

## **Minutes of Meeting #10**

WebEx, Wednesday, 4 April 2007

*Attending: Eckhard Elsen, Susanna Guiducci, Tom Mattison, Mark Palmer, Mauro Pivi, Junji Urakawa, Marco Venturini, Andy Wolski, Mike Zisman.*

### **1. Comments on Minutes of Meeting #8 (WebEx, 24 January 2007).**

No corrections.

Note: S3 Meeting #9 was held at Frascati on Wednesday, 7 March. During this meeting the CesrTA proposal was discussed, and the outcome of the discussions summarised in the report “Comments from S3 Task Force on CesrTA Proposal” presented to the RDB on Friday, 30 March.

### **2. LCWS (DESY, 30 May – 5 June): plans for damping rings parallel sessions.**

There is an intention to raise the prominence of technical discussions at future LC workshops, starting with the workshop at DESY at the beginning of June. The damping rings group could make use of two days of parallel time for this purpose.

**Action:** Andy to collect suggestions for use of damping rings parallel sessions, and distribute a proposal for the organisation amongst S3. This needs to be done quickly, given the short time before the workshop.

There was some discussion as to whether it would be possible to “attach” future damping rings R&D meetings to the LC workshops. This would have the benefit of reducing the amount of travel to attend different meetings. However, the fact that other meetings would be proceeding concurrently could distract from the damping rings discussions; and appending the damping rings meeting before or after the main workshop could lead to logistical problems, depending on the venue. The continued evolution of the ILC organisation could impact the way that the R&D meetings and workshops are scheduled and run in the future. No decision was taken, but this issue should be considered more carefully at a future meeting. A decision will be needed soon about the proposed next damping rings R&D meeting in Korea towards the end of 2007.

### **3. RDR Costing: need for uncertainty estimate.**

Peter Garbincius is urgently requesting that we provide some estimate of the uncertainty in the damping rings costing. Susanna kindly agreed to take on this responsibility.

**Action:** Susanna to contact those who provided damping rings cost information for the RDR, to obtain estimates on the uncertainties in the costs; and to compile the information and send the results to Peter.

Note: information on the cost uncertainty has already been obtained for the RF system, and should be available shortly for the magnets.

#### 4. Progress with R&D Plan Work Packages.

The Damping Rings R&D Plan still under development will form the basis of the S3 presentation to be made at the next ILC MAC at Fermilab, 26 – 27 April. In general (not just for the damping rings), the MAC is likely to pay attention to whether resources are indicated appropriately according to R&D priorities, and on issues to do with regional balance.

The present version of the damping rings R&D plan includes six work packages, which between them cover the R&D objectives identified by S3 as Very High Priority. These work packages are:

- 2.1.1 Lattice design
- 2.1.4 Low-emittance tuning
- 2.2.1 Impedance-driven single-bunch instabilities
- 2.2.3 Electron cloud
- 2.2.4 Ion effects
- 3.5.1 Fast injection/extraction kickers

The resources indicated are those estimated to be needed for achieving the specified objectives – i.e. they represent a “top-down” estimate. Over the next month or so, we should collect updated information on resources likely to be available in reality (a “bottom-up” estimate), and then reconcile the R&D plans against the available resources. For now, it should be understood that the resource requirements indicated in the R&D plan are estimates accurate at the level of (at best) 0.5 FTE per year, and roughly \$50k M&S.

The following items were mentioned, and updates agreed:

- Staff effort for WP 2.1.1 at the level of 3 FTE in 2007, 3 FTE in 2008, and 1.5 FTE in 2009.  
**Action:** Andy to update the figures for the next draft.
- Travel to be indicated at the level of \$10k per FTE per year.  
**Action:** Andy to include this as appropriate throughout the R&D plan for the next draft.
- WP 2.1.1 write-up is still missing.  
**Action:** Mike to provide this if possible by 15 April.
- WP 2.1.4 is in good shape.
- WP 2.2.1: FTEs may be a little higher than appropriate. Present figures are acceptable for showing to the MAC, but should be looked at more carefully in the context of resources likely to be available.
- WP 2.2.3: There is some small reduction in the number of FTEs in the present version compared with the original version; this may be due to “rounding errors”. The numbers can be adjusted if necessary. Some iteration is again necessary, to ensure a good match between proposed R&D and the resources likely to be available.

- WP 2.2.3: It would be helpful to indicate a breakdown of the M&S budget (close to \$1M in 2007 and 2008) between different objectives, and to provide some sentences to explain the need for this level of funding.  
**Action:** Mauro to provide information on breakdown and justification to Andy, to include in next draft.
- WP 2.2.3: KEKB may be available in roughly 2 years for electron cloud studies in the regime of ultra-low beam emittance.  
**Action:** Andy to add some comments in the next draft on the availability of KEKB for ecloud studies with ultra-low emittance beam.
- WP 2.2.4: The clarification was made that the 4 FTE indicated for experimental studies of fast ion instability at the ATF *excludes* operational support. The 4 FTE includes time for design and preparation of hardware required for the studies. The studies at the ATF must be concluded by the end of 2007.
- WP 3.5.1: Tom has sent a recent update on the kickers work package.  
**Action:** Andy to incorporate the updated write-up in the next draft.  
**Action:** Tom to identify deliverables and send to Andy, to include in the next draft.  
**Action:** Junji to confirm with Tom the budget for fast kicker R&D at the ATF.
- There are cases where R&D motivated by, and funded for, other facilities can be of significant benefit for the ILC damping rings. An example is the kicker R&D for DAΦNE. It is unclear how to account for this work, and there could be some sensitivity when considering funding models. Such situations (which also occur in other areas of ILC) will have to be considered on a case-by-case basis. It may be appropriate, for example, to include some fraction of the R&D funds in the ILC spending profile.

There will be a practice session for the ILC MAC during the RDB meeting on Friday, 20 April.

**Action:** Andy to prepare a new draft of the damping rings R&D plan, incorporating the revisions listed above, and to circulate to S3 before 18 April (the next scheduled S3 WebEx meeting).

## 5. Next S3 Meeting

By WebEx, Wednesday 18 April, 13:00 GMT.