MINUTES OF THE 117th MEETING OF THE ENERGY CALIBRATION WORKING GROUP
(part related to 93/94/95 analysis)

held at CERN on January 24, 1997

1996 Temperature experiment. (B. Dehning)

Bernd showed that at the very beginning of the temperature experiment a very big spike was recorded (equv. energy 25 MeV) which was due most likley to the manual switch on of the dipole supplies. A major perturbation of the field of that kind might be the cause of the abnormal behaviour of the first hours of the experiment.

Effect of resolution effects on the determination of temperature parameters (G. Wilkinson)

Guy has developed a rough toy simulation to model dipole field drifts due to temperature. When generating a behaviour similar to the one observed in the ISR test bench he sees a degradation (dilution) of the effect when trying to determine the parameters using realistic resolutions and realistic temperature excursions (similar to the one observed during the 1995 physics runs) . In particular the absolute value of the coefficient tends to be systematically lower than the one generated.

Even if the similation is not sphisticated it is convincing enough. The working group decided to use the paraemters determined in 1996 where the temperature excursions were much larger - hence the determination more relaible and stable- than for 1995. The choice is then :

(C_T +C_T^{Max})= 10 10-5 both for the ring and the '48' pseudo-dipole , C_T= -5 10-5 for both the the ring and the '48' device. *The error on the first parameter is different for the ring (± 2.5) and for the '48' device (± 5.) to reflect the additional uncertainty on the direct determination of the paraemter directly form the 95 data. The error on the second parameter is ± 2.5 for both ring and pseudo device.* (the last parameter matters mostly for the '48' deice as it is used in the unfolding of the temperature effects from the 95 measurement to have a model applicable to 93 and 94 for the 'train' drifts)

Checking the tide parameters (M.Koratzinos)

Mike used all of the res. depol. measurements to study the dependance of the model - measurement residuals when leaving the tide parameter free.

Such study will tend to absorb in the tide parameter value any imperfection in the model which not 'orthogonal' to the tide effects (i.e. deformation of the orbit). Surprisingly enough he gets indications that peak+2 and peak -2 seem to prefer significantly different parameters. The relative rough error knowledge does not allow to draw any quantitative conclusion and this effects should eventually be absorbed in the 'scatter' error.

On the way to the final dipole model (M.Koratzinos)

Following the decision at the last meeting Mike has started to prepare the programs to produce data using the two parameter temp. model.

He proceeded in steps always monitoring the changes of energies with respect to the previous step starting from the model used for Warsaw.

0) Warsaw model

1) Use 1 par. T model as for Warsaw but changing only the Ct parameter used for '48' from 2.5 to 10 10-5. The model is fit to the NMR48 data . The energies are detrmined using the raw NMR48 readings.

The average change (0 -> 1) for the three energies (P-1,P,P+2) are respectively -0.11,-0.61,-0.13 MeV.

2) Use 2 par. T model with parameters value as above.

The average change (1-> 2) for the three energies (P-1,P,P+2) are respectively +0.62,+2.14,-0.63 MeV

3) Use 2 par. T model and then fit the data to a parametrization based on the Tday, Tfill and not using the NMR48 (Mike calls this 2D model)