ALEPH 94-053
PHYSIC 94-047
P. Dornan
14.04.1994

Electroweak Heavy Flavour Minutes 18-11-93

1. A Falvard - B-fragmentation with leptons

Alain described attempts at Clermont to establish the shape of the b-fragmentation function using the lepton (p,p_t) spectra. Numerous attempts have been made to measure this in the past but have suffered from large errors due both low statistics and the dilution of the effect on the b-boost from fragmentation resulting from the lepton momentum in the b-rest frame. Alain demonstrated that a naive fit still suffers from considerable error and that this could best be improved if a procedure for ensuring continuity of the output can be achieved. A first attempt at this using a slowly varying function in *z* to modify the MC Petersen function is being tried.

2. D Abbaneo - Hadronic Showers in the new 1992 Monte Carlo

Duccio has compared the penetration in the HCAL for the full 1992 data sample with the output from the 1992 Monte Carlo for one and three prong hadronic tau decays and K^0 decays. He finds results which are consistent with the previous values from 1990 and 1991 with a data/MC ratio for hadronic penetration of 1.14.

3. E Mannelli - P_t Lepton Spectra

In order to investigate the origin of discrepancies between the p_t spectra for electrons and muons with p>3 GeV/c in the data/MC comparisons for 91 and 92 Elizabeth is exploring methods using combinations of the lifetime and event shape tagging procedures to produce both very pure samples of *b*-events and *antitag -b* samples which are enriched in *c*- and *uds*-events. In the electron case the discrepancy is seen as an excess in the MC at a p_t around 0.5 whilst for the muons the shapes differ with an excess in the data at high P_t.

In her analysis efficiencies and relative compositions of the samples, both those containing leptons and the total samples, are, as far as possible, evaluated using double tag methods on the data and minimal dependence on the Monte Carlo. Preliminary conclusions suggest that there is satisfactory agreement for the lepton spectra in the *b*-sample and that the discrepancy is much more noticeable in the *anti-b* sample. Work proceeds on developing samples to investigate the lepton spectra from charm and *uds* separately.

4. A Falvard - A Hemisphere Double tagging Method to Measure R_b

Alain Falvard reported the work of Pierre Henrard on the examination of a method which has been used by DELPHI to determine R_b. This is basically a classic double tag type analysis but with an attempt to overcome difficulties simulating the background to the tagged sample by extrapolating in terms of the cut employed to yield a 100% pure b-sample. The basic conclusion was that with the extrapolation it was very hard to be quantitative about the errors introduced, particularly in view of the correlations between hemispheres which pose problems in all double tag approaches. It was felt that this method should not be further pursued.

5. R Tenchini - LEP Electroweak Working Group

Roberto outlined activities in this group which were of relevance to the heavy flavour measurements. This is mainly devoted to establishing a common approach within the LEP community for the estimation of systematic errors. A draft paper, attached with the minutes, was circulated for comments.