

Olson

MINUTES OF THE JADE MEETING
HELD 14/8/86

- Agenda
- 1) Current run
 - 2) α_s , the running coupling constant?
 - 3) Miscellaneous

1) Current run.

In a meeting between Söding, the experiments and the machine group, it was proposed by those working on DESY II, that now that PETRA has reached its target of 50 pb^{-1} , machine time and effort should now be directed towards tests on DESY II. This suggestion however was firmly stamped out and PETRA will continue to have priority over the next weeks. However, it is still possible that about 20 shifts in which DESY II will have priority will be allocated at the end of October. The resulting inconvenience to PETRA will be a 15 minute wait between beams dump and injection.

2) α_s , the running coupling constant?

Siggi Bethke reported on a determination of α_s from an analysis of three jet event rates. At three centre of mass energies he finds (statistical errors only):

$E_{cm} \text{ (GeV)}$	$\alpha_s^{(2)}$
22	$.165 \pm .010$
34	$.135 \pm .002$
44	$.121 \pm .002$

Clearly the indication is that α_s really is running. In fact, the probability of it being constant over this energy range is in the order of 10^{-8} . The observed variation of α_s with E_{cm} is however somewhat steeper than that predicted by QCD (with asymptotic freedom), but appears to be well described by the prediction of Colangelo et al who have incorporated both confinement and asymptotic freedom into their theory. Firm conclusions cannot however be made as yet. Systematic point to point errors have to be intensively studied although these are likely to be small. The limiting factor of the analysis is the lack of statistics at 22 GeV. To this effect Siggi illustrated that if a determination of the running coupling constant is to be made at any storage ring, then PETRA is the place to do it. At 22 GeV we are unaffected by threshold effects from the Upsilon resonances and at 44 GeV we are relatively free from electro-weak interferences. Furthermore, within this energy range a decrease in α_s of about 14% might be expected. Evidently the energy range 22 - 44 GeV is the optimum range. A further handful of pb^{-1} at 22 GeV would therefore be of some considerable scientific value. A meeting for Monday (18/8) morning was thus proposed to seriously investigate the pros and cons of sacrificing good luminosity at 34.6 GeV for a few pb^{-1} at 22 GeV. Should this appear feasible then we will approach the directorate with the proposal with full force; and who's to say that at the end of the year we shan't find α_s sprinting!

3) Miscellaneous.

A social gathering with wine supplied by courtesy of Bob Glasser followed the meeting. Bob is departing to the States in order to continue with his teaching duties. We bid him farewell and wish him the very best of luck!

Next JADE-meeting. 21/8/86

J. Chrin 15/8/86

Alson

MINUTES OF THE JADE MEETING
HELD 7/8/86

- Agenda
- 1) Present run
 - 2) Jet chamber calibration
 - 3) Miscellaneous

1) Present run.

All more or less quiet on the north-western front (i.e. we're steadily accumulating data).

2) Jet chamber calibration.

Joseph Spitzer reported on an update of the jet chamber calibration. Much improved constants have been finalised for the periods of Spring 1982 (runs 10267 to 11037) and all of 1985, whilst preliminary constants are now available for the FADC 1986 data. A note describing how to call the new calibration constants is in preparation.

3) Miscellaneous.

A new Summer student, Wolfgang Fries from the Technische Universität München, was welcomed with the usual loud applause.

Thats all folks!

Next JADE-meeting, 14/8/86

J. Chrin 8/8/86

Olsson

MINUTES OF THE JADE MEETING
HELD 31/7/86

Agenda 1) Present run and future no-run

1) Present run and future no-run.

Wulfrin Bartel reported on the status of the present run. There are two items of attention for shift crew. Firstly, there is a problem with the lead glass electronics system. Apparently, a lead glass test run is required before data taking resumes at the start of a new fill in order to prepare the LG ADCs for the real thing! The test run does not require the HV to be powered up. Thus, if the test run is commenced during the latter stages of injection, the HV should still remain off until PKR have completed injection. Alternatively, the shift crew may wait until the fill is over and the voltages powered up, and then try a dummy run i.e take data without writing to the IBM or tape. Of course, this then means we lose a precious 30 seconds of data!

The second item concerns the frequently occurring IBM transfer errors. When these occur, the JDAS console prompts the message 'try again?' to which the alert shift personnel should reply 'yes' without delay. Jan Olsson stated that these errors were probably due to a poor connection between the FAMP and the NORD memory.

Howard Mills again stressed the importance of writing things down in the log book, especially when an expert has been called and his/her instructions carried out.

PETRA no-run from Tuesday 5/8 7:00 hr to the following Wednesday evening (possibly) or Thursday morning (probably) due to HERA construction close to PETRA HV cables. Four-hourly (at least) inspections required during this period as usual.

Next JADE-meeting, 7/8/86, will feature reports on the jet chamber calibration and the Berkeley Conference.

J. Chrin 1/8/86

Alisan

COMBINED MINUTES OF THE JADE MEETINGS
17/7/86 AND 24/7/86

- Agenda
- 1) Current run
 - 2) Lumi trigger
 - 3) New students
 - 4) AOB

1) Current run.

Wulf Bartel reported that there are no problems with PETRA or JADE at the moment. However, the machine will be off next Tuesday (July 29) because of HERA construction work close to PETRA HT cables. Shifts on that day will be four-hourly inspection and gas check.

2) Lumi trigger.

Alex Finch reported a change to the lumi trigger. In the past only the outer two rings of the tagging system were enabled for this trigger because the inner ring was too noisy. However, the beams are now cleaner than during the high-energy running, so ring 1 can be used too. This was installed and worked fine, but the resulting increase in the number of lumi triggers was felt to be excessive (one in 15 events written to disc was a lumi event). The divider for the lumi trigger was therefore modified by Herr Krehbiel to allow a larger scaling factor, and we are currently running with a factor of 32 instead of the previous 16.

Alex conceded that if the beams were to become less clean it might be necessary to reverse this change, but pointed out that this should not be done without consultation with the Lancaster group since it would affect luminosity calculations. It was agreed to defer discussion of this until the situation actually occurs (if ever).

3) New students.

Chris Haworth of University College London, who will work on the tagging system, and Gunter Eckelin of Heidelberg (already familiar from his involvement with the flash ADCs) were introduced to the collaboration.

4) AOB.

Wulf reminded shift crew that single beam running is valuable for background estimates for some $\gamma\gamma$ analyses. Therefore, if either electrons or positrons are unavailable, we should try to persuade PKR to give us a single beam fill.

Next JADE-meeting 31/7/86

S. Cartwright 24/7/86

Olson

MINUTES OF THE JADE MEETING
3/7/86

- Agenda
- 1) Current run
 - 2) Berkeley conference
 - 3) AOB
 - 4) Football

1) Current run.

The continuing high temperatures are causing problems. Beate reported that at the time of the meeting JADE was off due to overheating of the jet-chamber. The Nord-50 had stopped working and this also proved to be due to the heat: with clean air-filters and without its covers, it is now functioning (Friday morning).

Beate added that PETRA is also affected by the heat: injection must be controlled manually instead of by computer so that the transmitters can be "nursed". This leads to longer waits between fills.

On a different note, shift crew were warned that the toilet in the NW hall is out of commission!

2) Berkeley conference.

The "pre-talks" (more exactly, presentation of new DESY results) for the Berkeley conference will be held on Friday July 11. The duration of this marathon will be three hours not counting discussion, coffee breaks etc., so speakers are asked *not* to overrun their time. From JADE, Siggie Bethke will present his mini-rapporteur talk on jets, plus related new JADE results (Andreas' α_S and Jan Chrin's heavy quark fragmentation), and Susan Cartwright will show "other JADE results" ($\gamma\gamma$, τ branching ratios). All this has somehow to be squeezed into 25-30 minutes! To assist in achieving this, there will be a rehearsal of the JADE talks on Tuesday (place and time to be announced).

3) AOB.

Norbert Magnussen reported two bugs in the Monte Carlo lead glass simulation. These are:

- 1 Any Monte Carlo using the SF5-only version (i.e. having a COMMON/TODAY date before 1983) which was tracked between 7/6/86 and 2/7/86 will have no photons whatsoever registered in the lead glass. Fortunately this probably does not affect anyone (since most people now use a later nominal date).
- 2 An error in the logic of the program leads to a systematic error in the energy. The error is small for high energy photons but can be very large for low energy γ s. Probably only two-photon resonance studies may be affected. This error has always been present (it was not introduced during the recent changes), but it will now be corrected.

4) Positively the last football report this season.

The JADEd distinguished themselves in their final match by thrashing the previously unbeaten TASSO Piranhas 7-2. This means that we scored more goals than any other side in the tournament, and probably leaves Paul Hill top scorer overall with nine goals (a transfer fee is

currently being negotiated ...). The final placings were very close with three teams all on five points. The JADEd. with 4 points, are thus fourth, but only one point behind the leaders. (Will that do, Jan? Can I have my bribe now?)

Berkeley pre-talk rehearsal 8/7/86

Next JADE-meeting 10/7/86

S. Cartwright 4/7/86

Olsson

MINUTES OF THE JADE MEETING
19/6/86

- Agenda
- 1) Current run
 - 2) Berkeley conference
 - 3) Acknowledgements
 - 4) Football

1) Current run.

Problems with an HT cable for the West transmitter are presently restricting PETRA to low currents. The fault has not yet been located and the cable comes from an outside supplier, so the trouble is not likely to be fixed before next week. Meanwhile we will continue to run with low currents.

Jan Olsson reported a problem with the MIPROC-16. Jan and Hanns Krehbiel replaced the fan in the system crate because it had been making a strange noise (and failure of the system crate crashes the Nord, so faults have to be fixed before they become dangerous). After this operation was completed, things appeared to be normal, but it was noticed that the MIPROC was not rejecting any events. Investigations showed that it believed all jet-chamber data to be corrupt. Exchanging cables did not help and Jan is now replacing chips, but the fault is still there. Fortunately, with the present low currents the MIPROC has little effect on the dead-time, and the events it should have rejected are later thrown out by the Nord, so all is well. We must hope that the MIPROC can be fixed before PETRA!

2) Berkeley conference.

Rolf Felst updated the list of speakers for mini-rapporteur talks: Grivas of CELLO will present new particle searches and the electroweak speaker is Fesefeldt of Mark J.

3) Acknowledgements.

Peter Warming thanked all those who attended his and Dagmar's Polterabend last week, and also those who contributed to the wedding present.

4) The Sports Page.

In this week's inter-DESY match a fine goal by Paul Hill seemed certain to earn a 1-1 draw with 1. F.C. HERA, but alas, an own goal by Karl-Heinz Hellenbrand in the final minute gave HERA the victory. With only one match left to play, The JADEd now look certain to finish well down the table.

Next JADE-meeting 26/6/86

S. Cartwright 20/6/86

Olsson

MINUTES OF THE JADE MEETING
12/6/86

- Agenda
- 1) Current run
 - 2) The JADE Monte Carlo
 - 3) dE/dx
 - 4) AOB

1) Current run.

The current run is going very well, although there is still a dispute over the luminosity, with TASSO recording higher figures than anyone else. Nobody has so far been able to find a reason for the discrepancy.

2) The JADE Monte Carlo.

Jan Olsson reported that the new JADE Monte Carlo has been implemented as discussed last week. The vertex chamber tracking and SF5/SF6 lead glass are in: the other proposed additions (z-chamber, beam-pipe interactions etc.) are not. Date-dependent configurations are controlled by COMMON/TODAY/. The default date (set in JADEBD) is 17/5/85, which means that the vertex chamber is IN (this differs from Jörg Hagemann's original proposal). More details are provided in an addendum to JADE Computer Note 87.

3) Particle identification using dE/dx .

Karl Ambrus reported on his improved dE/dx analysis and its use in searching for anti-deuterons (as previously reported by ARGUS). Karl has put a great deal of work into perfecting the dE/dx calculations, although the final effects appear to be small except at low momenta (or for heavy particles). The calibration is also incomplete (the high energy data are not included). However, it is expected that when this deficiency is remedied Karl's routines will replace the present standard dE/dx .

Concerning the application of all this work, Karl looked for anti-deuteron production in multihadronic events. ARGUS have seen six such events. Karl can see no clear evidence in our data, but the resulting upper limit is 20 times higher than ARGUS' calculated rate of \bar{d} 's/MH event, so there is no contradiction.

4) AOB.

Rolf Felst said that, as usual, some of PETRA's contributions to the Berkeley conference would be organised as mini-rapporteur talks. In the jets session, the selected speaker is Siggie Bethke. Other subjects of interest to us are electroweak (speaker undecided, from TASSO or Mark J) and "Mark J muons" (speaker from Mark J, either Branson or Min Chen).

Finally, some late sports news from the football tournament that's on everyone's mind at the moment — no, not the World Cup, the inter-DESY six-a-side championship. So far our lads (aptly named The JADEd) have played two matches. In the first, a certain lack of match practice for some of the team (non-footballers Ludek Smolik and Paul Hill having been drafted at short notice) resulted in a 4-2 defeat by the Mark J Dragons. However, the team redeemed themselves the following week by a fine 6-4 victory over the CELLO Chancers. On this form it would appear that we are doomed to concede four goals a match, and the trick is to score more than that! The real test comes this week when The JADEd meet pre-tournament favourites F.C. HERA.

Olsson

MINUTES OF THE JADE MEETING
5/6/86

- Agenda 1) Low-thrust inclusive muons (again)
 2) Software status

1) Low-thrust inclusive muons.

Michael Kuhlen gave a pre-talk for next week's Hörsaal seminar. In pleasant contrast to the usual problem of over-running, Michael failed to use up his allotted 20 minutes! The subject is, of course, 'Mark J' muons, a topic with which we are all familiar by now.

2) Software status.

Further improvements to the JADE Monte Carlo

Norbert Magnussen reported on his work on the simulation of showers in the lead-glass. He used EGS-3 and GEANT to check the Longo et al. parametrisation used by Karl-Heinz Meier. It turns out that the parametrisation is good but the parameter values that we have been using were not the best fit to the EGS data. In addition, of course, the SF6 lead glass installed in 1982-83 needs a different set of values. Consequently Norbert wants to replace the current Monte Carlo function SF by four new functions SF5, SF6, SF56 and SF65 (the latter two handle cases where the shower starts in one type of glass but finishes up in the other).

As in the case of the vertex chamber, switching will be necessary since the configuration has changed. Like Jörg, Norbert proposed using one of the LFLAGs. However, Chris Bowdery pointed out that the muon Monte Carlo already includes a facility for setting the nominal date COMMON/TODAY/. There are two reasons for using this in preference to a separate flag: firstly, if two flags exist then some people are bound to set them inconsistently (Murphy's Law), and secondly, even people who do not use, say, the vertex chamber should have it included if they are tracking 44 GeV data because of the different material thicknesses involved. Wulf Bartel agreed that using TODAY would be preferable.

New software

Jan Olsson made some general comments about new software. First, he proposed that the old and new versions of the Monte Carlo be distinguished using the presently free word 16 in the HEAD bank, which would be set equal to 1 for the new version (and would remain zero for the old version). He remarked that if we insist that the "new" version include all the proposed upgrades it will never appear, and suggested that we implement what is already available.

More generally, Jan commented that some good new software has been written recently and should be made standard so that all of us can benefit. His examples were Karl Ambrus' dE/dx routines, and the vertex-finding package devised by Jörg Hagemann, Claus Kleinwort and Rainer Ramcke.

Bug in the Dittmann vertex package

Claus Kleinwort unveiled a bug in the Dittmann vertex package. The extrapolation error is calculated using a formula in which the curvature contribution to the error is correct only for the first measured point! This results in a serious underestimate of this error when the track is extrapolated beyond this point (e.g. to the vertex chamber).

The TP program revisited

Chris Bowdery outlined his plans for the TP program. The current version (called version 8 because it was used to make the Generation 8 TP datasets) consists mainly of original Yamada code and contains various 'silly' features (track-shower linking, particle identification, etc.) and outright bugs. Chris thinks that trying to fix all the bugs is likely to produce a ratio bugs introduced : bugs fixed ≥ 1 , as well as leaving the 'features' unchanged, so he proposes a "modest rewrite". This will not be transparent to TP program users, since it will change the steering cards and the job printout. However, the format of the output TP banks will not be changed. To discuss this further, a meeting will be held on MONDAY JUNE 9, 11.00 IN SEMINARRAUM 1.

Next JADE-meeting 12/6/86

S. Cartwright 6/6/86

DJ

MINUTES OF THE JADE MEETING
29/5/86

- Agenda 1) Current run
 2) AOB

1) Current run.

Peter Warming explained that large temperature differences had caused the ethane supply for the muon chambers to liquefy, resulting in a large gas leak. Consequently the muon chambers and the z-chamber were off for a few days. The problem was now solved and the chambers were expected to be put back in the readout on Friday. (Note: this was indeed done.)

2) AOB.

Siggi Bethke announced the availability of a new Lund Monte Carlo with Gottschalk complete 2nd order QCD matrix element (previously the GKS calculation was used, but this neglects some terms proportional to y_{min} , which are not in fact negligible). To generate events with this new option one should

CALL LDGEVT(IFLAV,ECM)

It is necessary to link F11BET.LUND.L. Siggi recommends using $\Lambda_{QCD} = 160$ MeV at 34 GeV and $y_{min} = 0.010$.

For the less industrious among us, Siggi has already generated 20 000 events at 34 GeV and 10 000 events at 44 GeV. However these have $\Lambda = 135$ MeV rather than 160. The tape names are

F11BET.MHTP35.LDG10.A01 to A06 and
F11BET.MHTP44.LDG10.A01 to A03.

There are 3333 events per tape, and all have Meier lead-glass and muon tracking.

A "quick" calculation of α_S from the 3 jet rate gives 0.132 ± 0.002 (statistical errors only) for the Gottschalk matrix element compared to 0.152 ± 0.003 for GKS. This is compatible with Gottschalk's expectation of a 10% change.

As the Monte Carlo is otherwise unchanged (comparisons with data unaltered if α_S is scaled appropriately) Siggi advises all multihadron generators to switch to Gottschalk, since the GKS calculation is clearly less satisfactory.

Next JADE-meeting 5/6/86

S. Cartwright 2/6/86

Alman

MINUTES OF THE JADE MEETING
22/5/86

- Agenda
- 1) Current run
 - 2) Berkeley conference
 - 3) A new version of the JADE detector Monte Carlo

1) Current run.

Rolf Felst reported that a sprinkler system has once again been installed on the roof of the hall to provide additional cooling in the unlikely event that the warm weather continues. It can be switched on from the washroom. Herr Seidel has provided instructions there.

Following the decision to allow one shift member to wander about loose, an on-site beeper has been provided so that the on-duty shift member can recall his colleague if necessary. The beeper number is 2563, so that to tell the holder to phone the hall you should dial 10 2563 2563 (or 10 2563 3236). Shift crew are asked not to lose the gadget as it was very expensive!!

Howard Mills reported the results of a check on the online rejection from the MIPROC-16 (T2 check) and the Nord-50 (pattern recognition). These are the routines which could conceivably be affected by jet-chamber calibration problems. However, the "5%" events from five REDUC1 tapes yielded no cause for concern. The rejected events were cosmics, beam-gas, beam-wall and genuine events with two very soft tracks (these are, and always have been, occasionally rejected by the MIPROC; this is a known feature, and such events do not trigger efficiently anyway).

2) The Berkeley conference.

The following topics were shortlisted for submission to Berkeley:

- $\gamma\gamma \rightarrow p\bar{p}$
- radiative τ pairs
- $\gamma\gamma \rightarrow D^* + X$
- 4-jet studies (Siggi Bethke)
- electroweak (updates on $\tau^+\tau^-$ and $\mu^+\mu^-$)
- inclusive ι (though Lutz Becker is somewhat worried by the fact that no other experiment has seen it)
- α_S (Andreas Dieckmann)? (to be discussed)

3) A new version of the JADE Monte Carlo.

Jörg Hagemann presented a new version of the JADE detector Monte Carlo. This uses the flag LFLAG(5) in COMMON CFLAG/LFLAG(10) to determine detector geometry (.TRUE. implies vertex chamber tracking, .FALSE. beam pipe counters). The default value is .FALSE., i.e. no change.

The vertex-chamber tracking is installed, but some other upgrades (z-chamber tracking, SF6 lead glass) are not even though the routines exist, and there is talk of adding nuclear interactions and dE/dx . Therefore it was decided not to release the new version just yet.

Karl-Heinz Hellenbrand added that he had discovered a bug in the current Monte Carlo: photons originating outside the inner edge of the coil (e.g. from K decay) are not tracked. This can lead to the loss of as much as 8 or 9 GeV! This was added to the list of things to be changed for the new version!

Next JADE-meeting 29/5/86

S. Cartwright 23/5/86

Olsson

MINUTES OF THE JADE MEETING
15/5/86

- Agenda 1) Current run
 2) Charged particles in the lead glass

1) Current run.

This time the excuse for the non-run was a fire in the synchrotron. An HT cable caught fire and damaged several other cables and a water pipe. It is somewhat alarming that the DESY smoke detectors did not seem to notice this!

CELLO is back in action after problems with the helium supply for its superconducting coil.

The luminosity figures as of last week were: JADE 20.5 pb^{-1} , Mark J 20.1 pb^{-1} , CELLO 22.6 pb^{-1} , TASSO 29.2 pb^{-1} . TASSO claim that their deadtime is about 20%, which produces an apparent inconsistency!

Rolf Felst pointed out that the deadline for papers for the Berkeley conference is June 1. It was agreed that a discussion on submissions should be held next week.

Lutz Becker said that the first 1986 REDUC1 data had arrived from RAL. Eckhard Elsen expressed concern that the calibration of the jet chamber flash ADC system is known to be inadequate as yet (track linking in ring 3 does not work properly: many tracks are found twice, yielding e.g. four-track Bhabhas). It is not known whether this affects the cuts made in REDUC1, but it is clear that the pattern recognition will have to be re-done. In view of this it was decided that production REDUC1 at RAL should be halted for the time being.

Finally, Jörg Hagemann announced that a new version of the JADE detector Monte Carlo will be unleashed on Friday 23rd. This should be transparent to casual users, but it provides the option of vertex and z-chamber tracking. More information is promised in the next JADE meeting.

2) Charged particles in the lead glass.

Karl-Heinz Hellenbrand described a new philosophy for dealing with energy deposition from charged particles in the lead glass. Previously there have been various strategies, ranging from ignoring the possibility altogether to removing any cluster lying near a charged track. Karl-Heinz's method is to delete the lead-glass blocks (*not* whole clusters) hit by the track if $p_{\text{track}} > E_{\text{shower}}$ (otherwise $E_{\text{shower}} \mapsto E_{\text{shower}} - p_{\text{track}}$). The clustering is then re-done, and the "new" clusters assumed to be real photons. This will "kill" photons which coincide with charged particles of larger energy, e.g. a 900 MeV photon hitting the same block as a 1 GeV pion, but Karl-Heinz says that 95% of photons are successfully found. The resulting $E_{\text{vis}}/2E_{\text{beam}}$ distribution (in Monte Carlo) looks much narrower than one done using an old method (subtract 350 MeV/charged track). However, doubters can rest assured that the "old" lead-glass clusters are not lost forever — instead, the "new" clustering is written into the banks ALGN.2 and LGOL.2.

More information on this can be obtained directly from Karl-Heinz.

Next JADE-meeting 22/5/86

S. Cartwright 21/5/86

Olsson

MINUTES OF THE JADE MEETING
HELD 7/5/86

- Agenda 1) Online filtering with the Famp
 2) Miscellaneous

1) Online filtering with the Famp.

Jan Olsson announced that the code for online filtering of track triggered events (T2) with the Fast AMsterdam Processor has been developed, tested and is now ready for use. Studies of recent data show that the FAMP flags approximately 250 events for rejection per full run (i.e. 8000 events). This compares with a NORD 50 rejection figure (based on the fast pattern recognition program) of about 800 events. The events flagged by the FAMP are compromised roughly of 40% cosmics (accepted by the NORD 50) and 60% beam wall or beam gas events with more than 350 hits in rings 1 and 2 of the inner detector (not considered by the NORD 50).

However, it was decided that the filtering should be implemented in the REFORM job for the time being, and if the subsequent tests proved that there was no further risk of losing physics events, then the filtering will finally be activated online.

2) Around the experiments.

Not much luck for Cello this week. A compressor which pumps liquid helium for the superconducting magnet has broken down. This is likely to put Cello out of action for a week. Tasso say their beam pipe is getting hot, and Mark J are experiencing their usual problems with their vertex chamber.

Regards Jade night shifts, Rolf Felst commented that there is no point in both of the shift crew struggling to stay awake. It is quite acceptable for one of the crew to lay his head, either on the camp bed, in his office or even at his home provided he is able to return to the hall in a matter of minutes to deal with an emergency (e.g. replacement of a power supply). It was stressed however, that shift crew are responsible for the data taking and this should still be of primary interest whatever the time of day!

Next JADE-meeting 15/5/86

J. Chrin 12/5/86

Olsson

MINUTES OF THE JADE MEETING
HELD 17/4/86

- Agenda 1) News, news and more news
- 2) Physics results

1) News.

A variety of news items were the subject of this week's meeting. To kick off, shift crew should note that there will be no tap water in the NW hall (due to some urgent repair work) as from 18/4 15:00 hrs until 19/4 12:00 hrs. In any case, it might just be that we don't have beam at this time, since work will be going on to re-instate Petra magnets into their rightful position, following a downward slump of 5mm after the Hera tunnel burrowed its way below the Petra ring near the Jade hall.

Further upgrades of the DESY IBM computer system will mean that there will be no computing and no link on the 22/4 from 15:00 to 18:00 hrs. If all goes well (as it is expected to) the only further down period is scheduled for the 12/5 from 08:00 to 16:00 hrs.

Peter Joos has asked Jade to fill in some slots for the Tuesday afternoon seminar. He was particularly interested in Jade making its "funny muon events" public. It was felt that these events would not stretch out to last a full seminar, but could be presented by Michael Kuhlen in a joint seminar, perhaps with Crystal Ball who would also like to make a short presentation. It was also suggested the Siegfried Bethke should, at a later date in the term, present Jade results on tests of higher order QCD. Knowing Siggie, this is likely to take up more than one seminar! (Only joking Siggie!)

Abstracts for the Berkley Conference on 16/7 are now required. Jade publications from the last 6 months or so will have their abstracts submitted as too will the recent $p\bar{p}$ and tau results.

Finally, while Petra is on the verge of breaking certain luminosity records, it has been noticed that Mark J and Jade are recording consistently lower figures. Some people feel that there is a bit of a discrepancy between the lead glass Bhabhas and the tagging system Bhabhas and it is not clear which luminosity figures should be used for the official record. Further investigations are underway.

2) Physics results.

Uwe Schneekloth presented the following measurements of the tau branching ratio:

$$BR(\tau \rightarrow e\nu\nu) = (17.0 \pm 0.7 \pm 0.9)\%$$

$$BR(\tau \rightarrow \mu\nu\nu) = (18.8 \pm 0.8 \pm 0.7)\%$$

$$BR(\tau \rightarrow \pi\nu) = (11.8 \pm 0.6 \pm 1.1)\%$$

Uwe's results are in good agreement with both the world averages and the theoretical expectations.

Next JADE-meeting 24/4/86

J. Chrin 18/4/86

MINUTES OF THE JADE MEETING
10/4/86

Agenda 1) Current run

1) Current run.

There was, yet again, no current run, this time as a result of magnet problems at the synchrotron. However, apart from this disaster the running since Easter has been very smooth and reliable ($>500 \text{ nb}^{-1}/\text{day}$).

Howard Mills said that Herr Leneke of PKR is confused about our luminosity. Apparently the online readout of lumi that PKR gets from us indicates that our lumi is 30% down on everyone else's, but the numbers that we give at the weekly coordination meeting are compatible with the others. It is not clear how this contradiction can be resolved, although it was suggested that Herr Leneke gets the gated lumi online and has not corrected for this.

Tim Greenshaw presented his calculation of fill times for optimum luminosity. With reliable running conditions like those obtaining immediately after Easter, we should refill after about two hours — not the more usual four! Beate said this was a fact long known in theory but rarely put into practice. There are some hidden subtleties inherent in more frequent fills — PETRA has to be re-optimised more often, and there is more likelihood of finding DESY or a linac out-of-action (PKR doesn't know this in advance, as they are only started up when a fill has been requested). The general consensus was, however, that *if* there is a history of fast fills and clean beam, shift crews *should* try dumping the beam more often (after $\sim 2\frac{1}{2}$ hours' running).

Finally, Eckhard Elsen presented some very preliminary findings from a first look at the jet chamber with flash ADCs. The double hit resolution seems to be at least as good as the promised 2.5 mm and the single hit resolution before calibration shows a gratifying improvement over comparable pre-flash ADC data. However, Eckhard cautioned that the numbers obtained bear no resemblance to final values!

Next JADE-meeting 17/4/86

S. Cartwright 11/4/86

Olsson

MINUTES OF THE JADE MEETING
3/4/86

- Agenda
- 1) Current run
 - 2) The continuing saga of the Mark J events, part 947
 - 3) Erratum in the $\gamma\gamma \rightarrow p\bar{p}$ paper
 - 4) Jet chamber calibration

1) Current run.

Rolf Felst had nothing to report on the current run. Howard Mills remarked that a power failure over Easter (caused apparently by a lightning strike) had left the CELLO data link, the PETRA telegram (PETRA currents etc.), our IPS-link and the super-telephone network out of action. Most of these have been repaired, although there is still a problem with the buzzer of our super-telephone.

Howard added that the Gould plotter has been supplied with new toner and is producing black (rather than pale grey) copies again. Also, he and Rainr Ramcke are working on ways of getting rid of the notorious LG pickup events. In the meantime, events with >250 LG blocks are not analysed, and thus will no longer turn up as pseudo-multihadrons.

2) The continuing saga of the Mark J events, part 947.

Rolf Felst said that Min Chen wants a meeting with JADE representatives to discuss the Mark J events. It was agreed that there is no reason *not* to have such a meeting and it was provisionally fixed for 11.00 tomorrow (Friday) in Ting's office.

3) Erratum in the $\gamma\gamma \rightarrow p\bar{p}$ paper.

Bob Glasser said that a factor of 2 was inadvertently "lost" in calculating the differential cross-section in this paper. The error was spotted by Hermann Kolanoski while trying to make a comparison of the JADE and TASSO results. A correction has been sent off to the publishers.

4) Jet chamber calibration.

Joseph Spitzer gave a status report on his new calibration for the jet-chamber. This mammoth undertaking (44 constants per 4-cell sector) is now nearly complete — Joseph said the results he showed were "more final than preliminary" — and produces a very satisfying improvement in $\Delta p/p^2$ (from 2.42% to 1.64% for Bhabhas fitted with vertex constraint). The only remaining problem is the time-slewing correction, which Joseph believes is less than perfect, and a small matter of 10 hours CPU time required to run an "all tracks" calibration (necessary for Lorentz angle corrections).

Next JADE-meeting 10/4/86

S. Cartwright 3/4/86