

## Minutes from the 7<sup>th</sup> ILC@DESY General Project Meeting on March 11th, 2005

### 1.) General Announcements by Eckhard Elsen:

- a. Eckhard reports on the visit of a high ranking Japanese delegation at DESY on Monday, March 7<sup>th</sup>. He feels a serious interest by the Japanese to participate in the cold technology. A possible entrance could be the application of the KEK group to become member of the TESLA Technology Collaboration,
- b. On April 7<sup>th</sup> to 8<sup>th</sup> an industrial forum on SRF technology will be held at DESY. Participation from the different working groups might be useful.
- c. The EUDET proposal has been submitted to the EU on March 3<sup>rd</sup>.

### 2.) Nick Walker: Possible ILC Parameter Sets

- a. In the TESLA TDR the peak luminosity at  $3 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$  was chosen as the maximal achievable luminosity. This gave no head room to adjust parameters and evaluate trade-offs in the different subsystems of the machine. To allow for more flexibility the WG1 chose to relax from this number and go down to  $2 \times 10^{34}$ . This luminosity is still compatible with the goal of reaching  $500 \text{ fb}^{-1}$  integrated luminosity in the first 4 years of running of the ILC but gives headroom and operational flexibility.
- b. Tor Raubenheimer proposed a new set of parameters which can be downloaded from <http://ilc.desy.de>
- c. A parameter discussion forum has been installed and should be used to send comments to the WG1: <http://www-project.slac.stanford.edu/ilc/discussion/Default.html>
- d. 5 new parameter sets are proposed in this document:
  - i. Nominal: This set is similar to the TESLA parameter set. The only difference is an increase in the vertical emittance at the IP. This parameter set allows for 100% emittance dilution from the damping rings to the IP (TESLA allowed just 50%).
  - ii. Low Bunch Charge: In this set the bunch charge is reduced by a factor of 2 to  $1 \text{ E}10$  particles. To compensate for that the number of bunches is doubled (to 5640) and the vertical beam size at the IP is lowered to 3.5nm. The bunch length is shortened to 150  $\mu\text{m}$  to keep it smaller than the vertical beta function at the IP. This would put more stringent requirements on the bunch compressor system.
  - iii. Large y: The vertical beam size at the IP is increased to 8nm by doubling the vertical emittance. To recover the luminosity, the horizontal beam size is reduced to 495 nm. This results in an increased Disruption parameter and increased beamstrahlung production.
  - iv. Low Power: In this set the number of bunches is reduced to 1330. To compensate this, the vertical and horizontal beam sizes and the

bunch length are reduced. This leads to increased beamstrahlung production (~6% compared to 2.2% in the nominal set).

- v. High Luminosity: This set takes the most challenging numbers of all previous sets and results in a peak luminosity of  $4.9E34$ .
- e. The gradient is touched only briefly in the document. As the minimum in the cost vs. gradient curve is very shallow, the following assumptions for the gradient are made.
  - i. 30 MV/m is the safe solution
  - ii. 35 MV/m is the baseline
  - iii. >35 MV/m is considered to be ambitious
- f. Nick concludes with the clarification that the parameters document should be seen as a guideline whose parameter sets are expected to change with the outcome of the ongoing R&D work.

### 3.) Ties Behnke: Preparations for LCWS2005

- a. The LCWS2005 workshop is going to be held at Stanford University from 18<sup>th</sup> to 22<sup>nd</sup> of March. Though the focus of this workshop lies on detector and physics it includes quite populated Machine-Detector Interface and dedicated Accelerator sessions.
- b. Attendance throughout the regions is large, almost 400 registered participants are expected, where roughly 50 participants come from Asia, about 150 from Europe and ~180 from the Americas.
- c. 4 plenary talks are given by DESY speakers:
  - i. N. Walker: ILC Accelerator
  - ii. T. Behnke: Detector Concepts
  - iii. W. Lohmann: Detector R&D
  - iv. K. Buesser: Communications
- d. The representation of Europe in general and DESY in special in the parallel sessions is good
- e. The participation from eastern European colleagues is lower as expected for an LCWS. The reasons for that lie apparently in a mixture of cost and visa issues as well as a certain feeling of not being welcome in the US, mostly due to the US-VISIT procedures at the immigration (fingerprints, photos).

### 4.) AOB

- a. The next ILC@DESY project meeting will be held on April XXth.