

Minutes of the QCD Meeting of 5 May 1994

There were three status reports:

- (1) Andrew Beddall..... ω vector meson production
- (2) Hasko Stenzel..... $\alpha_s(b)/\alpha_s(udsc)$ measured using the lifetime tag
- (3) Alex Finch..... $\gamma\gamma \rightarrow D^*$ production

(1) Andrew is measuring the $\omega \rightarrow \pi^+\pi^-\pi^0$ production using the 1992 data. The charged track selection is close-to-but-not-quite the standard cuts, and no dE/dx information has been used up to now. For the π^0 selection, he uses the mass constraint and divides the π^0 -candidates up into four different ECAL topologies, which depend on how well the four showers are separated, in order to get a better handle on the efficiency and purity, which turn out to be topology-dependent. Andrew is studying the migration between topologies in Monte Carlo and data and generally finds the data to show a smaller ω -rate than the Monte Carlo. He hopes to reduce the combinatorics by using a "ranking" method for the π^0 's and dE/dx for the π^\pm 's. The photon conversion method may also be a way to check the efficiency.

(2) Hasko is using the lifetime tag to measure $\alpha_s(b)/\alpha_s(udsc)$. Comparisons are being made between the Jade and the Durham jet finders, between 3-jet rate and differential 2-jet rate, between data and different Monte Carlo generators, between charged only and charged+neutral. Hasko proposes to drop some of these options now (e.g., the 3-jet rate) in order to concentrate on more important issues, such the b -mass effects. Also it was suggested to select a light-quark sample in order for this analysis to provide qualitatively new information (i.e., new with respect to Giuseppe's and Marcello's measurement of $\alpha_s(b)/\alpha_s(udsc)$ using the lepton tag). At the meeting the high- x tag of Opal was suggested, but subsequent discussion led to the anti-lifetime tag as a perhaps more promising method and more coherent with the present analysis.

(3) Alex is close to finishing the $\gamma\gamma \rightarrow D^*$ analysis and showed the preliminary results approved by the Aleph Thursday meeting earlier that day. After the $\gamma\gamma$ -event selection, $D^0 \rightarrow K^\pm\pi^\mp, K^\pm\pi^\mp\pi^0, K^\pm\pi^\mp\pi^\pm\pi^\mp$ were searched for and then the " D^* -trick" was performed. Using all ('90 thru '93) data, Alex finds $36 \pm 7_{stat} \pm 5_{sys}$ events. This result lies between the QCD and QPM predictions, and as such does not add much light to the physics. However the shapes the differential distributions (energy, p_t^2 and thrust) definitely favour the QCD process.