

Minutes of the Quark/Gluon properties meeting of Tuesday 12/1/1993
and the QCD meeting of Wednesday 13/1/1993

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1. MEETING ON QUARK/GLUON IDENTIFICATION AND PROPERTIES

Present: T. Mattison, M. Scmelling, M. Parsons, P. Ghez, D. Schlatter, A. Moutoussi, W. Maitland, P. Saraiva, T. Ruan, Y. Gao, E. Kneringer, H. Wachsmuth, G. Cowan, C. Padilla, R. Miquel, E. Feigl, C. Markou

Agenda:

1. 3 and 4 Jet event analysis using a lepton tag.	M. Parsons
2. Fragmentation in qqg and qq-gamma events .	W. Maitland
3. Discussion	

The main object of this meeting was to gather for the first time people who are interested in quark/gluon identification and tagging and also studying the differences between quark and gluon jets.

Mark Parsons, presented preliminary results from his analysis on 3 jets events using a Lepton tag. He presented 3 and 4 jet event rates as a function of y -cut using the Durham clustering algorithm, in an attempt to optimise the jet clustering parameters for his study (see copies of transparencies).

William Maitland also showed some results from 3 jet events. He is interested in studying fragmentation in qqg and qq-gamma events. He showed results on a comparison between quark and gluon jets in MC events as a function of the jet energy. (see copies of transparencies)

In both cases, the work is continuing.

After the presentations, there was an interesting discussion on the definition of what we call "Gluon". It became apparent that we need an operational definition for the gluon in order to be able to QCD models and have coherency and consistence among different analyses in ALEPH.

Glen Cowan suggested such a definition and it was decided to hold a discussion on this in the QCD meeting of the next day (Wednesday 13th of January).

Finally, it was proposed to have the second meeting for Quark/gluon id within ALEPH week in February.

QCD MEETING - Wednesday 13 th of January 1993

- Agenda:
1. Summary of the Quark/gluon ID meeting of Tuesday 12/1/1993
C. Markou
 2. A proposal for a gluon jet definition. G. Cowan

Glen has proposed a possible operational definition for gluon jets. It consists of identifying gluon jets at the parton level, the hadron level (in MCTRUTH) and finally the detector level. (see copies of transparencies)

A systematic study of biases, efficiency and purity has to be done in order to decide on a specific jet finding algorithm and the jet clustering parameters.