

Olsson

## Minutes of the JADE - meeting 1.12.88

Accepted for publication in Zeitschrift für Physik were recently the following JADE/papers:

"A Measurement of the  $\tau$  Lepton Lifetime" by C. Kleinwort et al. and "A Measurement of the Charge Asymmetry of Hadronic Events in Electron Positron Annihilation" by T. Greenshaw, P. Warming et al. The paper "Observation of Spin 1 Resonance Formation in the Final State  $KK\pi$  produced in Tagged Two-Photon Collisions" by P. Hill, J. Olsson et al. has in the meantime been submitted to Zeitschrift f. Physik. The following presentations were given:

1. J. Hagemann on final results of  $\tau_B$  using the impact parameter method,
2. D. Pitzl on measurements of photons directly emitted by quarks,
3. E. Elsen on studies of b-fragmentation by M. Zimmer,
4. G. Eckerlin on  $\alpha_s$  determination from b-production,
5. E. Elsen on the status of the  $A_b$  measurements,
6. Th. Oest on a measurement of  $\gamma\gamma \rightarrow \pi^0\pi^0$  at  $W > 2 \text{ GeV}$ ,
7. J. Olsson on a bug in the tagging Monte Carlo.

One set of copies of the transparencies from these representations will be sent to every Institute. Those at DESY will find some copies in the office of Mrs. Platz.

The next meeting will be *June 15<sup>th</sup>, 1989*

R. Felst

*Olson*

## Minutes of the JADE-Meeting 28.7.88

R. FELST

August 4, 1988

1. The presentation of JADE results in Munich was discussed. The following papers are submitted to the Conference:
  - (a) Experimental Investigation of the Energy Dependence of the Strong Coupling Strength.
  - (b) A Measurement of the Charge Asymmetry of Hadronic Events in Electron Positron Annihilation.
  - (c) A Measurement of  $\Gamma_{f_1(1285)}$  using the reaction  $e^+e^- \rightarrow e^+e^- f_1(1285), f_1(1285) \rightarrow \eta\pi^+\pi^-, \eta \rightarrow \gamma\gamma$ .
  - (d) Observation of Spin 1 Resonance Formation in the Final State  $KK\pi$  Produced in Tagged Two-Photon Collisions.
  - (e) Resonance Production of the Reaction  $\gamma\gamma \rightarrow \pi^0\pi^0, \pi^0\eta$ .
  - (f) A Measurement of the  $\tau$  Lepton Lifetime.
2. Status reports were given by
  - (a) F. Ould-Saada
  - (b) Ch. Bowdery
  - (c) D. Pitzl
  - (d) J. Hagemann

Copies of the transparencies are enclosed.

3. A tentative date for the next JADE-meeting is December 1<sup>st</sup> 1988.

*Olson*

February 15, 1988

R. FELST

## Minutes of the JADE Meeting February 4, 1988

### 1. Further JADE-meetings

The meeting March 10, 1988 was cancelled since it coincides with an H1-meeting.

At March 3<sup>rd</sup> there will be a rehearsal of the talks to be presented at the DPG-meeting in Freiburg.

The next JADE-meetings are on May 5<sup>th</sup> and July 28<sup>th</sup>, 1988.

2. E. Elsen announced, that TP 9.0 is now ready for user testing. See attached note from Chris Bowdery.
3. G. Eckerlin announced, that Monte Carlo data generated with the Lund code 6.3 (parton shower model) are now available. For details see

INFO : 'JADEPR.TEXT(MCTPLOG)'

4. F. Ould-Saada gave a status report on his  $D^*$  analysis. The  $D^*$  detection efficiency is higher, but the signal to background ratio is lower for the 1986 data than for the old data. Further studies are needed. Preliminary values for the c-quark asymmetry were given.
5. Th. Oest presented a status report on his  $e^+e^- \rightarrow e^+e^- + 4\gamma$  studies. A nice  $\pi^0\pi^0$ -signal of the  $f_2$  and  $\pi^0\eta$ -signals of the  $a_0$  and  $a_2$  were observed.
6. D. Pitzl presented his recent studies of the lead glass response to photons. The GEANT routines seem to be superior to the Meier-Magnussen routines for the generation of electromagnetic showers. They fail, however, to describe hadronic showers.

R. Felst

READMAIL message stored : THU, 4 FEB 88 09:26:30 MESZ

Date: WED, 3 FEB 88 19:58:19 MEZ

From: myself <F22BOW@DHHDESY3>

To: <F22ELS@DHHDESY3>

Subject: MAIL from F22BOW at DHHDESY3

Chris Bowdery  
DESY - Dpt. F22  
Notkestrasse 85  
D 2000 Hamburg 52  
tel 040/8998/3561 when at DESY

COPIES to F22ELS, F110LS, F22RJB

Can you make sure that at the JADE meeting there is an announcement that the new TP program TP 9.0 is now ready for user testing. A JADE Computer Note will be distributed very soon. Until then, could volunteers contact F22BOW for information.

Basically v9.0 is open for comments and improvements of any sort. It does not do vertex chamber analysis yet and the warning and error messages are preliminary.

The interactive input options program is not yet finished but this does not prevent usage of the TP batch program.

F22BOW.TP9.S/L are the new libraries.

Member #LINKGO is a test job member. GO region is currently 1900K and BCS COMMON length is 45000.

Small improvements in v9.0 will occur from time to time so please check #LINKGO in case the GO region has increased.

Chris Bowdery

*Allyce*

MINUTES OF THE POST-JADE MEETING  
HELD 19/1/87

- Agenda
- 1) REDUC1 & REDUC2 progress report
  - 2) Multihadron selection
  - 3) Lead glass calibration

**1) REDUC1 & REDUC2 progress report.**

Eckhard Elsen gave a progress report on the various stages of the data reduction:

a) REDUC1 at DESY (performed on all 1986 pre-June reform tapes) is now complete although a few tapes are still to be merged.

Data set names: JADEOL.RED1HH.G1244V00 to G1358V00.

b) The 152 REDUC1 tapes at Heidelberg have all had their pattern recognition redone. The corresponding RAL REDUC1 tapes have been overwritten.

Data set names: JADEPR.REDUCTONE.G1365V00 to G1517V00.

Full information in JADEPR.TEXT(REDUC1).

c) Of the remaining 247 reform tapes, 66 had been processed at RAL with the old calibration, condensing to 30 REDUC1 tapes. These REDUC1 tapes are now having their pattern recognition redone in Heidelberg. The other 181 reform tapes will be processed using the latest calibration, not only at RAL, but also at Heidelberg and at DESY.

d) The REDUC2 procedure is underway on the available REDUC1 tapes. Most of the Spring 86 data and about 25 tapes from Summer 86 have already been processed. Further details in JADEPR.TEXT(REDUCTWO). A Jade Note is also in preparation.

**2) Multihadron selection.**

Michael Kuhlen outlined the possible routes to the final multihadron data sample.

a) One option (as for the 1985 data) is to run the multihadron selection program (which does not include visible energy and momentum balance cuts) on the input tapes to produce one file (MUHA) consisting of clean multihadrons and another file (SCAN) containing border line cases (i.e. background candidates such as Bhabhas, taus, cosmics.) The former are scanned and those passing the visual selection criteria are kept on a separate file (SLCT). The routine, MCREDU, which performs the visible energy and momentum balance cuts, is then called on the SLCT and MUHA events. Those surviving the cuts form the final multihadron data sets.

b) Alternatively, MCREDU could be called on the input data sets (eg. REDUCTWO), prior to the multihadron selection. Only then are the background candidates scanned.

From a physics point of view, the first option is strictly more sound. In the determination of R, for instance, the effect of the visible energy and momentum balance cuts is a crucial factor. However, scanning needs people and takes time and route a) will more than likely take half a dozen months. In view of this, it was decided that route b) should be adopted.

**3) Lead glass calibration.**

Kiyotomo Kawagoe reported on the barrel LG calibration. Calibration constants are available for all of 1985 and Spring 86 data.

The next JADE-meeting, 5/2/87, is the first of the four big ones!

J. Chrin 20/1/87

Olsson

MINUTES OF THE POST-JADE MEETING  
HELD 11/12/86

- Agenda
- 1) REDUC1 progress report
  - 2) New  $dE/dx$  calibration
  - 3) Forthcoming conferences

**1) REDUC1 progress report.**

Subscribers to the 'Minutes' would have no doubt read in our most recent issues of the Great Calibration Disaster. Eckhard Elsen reported on the procedure adopted to retrieve the situation.

a) REDUC1 is currently being repeated on the 256 reform tapes (pre-June) which had previously suffered severe losses (about 15%). This is being done at DESY thanks to an extra 60 minutes of CPU time allocated to us after a tactful request from Beate. Jan Olsson is managing about 8 tapes per day (i.e. 120 minutes/day) and has so far clocked in about 100 tapes.

b) The batch of 152 REDUC1 tapes (corresponding to 270 reform tapes) which experienced relatively little loss, are having the pattern recognition redone at Heidelberg. 50 tapes have already been processed, with 15 of them already resident at DESY. These tapes replace the old version - see JADEPR.TEXT(REDUC1).

c) Finally, of the 247 tapes still at RAL, 66 have been processed with the old calibration (the pattern recognition will therefore be redone on the corresponding REDUC1 output tapes in Heidelberg), whilst the remainder will be processed using the latest calibration. Some REDUC1 tapes will also be in their final form!

**2) New  $dE/dx$  calibration.**

Karl Ambrus reported on the new  $dE/dx$  calibration available for runs up to and including 17988 (i.e. 1984). For runs greater than 17988, preliminary calibration constants are used. All relevant routines live at F11AMB.SOURCE(DEDXBN).

**3) Forthcoming conferences.**

Moriond Conference coming up early next year. Does anyone have anything thrilling to contribute?

Abstracts for the DPG Conference in March should be in by Dec. 15th. This year's event is being held in Zurich!(??) *Please Sir, could we have our annual UK HEP Conference in Paris?*

Next JADE-meeting, sometime in 1987! In the meantime...  
*ding-dong merrily on high-energy.*

J. Chrin 12/12/86

*Oliver*

MINUTES OF THE POST-JADE MEETING  
27/11/86

- Agenda
- 1) The calibration and REDUC1
  - 2) Status of the z-chamber

1) The calibration and REDUC1.

Eckhard Elsen explained the current status of the Great Calibration Disaster. It should be noted that all known bugs are now corrected in the standard libraries and the (Steffen scheme) calibration has been updated.

Concerning losses in REDUC1, it appears that the figures given in the last meeting were somewhat misleading, since the losses were expressed as a percentage of ALL events rather than a percentage of GOOD events, whereas the latter is clearly the more important quantity! Recalculating on this basis gives a serious loss (14.8%) for the pre-June data which were processed with the 1983 constants. The problem is not the T0's, which have a negligible effect on event rejection (though a serious one on track fitting) but the pedestals, which cause large errors in the z-reconstruction. In the post-June data the losses (0.5%) are comparable with those obtained using the new calibration. This is also due to the z-reconstruction and occurs because the z distribution has not quite flattened out at 300 mm (the cut value), and so small changes in the calibration do affect the number of events passing the cut.

The severe pre-June losses affect 256 REFORM tapes, corresponding to 121 REDUC1 tapes. These 256 tapes need to be put through REDUC1 again. Of the remainder, 152 REDUC1 tapes now at DESY need to be refitted, and a roughly similar number of tapes are still at RAL and may be salvageable. Redoing REDUC1 involves lots of tape handling and a fair amount of administrative overhead, particularly in merging REFORM tapes on to REDUC1 tapes, but not much CPU, whereas refitting involves rather less tape handling but more CPU. It was therefore proposed that the latter be done at Heidelberg where there is plenty of time, and the former at DESY where there are more tape operators. It might also be possible to repeat REDUC1 at RAL, though there is the problem that neither of our REDUC experts is still with the JADE group. It was agreed that we should approach the powers that be to see if we can be given more CPU contingent for the two or three months necessary to reprocess 256 tapes at four tapes a day.

2) Status of the z-chamber.

Susan Cartwright gave a brief account of the status of the z-chamber calibration and analysis. A comprehensive account of this can be found in JADE Note 138.

Next post-JADE meeting 11/12/86

S. Cartwright 5/12/86 (my last JADE minutes!)

Olsson

MINUTES OF THE POST-JADE MEETING  
13/11/86

- Agenda
- 1) New Collaborators
  - 2) Life after PETRA, part 1
  - 3) The Jan Olsson Column (guest presenter: E. Elsen)
  - 4) Lead-glass status
  - 5) AOB

1) New collaborators.

Despite the demise of our experiment, people still want to analyse the data — we welcomed Yvonne Holle and Farid Ould-Saada (a refugee from CELLO).

2) Life after PETRA, part 1.

Rolf Felst reported the official fates of the four experiments: CELLO will be kept operational (this includes keeping the liquid argon cold); JADE will be "parked", and anyone wishing to remove significant components must obtain the approval of the directorate; Mark J and TASSO will be scrapped (loud applause).

Concerning the future of JADE, Herr Felst proposed that post-JADE meetings be held every fortnight for the remnant of the collaboration still resident at DESY. In addition, four full collaboration meetings are scheduled for next year. The proposed dates, all Thursdays, are February 5, May 7 (preparation for summer conferences), July 16 (immediately preceding the Lepton Photon Conference in Hamburg), and November 5.

3) The Jan Olsson there's-always-one-more-bug Column.

The Jan Olsson Column welcomed special guest Eckhard Elsen, who revealed the whole truth about the 1986 jet-chamber calibration and its relevance to REDUC1. Apparently, there exist two distinct data blocks containing calibration constants, one used by REDUC1 and the other introduced by Peter Dittmann. The latter is regularly updated, because Dittmann left a standard job to do this: the former consists of pedestals which haven't been changed since 1983 and T0's dating from 1985. The calibration sent to RAL for the 1986 REDUC1 seems to have consisted of the 1983 numbers up to June of this year, and the 1984 numbers after that(!)

Further, a bug in JETCAL means that the global T0's were not applied — worse, were applied in the form of an undefined variable (which *may* have been zero — probably was, since tracks were found!). This effect was always present, but is serious for 1986 data because the true global T0 is bigger for the fADCs. The result is that tracks are found successfully in rings 1 and 2 since the wires are in line, but not linked correctly to ring 3. This means that the net effect on REDUC1 is rather small.

Eckhard's conclusion was that REDUC1 should not be redone (this would involve retrieving 760 archive tapes and consuming masses of cpu time), but the pattern recognition should be repeated for the REDUC1 tapes. This could be done at Heidelberg, where there is adequate cpu time available (though a shortage of tape mounters).

Some doubt was expressed about this. The statistics for wrongly rejected events (1.4% of 2-4 prong events lost) were based on only one pre-June tape, and included one lost muon pair. Beate was concerned that this was a large loss, and suggested that REDUC1 be redone



COMBINED MINUTES OF THE JADE MEETINGS  
9/10/86 AND 16/10/86

- Agenda
- 1) Current run
  - 2) The Jan Olsson Column
  - 3) AOB

1) Current run.

These meetings took place so long ago that any remarks made about the (then) current run are long obsolete!

2) The Jan Olsson Column.

On the 9th, Jan announced that previous reports of the death of the tagged  $\pi^0$  were slightly exaggerated. Alex Finch's change to the tagging system trigger increases the trigger efficiency, and only one or perhaps two of the four events observed in the separated beam running would have been accepted by the old trigger.

The following week Jan provided more details. Approximately  $30 \text{ pb}^{-1}$  of data were taken with the old trigger,  $3 \text{ pb}^{-1}$  (equiv.) of separated beams with the new trigger, and (at that time)  $10 \text{ pb}^{-1}$  of data with the new trigger. The increase in the trigger efficiency seems to be about a factor of 3, thus the 4 events observed with separated beams correspond to 12 events in the new data. In fact 60 events were observed, suggesting that the background is of the order of 20%.

3) AOB.

Eckhard Elsen announced a new  $z$ -calibration for this year's data, pointing out that it affects the standard PATREC as well as the Dittmann vertex program.

S. Cartwright 19/11/86 (I've had more important things to do with my time than write up JADE minutes!)

J. Olsson

MINUTES OF THE JADE MEETING  
2/10/86

- Agenda
- 1) Current run
  - 2) End of PETRA party
  - 3) Is there a JADE after November?
  - 4) The handling of archive tapes
  - 5) The Jan Olsson column
  - 6) Miscellaneous

**1) Current run.**

Today there have been machine studies all day long but we are due to have collisions again sometime this evening. It is likely that there will be several more shifts for machine studies before November since this is also the last chance the machine group have to take any data.

**2) The end of PETRA party.**

At the first sitting of the End of PETRA Party Committee a plea was made for anyone with good ideas to come forward. There are approximately 1000 people expected, and apart from the usual beer, wine and food etc (what else do we need?) it is also hoped to have the odd talk, sketch, joke or song and dance. The emphasis is supposed to be on PETRA/physics and of a humorous nature although it might be thought that these are mutually exclusive. Suggestions should be made to Rolf Felst or Richard Hedgecock.

**3) Is there a JADE after November?.**

Rolf Felst raised the question of how we should continue with JADE meetings after November. The general feeling seemed to be that we should have  $N$  meetings per year where as many people as possible, not just those at DESY, gather to discuss recent progress.  $N$  here can mean any number you care to think of depending on your enthusiasm. There could be more frequent meetings of a specialised nature e.g. calibration etc, and also a method of communicating important information e.g. the discovery of bugs. This will be discussed further at a future meeting so people are asked to consider this matter and also to consult with their home institutions.

**4) The handling of archive tapes.**

In response to last weeks meeting Andreas Dieckmann has written a clist RETRAC to monitor the recalling of archived tapes. The clist first displays a list containing information about JADE archive tapes which are present in the machine room i.e. who recalled the tape, when, tape number and dataset name. It will then submit a RETRA batch job, if required, and update the information list. This system will only work if *everyone* uses the clist and, yes, this means *you too!* The clist resides on F22BOW.JADE.CLISTS, so if you have this allocated as a clist library you only need to type:

RETRAC

otherwise you must enter

'F22BOW.JADE.CLISTS(RETRAC)'

Andreas also mentioned that the SEARCH clist on the above library must now be called accompanied with single parentheses, ie (SEARCH), apparently since there now exists a NEWLIB dummy command SEARCH.

#### 5) The Jan Olsson column.

Jan Olsson announced the existence of a new version of the Dittmann vertex routine. This has been written by Klaus Kleinwort and improvements include better error handling and the appropriate geometry of JADE is automatically chosen. This new version has a better efficiency of finding vertices especially those due to converted photons. Users are asked to test these routines which exist in member WERTEX on F11LHO.JADEGS/L. After a period of testing there should be some discussion as to whether or not this new version should be included in the graphics and TP programs.

#### 6) Miscellaneous.

Chris Bowdery announced that he had only 2 copies left of his report to the Royal Society, but dont worry, if your hamster has not already got one Chris has more copies left back in Lancaster. Chris also announces that he is working on TP version 9, which he hopes will be completed soon. Rumour has it there is already a working group studying the feasibility and demand for version 10.

Next JADE-meeting 9/10/86

greetings. Paul Hill 4/10/86

015804

MINUTES OF THE JADE MEETING  
25/9/86

- Agenda
- 1) Current run
  - 2) Absent friends
  - 3) de/dx calibration running
  - 4) The handling of archive tapes
  - 5) The open day

1) Current run.

There were no comments on the current run. However, as regards the non-running of PETRA, a committee is being formed to plan the switching off party and anyone who would like to help in the organisation of this feast is asked to contact Rolf Felst.

2) Absent friends.

Rolf Felst read out a postcard received from Sachio Komamiya. Since his move to SLAC Sachio seems to be suffering from a bit of a culture shock. Why the Americans will drink only decaffeinated coffee but will eat Japanese noodles contaminated with all sorts of nasties is something that is beyond Sachio at the moment but he is working on it.

3) de/dx calibration running.

Karl Ambrus reported that in order to determine the correct de/dx calibration for this year's data, it is planned to do some cosmic running with reduced potentials on the inner detector. Therefore the shift crew is asked to get in contact with the on-call Heidelberger if there is a break in PETRA of 4 hours or more. This applies only during the day time and not after midnight.

4) The handling of archive tapes.

Beate Naroska reported that the 80-archive-tapes-in-the-machine room-per-account rule is now being strictly adhered to by the computer centre staff. This number is defined by the user ID on the tape so you cannot sneak around the rule by recalling tapes from the archive under HERA, PLUTO or private IDs. She suggested that some form of internal group control may be necessary so that there is some space available if required and that we all act in a gentlewomanly/gentlemanly manner. Since no-one had any good ideas it was decided that if you are going to use an archive tape more than once then copy it on to a M-tape as soon as it arrives in the machine room, thus freeing space for more archive tapes. Maybe R1 will have a rethink of this policy since we will probably very quickly exhaust the supply of M-tapes.

5) The open day.

The shift crews to be present in the hall during the open day were decided upon with persuasion varying between mild suggestion and open intimidation. Since these minutes are being written after the event, the Ministry of Misinformation does not consider it worthwhile to record the names of these brave souls for posterity reasons.

Next JADE-meeting 2/10/86

greetings. Paul Hill 29/9/86

Olsson

MINUTES OF THE JADE MEETING  
18/9/86

- Agenda
- 1) Current run
  - 2) Open day
  - 3) Miscellaneous
  - 4) The Jan Olsson Column
  - 5) Multi-jet studies

1) Current run.

Petra was not running at the time of the meeting and no-one seemed to know why. It appears to have been some problem with the synchrotron and should only last until early evening on 18/9/86.

2) Open day.

As we all know the open day is on Saturday 27<sup>th</sup> of this month (if you do not know then your attendance at the recent JADE meetings leaves something to be desired!). Approximately 10,000 people are expected to visit DESY between 9.00 am and 5.00 pm. Although JADE is not on any of the official tours, the entrance to the HERA tunnel will be via the west hall, so we can expect many people to just 'drop by' for a chat. There will be a display of various bits and pieces associated with JADE in the hall, e.g. leadglass blocks, tagging system prototypes etc. Anyone with a good idea of something that could be added to the display is asked to contact Wulf Bartel or Herr Seidel. It is intended to have at least three JADE people in the hall at any one time to entertain the guests, so "volunteers" will be "asked for" in the near future. For obvious reasons these volunteers will be drawn mainly from the German institutions, although it was suggested that German-speakers of other nationalities would add an international flavour to the occasion. The non-Germans present seemed to miraculously lose all knowledge of German. On the open day PETRA will be switched off from about 8 o'clock in the morning until approximately 8 o'clock in the evening.

3) Miscellaneous.

Wulf Bartel reported that sometime after PETRA has been shut down in November there will be a reduction in cputime allocation for the PETRA experiments. It is not yet known by how much, but it is hoped that we will suffer less than other experiments because most of our data reduction is performed at RAL and therefore the major proportion of our cputime at DESY is used for physics analysis.

4) The Jan Olsson Column.

Despite prompts from those present Jan had no bugs to report this week.

5) Multi-jet studies continued.

Siggi Bethke presented a latest update on multi-jet studies, in preparation for the Tuesday seminar. As regards jet-multiplicities Siggi has also looked at QCD models with Ali and Hoyer fragmentation. Like the Lund model they also predict too few 4-jet events, whereas the Webber model describes the data very well. The Gottschalk model, however, predicts too many 4-jet events but can be made to agree with the data if soft gluons are built into the model. Siggi also

looked at more detail at the 4-jet events. He finds 590 events above 40 GeV using  $y_{cut} = 0.024$ . Looking at various kinematic distributions, he found that there was no particular type of event that the Lund model was lacking but was rather suffering from a reduction in the overall rate. In contrast the Webber model could describe everything well. The moral of the story seems to be "soft gluons rule OK!".

Siggi also investigated the experimental value of several variables which have been proposed to indicate the existence of the triple gluon vertex. He constructed a home-made 4-jet abelian monte carlo and found that, based on a sample of 2000 events at the parton level, a slight difference could be seen between the predictions of the abelian and non-abelian models, in particular in the mean values of the modified Nachtmann-Reiter angle. This difference was reduced after fragmentation. The data lay essentially between the two models but with the present statistics no conclusion could be drawn. Siggi estimated that we would require approximately 10 years of running above 40 GeV in order to make any distinction between the models. Considering PETRA will have its last  $e^+e^-$  collisions this November, it would require alot of fancy trickery with time machines, improbability fields and such devices for this to be realised. Suggestions should be sent to the Ministry of Misinformation and people with names like H. G. Wells will be given preference.

Next JADE-meeting 25/6/86

Paul Hill 19/6/86

Olsson

MINUTES OF THE JADE MEETING  
HELD 11/9/86

- Agenda      1) Present and future run  
              2) The Jan Olsson Column

1) Present and future run.

CELLO have finally managed to make a decision on PETRA running at  $E_{cm} = 22 \text{ GeV}$  and their answer is no. So that's that! They are now contemplating asking for separated beams (the copy cats). However, judging by past experience, by the time CELLO make their decision, PETRA would probably have closed down long ago!

A plea from Hans Krehbiel to institutes at all corners of the world (*the minutes have a very wide circulation you know!*). The JADE tape unit used for test beams data is currently kaputt and in dire need of a pressure sensitive switch. The manufacturers 'Pertec' do not have a European rep. and what's more, our model has long been dis-continued. So, if you happen to have a 'Pertec' tape unit lying around in your institute, please help if you can.

2) The Jan Olsson Column.

As Jan took to the stage rumours of a new bug spread across the floor like wild fire. However, contrary to expectations, Jan did not report on any bug, but rather on the results of the separated beams running.

After a weeks running with separated beams Jan found that 4 events passed the tagged  $\pi^0$  selection criteria (which included visual scanning). After normalisation, this effectively means that a major part of the tagged  $\pi^0$  signal is due to beam-gas background. The conclusion, although still preliminary, is not what we had hoped for or even expected. However, despite it being a disappointing result, Jan noted that we have still learned something new!

Next JADE-meeting, 18/9/86

J. Chrin 12/9/86

MINUTES OF THE JADE MEETING  
HELD 4/9/86

- Agenda
- 1) Present and future run
  - 2) The Jan Olsson Column
  - 3) Other matters

1) Present and future run.

As from last Tuesday (2/9), separated beams have been crossing the JADE interaction region, and the luminosity has been *really low!* Colliding beams are due to return next Tuesday (9/9). Shift crew are reminded to continue submitting the reform jobs.

Regards PETRA operating at  $E_{CM} = 22 \text{ GeV}$ , CELLO are currently meeting to make up their mind, but the feeling is that the luminosity would be too low for them to make use of any data at this energy point.

2) The Jan Olsson Column.

This weeks bug was discovered in collaboration with Uwe Schneekloth and stems from the lead glass routine LGCDIR. The routine reconstructs energies and directions of clusters, associates charged tracks with LG-clusters etc., creating the bank LGCL for both real and Monte Carlo data. Now here comes the bug (affecting MC only.)

If Monte Carlo tracking was done using the options

$$LFLAG(1) = LFLAG(3) = .FALSE. \quad (\text{default is } .TRUE.)$$

i.e. without resolution smearing and without absorption losses for  $\gamma, e$

then

clusters 5-8, 13-16, 21-24 .... etc. will nevertheless be corrected for absorption loss!

The bug, present since the beginning of JADE, was removed in the evening of 3/9/86.

3) Other matters.

*The end is nigh!*

End of PETRA Party to take place in the afternoon of Monday 3/11/86 in Hall I. More formal commemorations will take place in February '87 with colloquiums highlighting PETRA results. All former JADE members should be notified and invited!

*New Students*

Mike Atkinson and Owen Davies, from Manchester University, were welcomed with the customary loud applause.

Next JADE-meeting, 11/9/86

J. Chrin 5/9/86

Olsson

MINUTES OF THE JADE MEETING  
HELD 28/8/86

- Agenda
- 1) Present and future run
  - 2) Software news from Jan Olsson
  - 3) Other important matters

1) Present and future run.

In a meeting between Söding, the PETRA collaborations and the machine group, Lenecke reported on the test run at  $E_{cm} = 22 GeV$ . The running conditions were said to be difficult and unwanted resonances were nearby. Only 3 mA per bunch was achieved and any luminosity that may be collected will be less than that in 1981. Overall, from the machine point of view, it does not look very promising. Furthermore, TASSO and MARK J have no interest in running at this energy although CELLO have yet to decide. It was stated that should we decide to make an official proposal then this will have to be done through an open presentation. A final decision from JADE will hopefully be made in a meeting to be held on Monday 1/9 at 11:00 hrs.

Lenecke confirmed that separated beams for JADE only are possible although this would require some hardware wiring which may take a few hours. Jan Olsson presented the case for 'taking data without taking data' and no objections were raised. A tentative date for non-colliding beams is Tuesday 2/9 for a period of about a week. *Addendum.* For the purpose of normalising data from separated beams with data from colliding beams in the subsequent analysis, vacuum readings as provided by PKR, will need to be monitored. To this effect, Paul Hill has written instructions which the shift crew will be required to faithfully follow.

2) Software news from Jan Olsson.

Olsson Graphics Corporation proudly announced the introduction of new programs for the display of the J68K bank in JADEZ. The standard JADEZ module is now close to the maximum 2.2 Mbyte size allowed when running TSO. Users with private modules may thus need more region. An extra library in the link step will also be required: F11LHO.GRAPHIX.S(#GRAPHIX).

The Monte Carlo Trigger Simulation has been updated and now includes simulation of a) new triggers since 1982, b) trigger restrictions of 1983-84 and c) random hits in Jet chamber as determined from Lumi/Random summary tapes. The simulation period would previously be set by the user via a private version of RDDATE. Now this can be done more conveniently by setting the date in COMMON/TODAY/HDATE(6), just as in the muon system and tagging system software.

Yet more bugs to report (including one in last week's Minutes!) The bug resulting in the double tracking of photons and electrons above 100 MeV in the lead glass endcaps, has in fact, been present since the 3D Meier LG tracking routines were first introduced in 1982/83 and not since June 86 as reported last week by the ministry of misinformation.

A new bug was discovered this week in the Monte Carlo subroutine ELGOBS, which subtracts from the photon and electron energy, an energy corresponding to the loss in the tank and coil and other materials. The loss, as Jan discovered, is in fact too small. The reconstructed photons then obtain an energy correction factor from the subroutines LGECOR/ENGLOS which consequently overcompensates for the actual loss. In the barrel, the actual loss is  $0.88 X_0$  whilst

the correction factor is  $0.97 X_0$ . For the endcap the corresponding figures are  $0X_0$  and  $1.13 X_0$  respectively. These bugs have been present since 1982 in both the 1D and 3D simulations.

However, if it's any consolation, yet another bug at least partly compensates for the above effect! The energy corrections in ENGLOS are based on Monte Carlo studies which do not simulate the readout threshold. This effectively means that the corrections to the photons are underestimated. Unfortunately, whilst the other bugs can easily be corrected, it's not clear if anything can be done about this one! Jarr concluded by stating Lubarsky's law of cybernetic entomology: there's always one more bug!

### 3) Other important matters.

a) W. Bartel and R. Felst reminded us of the safety regulations concerning radioactive sources and test beams. Those present signed a piece of paper saying they'd heard!

b) Beate Naroska reported on the DESY computer users meeting. The ratio of medium:low jobs now running on the machine is now 3:1 instead of 1:1. Consequently low jobs are slow to run but this will be compensated by an increment in medium priority allocated to accounts. The retrieval of archive tapes has been drastically reduced to 80 tapes per week per account, so RETRA with care! However, if for reasons of major analysis, a vast number of archived tapes are required, an alternative route to their retrieval is available by special arrangement with O. Hell.

c) Susan Cartwright gave a rehearsal of her two photon physics talk to be delivered at the forthcoming 'Physics in Collision' conference in Chicago.

#### d) *Addendum*. Publications in NIM on JDAS:

D. Cords, P. Dittmann, R. Eichler, H.E. Mills: The data acquisition system for the JADE detector. Nucl. Instr. and Meth. **A245** (1986) 137. (Was DESY 85-074).

H.E. Mills: Online event filtering in the JADE data acquisition system Nucl. Instr. and Meth. **A247** (1986) 525. (Was DESY 86-008).

Next JADE-meeting. 4/9/86

J. Chrin 1/9/86

Olsson

MINUTES OF THE JADE MEETING  
HELD 21/8/86

- Agenda
- 1) Future run
  - 2) Another bug bites the dust
  - 3) Miscellaneous

1) Future run.

In a meeting between Söding and the PETRA collaborations, our requests for (a) non-colliding beams and (b) luminosity at  $E_{cm} = 22 GeV$  were presented. Regards the former, the feasibility of achieving non-colliding beams at the JADE interaction point only was discussed. Lenecke stated that this could in principle be done by modifying the voltage lines to the separating plates. Regards the latter, the other PETRA experiments will *go and have a think about it*. And whilst they are doing so, PETRA will undergo a short test run (for a period of 2 or 3 shifts) at the lower energy to check that there are no undesirable resonances.

2) Another bug bites the dust.

Detective Superintendent Jan Olsson uncovered yet another dick dastardly plot to sabotage our Monte Carlo. The offenders, the lead glass routines TRLGL / TRLGSH - TRLGSG, failed to update the position vectors of photons above 100 MeV, tracked in the LG endcaps. Consequently these photons are tracked twice (once in 3 dimensions and again in 1 dimension) leading to energy depositions approximately a factor of 2 too large. The bug affects only those Monte Carlo events generated using the Meier/Magnussen 3D lead glass tracking routines (available since mid-June) up until 20/8.

3) Miscellaneous.

DESY open day, Saturday 27/9 from 9:00 to 16:00 hrs. Some five thousand people are expected. Two tours will be available, one of HERA, and a joint tour of PETRA and DORIS. Jadites will be needed to promote the merits of our experiment.

Hans-Jürgen Seidel gave details of the JADE Betriebsausflug (a canoeing expedition - today - 22/8). Unfortunately, it's raining cats and dogs out there. But what the heck, they'll be getting wet anyhow!

Next JADE-meeting, 28/8/86

J. Chrin 22/8/86