MINUTES OF THE 118th MEETING OF THE ENERGY CALIBRATION WORKING GROUP

held at CERN on January 31, 1997

Revisiting the 1995 BOF-EOF calibrations (A.Drees)

Angelika studied the relative importance of the various contributions to the dipole field model by using the 6 fills with repeated resonant depolarization calibrations. The average residual between model and measurement and the rms is used to judge which contributions give the best agreement.

When looking at this 6 fills she concludes that once she includes just the effects of the horizontal correctors and the new 2 parameter temperature model the mean residual is 0.5 MeV and the rms is 0.5 Mev (extremely good !) This leaves very little room for additonal contributions due to the parasitic currents from the trains. This conclusion is somewhat different from what is observed when using the NMR readings for all the physics fills of 1995 or 1996. To be able to fully compare notes betwen the various analysis Angelika has been asked to produce a similar result but using exactly the same recipe as eveybody else for the temperature model (she used specific values for the T model parameters for each octant as determined in 1996 by either direct measurement or from the ISR test bench)

Horizontal correctors contributions to the energy (T.Camporesi)

The files with the detailed contributions of the horizontal correctors (sampled on avergae evry 10 minutes) have been produced for the three years 93-94-95.

The quality of the loggings is good. The first part of 1993 is missing and hoprefully will be recovered from a backup of the database.

A study of the systematics has been performed comparing the two possible approaches: considering the energy change due to the integrated additional field ('naive') or taking into account the lengthening of the orbit ('best'). The average difference in prediction is zero with good accuracy and the spread - which could used to assign an error to this correction- is below 0.4 MeV.

It is not clear whether the correctors also tend to account for some of the ring distorsions. The point is delicate as applying the hor. corr. corrections could imply some double counting wrt to the Xarc (orbit distorsion correction estimated from the BOM's). It was decided that the safe approach (until some more quantitative estimate of such correlations is available) is to use the Xarc corrrection to account for the long term distrosion of the ring (one value /fill) and the relative hor-corr. contribution within each individual fill.

Studies on the dipole model (M.Koratzinos)

Mike used the newly available hor.corr. files. They seem particularly important for fills which have been calibrated as the cahnces of important correction trims are higher when preparing for calibrations.

He also showed that the differences between his new model (modelling field drifts from digitized parasitic currents) and the std one are significant and need further understanding of the new model behaviour.

He also should produce results for the 6 BOF-EOF fills without the contribution of the parasitic current rise to compare directly with what Angelika is obtaining.

He promised a working version of the energy files (93-95 and may be 94) by the weekend to allow Guy to perform extensive cross checks using Kin's program.

Next meeting (to be confirmed after checking with Guy and Mike) Wedensday , Feb. 5th at 10:00

Scriba:Tiziano Camporesi