Minutes of the 121st Energy Calibration Meeting held on 21 February 1997

The meeting was split into 1996 and future issues (this document) and the 1993–1995 analysis.

1 NMR behaviour in 1996 polarisation fills

Paul Bright-Thomas presented the latest checks that he has made on the NMR behaviour. The study uses the 7 probes that were working for all the 1996 polarisation calibrations (1c,1d,5b,5c,5d,6,7). Checks of the raw B field residuals and calibrated energy residuals were shown for the 9 depolarisations at 45 GeV and 8 depolarisations at 50 GeV.

The first plots show the relative difference between measured and average magnetic field for each probe in turn. The scatter corresponds to about 3 MeV for the 45 GeV fills, but the raw B field is larger by about 0.3×10^{-3} in fill 3599 for all probes compared to fill 3719 (corresponding to a 15 MeV shift). This is reflected in the calibration constants calculated to convert the observed B field to the measured polarisation energy, and in the calibrated energies. (Recall that the two 50 GeV measured polarisation energies are the same to about 2 MeV.)

These observations contradict those of Guy Wilkinson, who sees similar calibrations for most probes in fill 3599 and 3719, except for two "untypical" devices with a large deviation. These discrepencies will be followed up next week by Guy and Paul.

If instead a single calibration coefficient is used for all probes, the spread of B fields from probe to probe corresponds to differences in energy of up to about 100 MeV from the average. However, this is expected from the fluctuations of field along the lengths of a dipole or from dipole to dipole.

2 Update on k modulation

The k modulation proposal was approved by the SLTC on Wednesday 19 February, and funding is now being requested. Bernd Dehning and Giuseppe Mugnai emphasised that technical help from the experiments has been requested as part of this proposal.

3 Next meeting

The next meeting will be on Friday 28 February at 14:00 in the Pavillon.

Pippa Wells, 24 February 1997.