March 20, 1998
/tex/projects/spectro/mtg12.tex

LEP SPECTROMETER PROJECT

Summary Notes of the 12^{th} meeting held on 19 March 1998

Present: E. Bravin, W. Coosemans, D. Cornuet, B. Dehning, G. De Rijk, R. Genand, N. Hilleret, W. Kalbreier, J. Montes, G. Mugnai, Y. Muttoni, S. Myers (chairman), M. Placidi, J. Poole, E. Torrence, L. Vos

Excused: None

10:35 - Comments to Summary Notes of previous meeting - Nothing really relevant.

10:37 - Preparation for installation- The situation, accounted for by Y. Muttoni, has slightly changed since as a problem arose in the night between Thursday and Friday with the bake-out of the two vacuum chambers connecting the three modules. Due to a failure in the temperature control of the heaters the chambers reached an unscheduled temperature and eventually collapsed under the atmospheric pressure. Construction of new chambers has been rapidly organised (N. Hilleret) and they are expected to be available for installation by end of March (beginning of week 14).
The three blocks with the modules did not suffer from this accident. They are still vacuum processed but will be made available for alignment check after bake-out on Monday 03/23.
Intermediate manifolds providing the water cooling of PUs and absorbers with short flexible connections will be adapted on the blocks soon after. The three modules will be then available for transportation to the H.C.332 before the end of week 13.

10:50 - Installation planning - B. Dehning presented a slide (see copy) with listed activities involving week 12 to 17. A discussion followed with the aim of re-scheduling the installation to begin on March 30 (week 14) instead of April 6 (weeks 15 and 16 have Easter in between). J. Montes proposed a revised version of the planning up to the **LEP closure on Friday, April 24 at noon**. The essential points were to schedule the ZL conditioning on the weekends, and to postpone activities requiring reduced presence in the ring, or even the ring closed (tests sextupoles and vibration measurements in H.C.332) to the four available days in week 17 before the LEP startup.
The updated planning is attached.

11:15 - Dipole mapping - W. Kalbreier reported on the second brainstorming meeting on field mapping (see attached copies of slides). The main points are listed below.

- Seven measurements will be done at a core temperature of about $26\,^{\circ}\mathrm{C}$. The measurements at 41.3 and 100 GeV will also be done at about $21\,^{\circ}\mathrm{C}$ and $31\,^{\circ}\mathrm{C}$.
- The contribution to the core temperature from synchrotron radiation emitted in the contiguous LEP dipoles is reduced by the absorbers and is expected not to modify substantially the values used in the mapping campaign.
- The inlets and outlets of the water cooling of the MBI aluminium coils have been defined in order to reduce temperature gradients across the pole pieces.

- Special protections will be used in the ISR tunnel ($\sim 18\,^{\circ}\mathrm{C}$) at the dipole ends to avoid temperature effects on the probe holders.
- Magnetic measurements will have to timed against the PS and SPS cycles.
- G. De Rijk is designing a rigid support which will be part of the MBI dipole from the beginning of the mapping. It will be used to transport and to support the dipole in the LEP tunnel.
- Achieving accuracies of some 10^{-5} in measurements of $\int B\,dl$ **inside the vacuum chamber** looks difficult. A comparison of **local measurements** performed inside and outside a short vacuum chamber is proposed instead. Dynamic effects should be checked this way while reproducing the magnet cycling as performed in the frame of the LEP procedures between fills.

It was stressed once more that the magnetic environment in the two tunnels will be unavoidably different. A certain number of measurements will have to be repeated on the dipole installed in LEP. The **magic magnetic team** (still to be defined...) will have the task of individuating rapidly which kind of magnetic test will be needed to be repeated in the LEP tunnel. The static and dynamic behaviour of the end-fields when ramping from RD-calibrated energy values to the top ones is certainly one of them. Time for them will have to be made available within the overall duration allocated for the campaign.

11:40 - End of meeting

The **NEXT MEETING** will be held on

THURSDAY, April 2^{nd} 1998 at 10:30
in JBA ROOM 864/2-B14

Tentative AGENDA (to be confirmed later)

- Comments on Notes of previous meeting
- Status of installation — Y. Muttoni, N. Hilleret, W. Coosemans, B. Dehning.
- Report from mapping meeting — W. Kalbreier
- BUDGET!!!
- AOB

M. Placidi