phone meeting this time.

2. Preparation of Change Request: Wei/Kuriki

Kuriki-san presented the draft of our change request; THE CFS DESIGN COMPATIBLE WITH BOTH UNDULATOR SOURCE AND E-DRIVEN SOURCE.

Please look at "20151014-CR_BDS.pdf".

Our CR is the request to change CFS design. The CR doesn't discuss the change of the baseline.

3. Agenda of LCWS2015 at Whistler: Wei/Kuriki

Kuriki-san presented the current status of the agenda of LCWS21015 at Whistler.

Please look at "20151014-LCWS2015_Agenda.pdf".

We will have a Acc-plenary session on 3rd/Nov.(Tue.) late afternoon (16:30-18:00). We will discuss our change request. Kuriki-san will explain the overall situation of the e+ source preparation. Wei-san will explain our change request. Then we will have a time for discussions.

We also will have two parallel sessions. There will be on 3rd/Nov.(Tue.) morning and 5th/Nov.(Thu.) morning. If you have presentations/results, please contact Wei-san, Kuriki-san, and Stefen-san.

4. Shock study for the conventional source: Song

Song-san presented the shock study on the target for the conventional source.

In the study, we assumed a small cylindrical W target. The size was; R=10 mm and thickness=14 mm.

This was a step to go to more realistic assumption; rim target.

Song-san made simulation with two pulse widths.

- 10 n sec :
verify the code and understand the principle of waves.
- 1 micro sec:
realistic pulse duration

Please look at "220151014-Song_ShockStudy.pdf" for details.

Song's conclusions:

- For 1 micro sec pulse, the maximum stress will be under 500MPa in 1 micro ssec.
- However, due to the reflection at free upstream and downstream end faces, the axial stress wave can be persistent after 15 micro-s. We need to be care of it in further study.
- The stresses are much larger comparing with previous studies on granular target with 2mm spheres, where the stresses were only about 30 MPa.

Next step:

He will make stress study of a rim target.

After Song's presentation, we had a time for discussions.

Mikhailichenko-san made a comment.

Here are his comment and discussions.

At the slide 9, σ_z is zero.

Song-san explained that here is free boundary.

Therefore σ_z is zero.

Mikhailichenko-san pointed out that the simulation was not really dynamic. If simulation is really dynamic, the stress should not be zero. Instead, he said that stress should be maximum at the surface. Mikhailichenko-san argued that we need to introduce acceleration of material in the simulation. He pointed out that the SLC target was distracted at downstream surface and it was free boundary.

Reported by T. OMORI

We will have no phone meeting in November, because we will have LCWS on 2-6 November.

The date of the next meeting will be at early December.
The exact date will be decided later.
The time slot will be (c).

(c) 23:00(Jpn), 16:00(Ukr), 15:00(CET), 8:00(US-IL), 6:00(US-CA)