

Accelerator Systems WebEx Conference

1 April 2009, 13:00 GMT

Minutes (v0.0)

Attending: N.Walker, A.Brachmann, J.M.Paterson, M.Ross, M.Palner, N.Toge, N.Solyak, W.Bialowons, K.Yokoya, J.Clarke, T.Omori, A.Seryi, T.Shidara, S.Guiducci

1. Opening (Walker)

Toward AAP: Walker reminded the members that the draft AAP presentations have to be submitted by Friday, April 4, and their final versions by April 15, 2009. The deadlines must be respected for smooth execution of the AAP review.

After AAP: Walker showed the schedule of the WebEx meetings related to TAGs for the rest of the month and toward Summer. In addition, Walker and Ross touched on the Accelerator Design and Integration meeting that is scheduled at DESY for May 28-29. The dates have been fixed. The focus of this meeting will be to make the practical start of the re-baselining work to be progressed during this calendar year. This includes the “minimum design” topics but is not limited to MM. Yokoya pointed out that it would help the invitees determine whether they should participate or not, if the specifics of the topics of focussed discussion are defined and are shared. Walker responded that the agenda will have to be polished up during TILC09.

Monthly Report: Walker reminded the participants that they should submit their inputs to the monthly report.

2. Short status report by TAGLs

Electron (A. Brachmann):

Brachmann briefed the participants on:

- activities at SLAC on measurements of ion back- bombardment issues, new activation technique (Cs+Li) into GTF, gradient doping in cathode structure and in the active layer;
- update on DC-gun work at Jefferson Lab which has certain overlap and mutual interest with respect to ILC; and
- laser R&D for the source.

It was noted that an additional 250k\$ M&S would be requested to replace the faulty pump laser (next US fiscal year).

Positron (J. Clarke):

Clarke reported on the recent progress all of which will be reported at TILC09:

- On the undulator prototype, the location of the vacuum leak which developed the previous year has been identified on a metallic joint and seemingly fixed in an initial testing at liquid N2 temperature. The system is going to go through another vertical testing soon (cool down, quench testing and training). No further field mapping is possible with the horizontal configuration.
- Experimental work is in progress for the target at Cockcroft, currently at ~1000RPM, with an increased magnetic field.
- Simulation work is under way at RAL for implications of Eddy current in a target wheel. Although early results, the sophisticated results appear to be within good agreement with observations (factor or ~2). One important finding is the (unexpected) influence of the target wheel spokes, which supply a path for the eddy current.

- Evaluation work is in progress at ANL for positron yield at lower electron beam energies when the undulator is located at the end of the e- main linac, in the context of one of the minimum design scenarios.

CesrTA (M. Palmer):

- CESR has been successfully restarted.
- Work is in progress for beam instrumentation, toward data taking in May.
- Preparation is in progress for AAP presentation.

RTML (N. Solyal):

- Studies of wakefield effects and coupler kicks are being now coming to an end.
- Studies of emittance increases are being made in cases of both single-stage and two-stages BCs. Initial studies indicate the possible need for sub-micron BPM resolution (needs review).
- Design studies are being made on beam extraction (tune-up) lines for both single-stage and two-stage BCs.

Beam Delivery (A. Seryi):

Seryi reported on the following:

- “IR interface document” by BDS-IR integration & MDI-D has been basically completed and will be formally published soon.
- IR vacuum task force recently started.
- Optics of BDS MM are being worked on and will be discussed at TILC09.
- Progress (review) of important R&D (Crab cavity, magner ps group, beam dump).
- ATF2 has seen ~10micron beams at the “final focus point” with the beam size monitor running in a laser-wire mode.
- IFIC-Spain / SLAC-US collaboration to build multi-OTR system for fast emittance measurements (end of 2009)

Among a large number of activities in a wide range of areas. Walker commented and congratulated the BDS-MDI team for completing thje MDI document specifications (a difficult job). He noted that this was an R&D Plan deliverable.

Simulation Group (K. Kubo):

Walker showed a one-page summary from Kubo reporting on the phone meetings in February and March, 2009. Walker noted the particular need for more work on the influence on the survey and alignment on the main linac emittance preservation.

3. Presentations for AAP

Walker quickly went through the TAGLs on their focus points of AAP presentations.

Electron Source – Global R&D program. RDR design. Not a cost driver and MM has little impact (other than integration aspects for which there are currently no engineering resources).

Positron Source – Ongoing undulator R&D. Identified critical issues for the baseline (target, capture devise). Implications of MM. A few words on current proposed alternative schemes and associated R&D programmes.

Damping Rings – Guiducci left a one-page summary for Walker. Critical R&D (E-cloud, low-emittance, and fast kickers), Design + Integration, MM.

RTML – issues with 1-stage BC. Emittance preservation. RF coupler wakes.

Beam Delivery – IR Interface process & key agreements; further plans on IR design; MM parameters and optics plans; Systems design; BDS & MDI instrumentation; Beam dump; Crab cavity; Collimation.

Ross remarked that PM presentations for AAP will be prepared and be posted in accordance with the same deadlines for those imposed on TAGLs. Ross emphasized that inputs from TAGLs for PM presentations are encourage, yet he stated that if no specific inputs are given, the PMs will pick up materials from recent TAGL reports. Ross and Walker stated that slightly differing emphasis of presentations between PM and TAGLs would be inevitable, understandable and likely acceptable. However, attentions need to be paid to avoid occurrence of major inconsistencies. Ross said that any questions given by AAPs on the pre-materials will be relayed to relevant TAGLs.

The InDiCo site for the draft presentations can be found here:

<http://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=3514>

access password to the site is [ilc-as-tagl](#). All presenters should have access (upload) rights set.

The next TAGL meeting is set on May 6, 2009 at 13:00 GMT.

N. Walker
N. Toge
02.04.2009