Minutes of the 168th Energy Calibration Meeting held on 30 October 1998

1 Polarisation MD's

For the record, here is a list of polarisation MD's in all years:

Date	Fill	41 GeV	45 GeV	50 GeV	55 GeV	61 GeV	Optics
19/08/96	3599			•			90/60
31/10/96	3702		•				90/60
03/11/96	3719		•	•			90/60
17/08/97	4000		•				90/60
06/09/97	4121		•	•			60/60
30/09/97	4237		•	•			60/60
02/10/97	4242	•	•	•	•		60/60
10/10/97	4274		•				90/60
11/10/97	4279	•	•	•	•		60/60
29/10/97	4372	•	•				60/60
14/06/98	4666		•	•	•		60/60
18/06/98	4669		•				102/90
15/07/98	4843		•		•		60/60
06/09/98	5137		•				60/60
07/09/98	5141	•	•	•			60/60
20/09/98	5214	•	•	•	•	•	60/60
29/09/98	5232		•				102/90
18/10/98	5337	•	•	•	•	•	60/60

2 Polarisation in 1998

Peter Renton showed checks of the 1998 polarisation MD's. He looked at all fills with three or more energy points, and showed plots of average residuals to linear fits. The errors reflect the scatter over working NMR's.

Fills 4666 and 5141 have three points (not the same three in each), and 5141 is unusual in that it shows a banana of opposite curvature to any other multi point fill (but with a very small amplitude - less than 2 MeV).

Fill 5214 is a perfect fill, with all NMR's working and 5 energy points. The curvature is of the same sign as the 4 point fills in 1997, but has even smaller amplitude (about 1 MeV total). Guy Wilkinson gets consistent results for this fill.

Fill 5337 is another 5 point fill, but with only 7 NMR's out of 16 passing the quality cuts. There is a distinct banana with total amplitude of about 4 MeV. Again, Guy gets consistent results. It was noted that some NMR's were locking intermittantly at 45 GeV in fill 5337, which necessitated great care in the analysis to eliminate spurious values.

Pete then used fill 5214 to "simulate" other fills, by taking the same set of energy points, and only the NMR's working in the fill to be imitated. For example, using only the fill 5337 NMR's, fill 5214 gave a more pronounced banana, with total amplitude of about 3 MeV, and consistent curvature. The four point fills from 1997 could also be simulated qualitatively.

A consistent picture seems to be emerging - the different NMR's seem to reflect the local non-linearities of their specific magnets, which lead to reproducable residuals from fill to fill. With the full set of magnets the non-linearities average to closer to zero, and if only a subset are working, a more pronounced banana can be the result.

3 Energy spread

Updated figures/tables from Eric Lancon were shown, with the κ scaling with energy from the value found at the Z.

4 1997 paper

The rest of the meeting was devoted to an editorial discussion of the paper draft.

5 Next meeting

The next meeting will be announced later.

Pippa Wells, 1998