

**Summary of the Meeting on 'Beam Energy
Measurements' between DLNP (JINR, Dubna),
DESY (Zeuthen) and YerPhI (Yerevan),
Yerevan 23.05. to 25.05.2005**

Present: V. Duginov, N. Morozov (DLNP JINR Dubna)
R.A. Melikian, V.T. Nikoghosyan (Yerevan Physics Institute)
K. Hiller, H.J. Schreiber (DESY)

The meeting was aimed to give status reports on present activities on precise energy measurement of the incoming beams at the future linear collider (ILC) and to discuss further activities in this direction. After two days of presentations and discussions the following items were fixed as a summary:

- Magnetic System:
 - the Dubna team continues its effort towards a magnetic field measurement bench;
 - realization of procedures for residual magnetic field information below 10^{-6} ("zero"-field determination) within 2006 (see also the talk of Nikolai Morozov);
 - as soon as basic specifications of the energy spectrometer magnets exist, detailed design studies and possible magnet manufacture will start.

- Beam Energy Determination by means of Synchrotron Radiation (SR):
 - DESY will continue its effort so far achieved (see talk of Karlheinz Hiller) with some concentration on detector aspects;
 - Dubna is strongly encouraged to continue its SR studies with the hope to have some presentations at the next meeting;
 - it is very desirable to develop method(s) on absolute beam energy determination(s) by means of SR effects.

- Resonance Absorption (RA) Method for Beam Energy Determination:
 - it was concluded that this method should be further continued, with both experimental and theoretical efforts;
 - some of the problems were discussed and solutions are/should be found and presented at the next meeting;
 - the talk of Robert Melikian (Yerevan) has been greatly acknowledged. Once the paper and understanding of solving serious problems exist, progress towards a conceptual design report is expected at the next meeting. We hope that theoretical assistance of R.M. will be continued in the future;
 - consensus exists that laser expert(s) should be involved in our studies in order to realize a realistic setup, including details on the laser system. Yerevan (V.N.) will try to find and convince such expert(s). Any further suggestions are very welcome;
 - the study of Nikolai Skachkov (Dubna) should be presented and discussed at the next meeting. In this respect it is worth to recall that all three partner institutions represent a common collaboration.

The collaboration acknowledged the overview on Dubna activities within the ILC project, as presented by Viktor Duginov.

Dubna and Yerevan expressed their interest to be involved in an INTAS call on “Beam Diagnostics at the ILC“. Both laboratories were asked for some details on their activities within the next two years. The deadline of the proposal is June 13 !

The contributions of the Meeting can be accessed from the Web-page <http://www-zeuthen.desy.de/main/html/aktuelles/workshops.html>

The next meeting is scheduled for the second half of November 2005 at DESY (Zeuthen). The collaboration agreed on this suggestion.

Yerevan, May 25 2005

V. Duginov (Dubna), V. Nikoghosian (YerPhI) and H.J. Schreiber (DESY)