

14. Accelerator Systems WebEx Conference 07 January 2009, 13:00 GMT

Minutes (v1.0)

Attending: J. Carwardine, J. Clarke, P. Garbincius, F. Lehner (minutes), T. Omori, M. Palmer, E. Paterson, M. Ross, A. Seryi, T. Shidara, N. Solyak, N. Toge, J. Urakawa, K. Yokoya, N. Walker, A. Wolski

All slides are available on the indico site

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3235>

1. General Announcements (Nick)

Nick welcomed the attendees and wished a happy new year 2009.

He presented the upcoming January meetings which are of relevance:

- 19.01. FALC meeting in Madrid
- 20. - 21.01. Visit/Discussions of GDE management with Spanish “network for future linear colliders”
- 22. - 23.01. Visit at INFN Frascati
 - o Discussion with INFN director
 - o SCRF (Milan)
 - o Damping Ring discussions in Frascati
- 03-04.02 EC face-to-face (Pasadena)
 - o AS TAG input to PMs is welcome for this meeting

Andy W. should check if he can join the DR part of the Frascati meeting by phone. Marc mentioned that final agendas for Frascati and Spain are not yet out. Marc R. noted that reports to the EC on CesrTA, ATF/ATF2 and TTF9mA have been requested and will be organised in the near future.

2. Short status report by TAGLs

2.1. Positron Source – Jim Clarke

Jim reported that some work at Argonne was done on the recent idea of a conventional source put forward by Masao Kuriki. There will be a webex meeting on 13 January at 13:00 GMT to discuss in detail Kuriki's plan. Presentations from Argonne are planned as well. N. Walker requested a status of the target and undulator prototype work for the next AS meeting.

2.2 Damping Ring – A. Wolski and M. Palmer on CesrTA

At the meeting today Andy just mentioned briefly the work on kickers R&D at ATF. Good progress has been made with installing the components for the new system for extracting individual bunches from the ATF damping ring into ATF2. Extraction tests are scheduled for this month (January). Previous tests of the (FID) pulsers suggest that they should meet the specifications on rise/fall time; experiments at ATF should provide useful information on stability and other important parameters. Given the experience at DAFNE, and previously at FNAL and ATF, reliability remains a concern. It is hoped this will not be an issue at ATF/ATF2, since the pulsers will be required to operate in short bursts, rather than the 1 ms long bursts that will be needed for ILC. Achieving the required rise/fall times will be an important milestone in the kicker R&D, but ongoing work will likely be required on stability and reliability.

Mark Palmer reported on the status of the CesrTA program. The slides are available at the aforementioned website. The commissioning run at CesrTA has just started on January 2. Next month will be a down-period to re-install repaired SRF cavity, electron cloud experimental hardware from PEP-II, photon beam stop for L0 wiggler and beam line front for the electron xBSM. The xBSM optics had to be completely redesigned after a direct X-ray strike incident. The new assembly will be prepared for the May run. Probably 2-3 days of running time will be lost during the May startup for installation, but this is not considered as critical.

2.3 RTML – N. Solyak

Nikolai reported shortly on the main findings of the studies on the effect of RF kick and cavity couplers on the emittance growth in bunch compressors. A symmetric coupling section for single-stage bunch compressors is being designed at FNAL. He has also started to work on the design for the single stage BC.

As regards the stray field measurements (possible long return line issue) new equipment is ordered and measurements in the vicinity of klystrons and modulators are continuing.

Nick suggested presenting a special and comprehensive report on symmetric coupler section. It will be useful to review the work. He will approach Akira about that.

2.3 BDS – A. Seryi

In December 2008, the main activity of BDS group was focused on ATF2, where the commissioning has started. The first goal was to minimize the beam losses and to pass radiation inspection. This was successfully achieved and the inspection was done on Dec 11. Activities then focused on commissioning of the final focus beamline, in particular on calibration of the cavity BPMs and measuring and minimization of background at the Shintake Beam Size Monitor.

Most of the cavity BPMs were calibrated, and initial tests of beamline tuning tools, built into the Flight Simulator, such as orbit measurements, matrix measurements, etc., have started.

The 7th ATF2 project meeting, at the end of December, was focused on a review of commissioning plans and on working out the strategy and internal milestones needed for focusing the planning for the commissioning work.

The ongoing January run is devoted to fast kicker studies, and February-March run will be devoted to commissioning of the remaining hardware, installation of the IP-BPM, systematic calibration of BPMs, beamline tuning, and further commissioning of the Beam Size Monitor.

While at KEK, we had an ad-hoc meeting with Radoje Belusevic, author of the preprint "A 160-320 GeV linear collider to study $e^+e^- \rightarrow HZ$ and $\gamma\gamma \rightarrow H, HH$ " <http://arxiv.org/abs/0810.3187>, KEK Preprint 2008-33, where it is suggested to consider a machine with maximum energy of 320GeV CM, which, by combining e^+e^- and $\gamma\gamma$ modes, can have very similar physics reach as 500GeV CM e^+e^- machine. In particular, the 320GeV CM $\gamma\gamma$ mode will access to the Higgs self-coupling, in similar way as the 500GeV CM e^+e^- mode of the ILC. At this meeting several colleagues were present, including Eckhard Elsen, Kaoru Yokoya, Nobu Toge. The possible physics scope needs to be discussed by the community in a wide forum. While not the primary focus of the GDE effort, discussion on such proposals and the ways they can be staged is certainly encouraged.

3. AAP review – M. Ross

Marc reported on the AAP planning. The AAP review will be part of the TILC workshop. Marc met recently with the AAP chair and co-chair to get feedback from the panel. They will develop a charge to which we can work. Discussions are going on to develop an adequate review schedule with well-balanced topics. He will soon have more information on that.

4. R&D plan update (Nick)

- Front Matter being updated (PMs)
- Draft ready next week (Thursday EC meeting at latest)
- Front matter will include updated / expanded plans
- Minimum Machine work
- KEK-related e^+ source work (waiting for input)
- Update to CsrTA / ATF / ATF-2
- Appendix B updates (TAG leader responsibility)
- Deadline was 5th Jan.
- Received back from Brachmann, Wolski ?

Draft goes to FALC for January 19 meeting.
(Will also be scrutinised by AAP review committee.)

5. Minimum Machine Document (Nick)

- Section 3 almost complete (thanks to Editors for responding promptly)
- CFS missing (next week hopefully)
 - o Will send around current incomplete draft to this mailing list
- Final editing (by me and Ewan) over the next week → Final publication end next week
- Next Steps?
 - o PM/Ewan Review plans and scope
 - o Send comments back to TAG
 - o Form near term milestones for progress report
 - o Begin discussing process for consensus building towards 2010 re-baseline
- Special case: Central Campus Integration (coord. Ewan)
 - o How to proceed
 - o 3D CAD integration team using this as model

6. A.o.B.

It was suggested that a special meeting to discuss γ -issues should be held. We should allow us some freedom to have discussions here, but primary questions should not be forgotten.

The future scheduled AS-TAGL meetings are:

- Wednesday, 04.02.2009 at 14:00 GMT
- Wednesday, 04.03.2009 at 14:00 GMT

Attachments

1. Slides Mark Palmer on CesrTA