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件名: Positron WG report (revised plan)

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Dear Positron Working Group

More than a month ago I wrote a mail to you on the plan of writing a report on the progress of the positron system. You may be wondering what's happening since then. In fact I have been lazy but the main reason of the delay is the change of the nature of the report. The intention of Lyn and TCMB turned out that a significant change of the system before the "green light" might cause unnecessary confusion in the ILC team and also in the agencies/committees. Change of the system, if needed, can be done after the "light".

Thus, though a status report is anyways needed, the timeline can be a bit later, not the end of February. I have no idea about the new deadline. April? Accordingly, the report can go to a bit more detail.

Here is a possible table of contents:

( ) : writer of draft

[ ] : number of pages

1. Introduction (Yokoya) [2]
  - 1.1 Positron working group
  - 1.2 Purpose of the report
  - 1.3 Caveats (number of bunches, etc)
2. Undulator Scheme
  - 2.1 From water cooling to radiation cooling (Yokoya) [1]
  - 2.2 Change of parameters for  $E_e=125\text{GeV}$ 
    - Longer undulator (Yokoya) [1]
    - Distance between undulator and target (Yokoya+Okugi) [1]
    - Thickness of the target and Positron yield with FC and QWT (Ushakov) [3]
  - 2.3 Target (radiation cooling only)
    - Target design progress (Riemann) [5]
    - Key technologies (Sievers) [3]
    - R&D plan for next couple of years (Riemann) [3]
  - 2.4 Positron capture
    - Flux concentrator (Martyshkin) [1]
    - QWT (Ushakov+Fukuda) [1]
  - 2.5 Photon dump
    - Water curtain (Sievers) [2]
    - Graphite (Morikawa) [2]
3. e-Driven Scheme
  - 3.1 System overview (Kuriki) [5]
    - beam structure, system layout, yield calculation
  - 3.2 Target (Omori) [5]
  - 3.3 Flux concentrator (Martyshkin) [1]
4. CFS issues (very preliminary)
  - Target replacement (Kuriki, Sievers) [1]
  - Target region shielding (Terunuma, Kuriki) [2]
  - Staging (Yokoya) [2]
5. Cost comparison (Yokoya) [2]
6. Summary (Yokoya)

Give me questions and opinions.

Kaoru

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**From:** yokoya [mailto:yokoya@post.kek.jp]

**Sent:** Wednesday, January 10, 2018 3:10 PM

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**Subject:** Positron WG report

Dear Positron Working Group

We are expecting the decision by MEXT on ILC project sometime in this summer (or autumn?). The last face-to-face meeting before the decision will be the ALCW2018 in Kyushuu in Japan near the end of May. We have to make a consensus on the positron scheme by the workshop. This must be eventually decided by LCC upper level but necessary technical information must be provided by our Positron WG. For this purpose I think we should write a report (DOC but not PPT) which contains

- 1) technology progress by now
  - 2) possible R&D plan in the next couple of years
  - 3) evaluation of the status for the technology completion
  - 4) cost comparison
  - 5) minimum info about the upgradeability
- for each of undulator and e-driven scheme and finally
- 6) comparison.

The number of pages may be 20-30 pages.

I would like to define the deadline as the end of February as that

I would like to define the deadline as the end of February so that people (TCMB, LCC, physics) would have sufficient time to think before AWLC.

A possible process may be

- 1) First I write the table of contents and assign the writers for each section.
- 2) Give the writers a few weeks for the first draft
- 3) Discuss about the drafts within us in a few phone meetings
- 4) Final touchup by me.

Please give me your opinion about the contents, deadline, etc.

Kaoru