About the ISG X meeting in SLAC

Nicolas Delerue
JLC Group, KEK

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The ISG X was held at SLAC from the 23rd until the 27th of June 2003. It has given me the opportunity of many fruitful discussions and visits.

The International Study Group (ISG) devoted to design a X-band linear collider holds two sessions a year, one at KEK (Japan) in autumn and one at SLAC (USA) in spring. These sessions are a good opportunity to summarize the work done on each side of the pacific but also to have informal discussions with our colleagues. The 10th session of the ISG was held at SLAC from the 23rd until the 27th of June 2003.

1 ISG X session

The session was split into 4 different working groups with a few joint or plenary meetings. I attended working group 1 devoted to ground motion and vibration issues. From the meetings I learned that for both project the ground motion issues are under detailled studies and modelization. Vibrations coming from some of the linac components are also well studied and different correction methods have been well studied, with some promising results around the corner.

From the plenary sessions I learned that the American physicists have initiated a deep comparison of both available technology (cold and warm). Results of these studies should be available early next autumn and will certainly have an impact on the technology choice to be made by the community in 2004.

The plenary sessions have also shown the status of the studies made by each lab toward the realization of the R&D goals ranked 1 (R1) and 2 (R2) as assigned by the TRC report. Both the status of the structure tests and klystrons tests show that we can expect to see the R1 goals reached early in 2004 as well as some of the R2 goals.

During these meetings I also presented my work for the FEATHER project. These presentations (available online at http://acfahep.kek.jp/subg/ir/feather/) have brought a few feedbacks on the FEATHER activities. The SLAC people were interested by the movable electrode kicker designed here at KEK (See KEK report 2003-6) and have asked for the technical drawings of the kicker.

2 Visits and discussions held at SLAC in parallel to the ISG X

Between and after the meetings I had the opportunity to discuss we the people working on the same topics than me at SLAC.

This was my first visit at SLAC and I had a few opportunities to see the NLCTA and the work done there.

SLAC people were very interested by the software I developed for my beam test at the ATF as they will need a similar software for the nanoBPM alignment software. I thus transfered my code to them and detailed its behavior.

I had an opportunity to see the setup used for the active feedback system tested at SLAC and based on seismic sensors. This was very interesting for me as I will be in charge of designing and testing the same system here at KEK.

The SLAC people have designed different methods to identify where breakdowns occur in the X-band structures they test. One of these method is based on the use of acoustic sensors located on each cell. Thanks to these sensors there are able to locate a breakdown within less than a half-radian. Another system is based on the detection of anomalies in the reflected and transmitted electric power. As these I will be in charge of the implementation if these two methods here at KEK, it was useful for me to see how the system works at SLAC and to meet the people operating it.

3 Conclusion

This week at SLAC has been very profitable for me as it was an opportunity to exchange with other members of the linear collider collaboration during the ISG meetings but also during many informal discussions we had between the meetings.