# Minutes of the 159th Energy Calibration Meeting held on 10 July 1998

## 1 News

After much negotiation, there will be a 10 minute talk on the LEP2 energy calibration in the electroweak parallel session at the Vancouver conference, to be given by Mike Hildreth.

The problem with setting the RF frequency was resolved on Monday 6 July. It is proposed to patch the data base to correct the period when the recorded value was 22 Hz too high.

## 2 Polarisation MD for week 29

Florian Sonnemann presented a list of suitable energies to be tried in the next polarisation MD. These included the standard points and intermediate points chosen to avoid strong resonances: 41.2, 44.7, 48.2, 50.0, 51.8 and 55.3 GeV. The settings for these energies have been prepared. No k-modulation data is available so far, but the 55 GeV point was good last time, so this shouldn't be a problem. Also, many of the probes no longer lock at the lowest energies. It is hoped that the problems with injection have been solved.

## 3 Errors for Vancouver

Errors for high energy running are considered final for Vancouver, and errors for lower energy running have also changed slightly since Moriond, but were already so small as to be adequate. The full breakdown is given in the table, and is waiting for checks by Guy Wilkinson and Mike Hildreth before it can be declared final.

The paper draft (version 0.5) has been released and is on the web. Please send comments to Pippa Wells as soon as possible.

## 4 Next meeting

The next meeting will be on Friday 17 July at 15:00 in the small room upstairs from the PCR.

Pippa Wells, 1 July 1998

| Source | Error [MeV] | | |
|---|---|---|---|
| | 183 | 1.5 | Z |
| Extrapolation from NMR–polarisation | | | |
| NMR rms/sqrt(N) at physics energy | 10 | 5 | 0 |
| Different $E_{\mathrm{pol}}$ fills | 5 | 3 | 2 |
| Flux-loop test of extrapolation | | | |
| NMR flux-loop difference at physics energy | 20 | 10 | 0 |
| Field not measured by flux loop | 5 | 3 | 0 |
| Polarisation systematic | 1 | 1 | 1 |
| $e^+e^-$ energy difference | 2 | 2 | 2 |
| Optics difference | 4 | 3 | 2 |
| Corrector effects | 3 | 3 | 3 |
| Tide | 1 | 1 | 1 |
| Initial dipole energy | 2 | 2 | 2 |
| Dipole rise modelling | 1 | 1 | 2 |
| IP specific corrections ($\sigma(E_{\mathrm{CM}})/2$) | | | |
| RF model | 4 | 4 | 4 |
| Dispersion | 2 | 2 | 2 |
| Total | 25 | 14 | 6 |

Table 1: Summary of contributions to the beam energy uncertainty for high energy, LEP1.5 and Z running in 1997.