

Minutes of the JADE meeting held on 2nd June 1983

- Agenda: 1) γ detection
2) Present run
3) Miscellaneous

1) γ detection

Hiroshi Takeda discussed the motivation for closing the small gaps in our angular acceptance for photon detection, in order to suppress QED background to single photon visible final states. The difficulties are formidable.

D. Schmidt described progress on development of lead-converter/drift chamber modules suitable for closing the gaps around the edges of the end-plugs.

2) Present run

The big orbit distortions encountered in PETRA recently are not understood, despite much repair and diagnostic work on the bending magnet power supplies.

Trigger timing histograms are now included in the standard N-50 monitoring, under sub-level 'TRIGGERS', obviating the need to run YHMON.

Continuing the audio-visual assault on shift-crews, Krehbiel has installed an alarm buzzer for the LG-trigger low voltage P.S.U.'s. Follow your ears for instructions!

It was agreed that cross-section results from the current scan should not be released until full analysis is completed.

3) Miscellaneous

A discussion on vertex measurement will be held at the JADE meeting on 23rd June.

EPOS require more detailed error reports on faulty equipment returned to them.

Bob Glasser, a familiar face at DESY, was introduced as a new member of the collaboration.

Next JADE - meeting 9/6/83 16:00

Austin Ball, 8.6.83

Alma

Minutes of the JADE meeting held on 26 May 1983

- Agenda: 1) Present Run
2) Miscellaneous

1) Present Run:

Despite our arrival en masse at 16⁰⁰, the previous lone occupant of the seminar room (a theorist who shall remain anonymous) could not be shifted from the premises until after M. Minowa had presented his results on the present run. This seemed too much like a coincidence for our liking.

M. Minowa presented results on the multihadronic cross section in the present running period. The most notable result was the very good agreement between the on-line and off-line R values.

CELLO is now the coordinating experiment.

2) Miscellaneous:

H. Kado warned that anyone who has equipment in the Schwerlabor should remove it in view of work which will commence there soon.

Next JADE Meeting: 2nd June 1983

Hugh McCann 30/5/1983

Minutes of the JADE meeting held on 19th May 1983

- Agenda:
- 1) Present run
 - 2) 1982 data
 - 3) Batch jobs
 - 4) JADE at HERA

1) Present Run:

Beate Naroska informed us that, in the present scan mode, it is more efficient to increase the PETRA energy to the next scan point during a fill, preferably towards the end of the fill since there is a risk of losing the beams. Shift crews should explicitly ask PKR to send the "Switch off HV" warning to all experiments before the energy increase, despite the feeling of the machine physicists that the beam is so often lost spontaneously that it doesn't matter!

2) 1982 data:

M. Minowa reported that the 1982 (up till August) multihadron data has been re-selected with the scanning procedure and will be available soon.

3) Batch jobs:

Wulfrin Bartel recommended the use of tape datasets for IBM batch jobs instead of MSS copies, if the volume of data to be read is very large. This is due to the fact that each physical mount of an MSS cartridge results in only 2 M bytes of data being stored on fast disk. Thus, for example, a job which uses the entire JADE multihadron sample (~25,000 events) has been found to require about 500 MSS mounts. R1 are looking into other possibilities of reducing the number of MSS mounts.

4) JADE at HERA:

Rolf Felst drew our attention to the HERA meeting to be held in Amsterdam in June. Some JADE members have been considering the possibilities of modifying JADE to run at HERA. It was proposed to have a full discussion of this subject before the Amsterdam meeting and that this should take place in the software meeting of Monday 6th June.

Next JADE meeting: 26th May, 1983

Hugh McCann, 25.5.83

Minutes of the JADE Meeting held on 5th May 1983

- Agenda: 1) Present Run
2) Status of Lead-Glass
3) Miscellaneous

1) Present Run

Studies of asymmetries in PETRA, (see last week's minutes), still leave a confused picture. Remaining asymmetries do, however, seem to conspire to give Mark J more luminosity.

T. Kawamoto showed results of the fast analysis of the latest multi-hadron data at $\sqrt{s} \sim 40$ GeV. The R value is consistent with expectations without top, and no spherical events were seen.

2) Status of Lead-Glass Counters

As an encore, Kawamoto reported that the SF6 glass in rings 14 to 19, and the new 1/2 rings 1 and 32, all of which were installed last winter, are all performing well.

Photomultiplier gains have been reduced by 30% to prepare for high energy running (giving 6.3 MeV/ADC channel), meanwhile, the thresholds have been increased from 30 MeV to 36 MeV.

The number of dead counters (16) is, as usual, negligible, and the whole system is operating smoothly.

Next JADE meeting: 19th May, 1983

Austin Ball 11/5/83

Minutes of the JADE meeting held on 28/4/83

Agenda : Present run
Miscellaneous

1) Present run

Rolf Felst reported on the latest scheduling meeting. The poor specific luminosity and low beam currents have not improved with better vacuum, and are thought to be due to satellite resonances caused by the different number and type of cavities. There is evidence for a machine asymmetry, from the unexpected behaviour of beam bumps, and notably from the luminosities measured by the experiments.

MARKJ records a factor 2 higher than JADE or TASSO. Could a clandestine micro-beta installation be the culprit ?

Following final testing of the CERN superconducting cavity over the weekend, the revised program for next week, in the light of the above difficulties, is :

Mon (2/5) 08:00 ---> Tues 18:00 shutdown for
removal of s.c. cavity

Tues 18:00 ---> Mon (9/5) 08:00 machine shifts

Wedn (4/5) lumi measurements

On Monday (2/5), there will be no power in the North West hall, due to air-conditioning maintenance. Experts should be on hand to supervise powering-off at 10:00. Throughout the machine physics period, shift crews should check with PKR whether experimental magnets or lumi measurements will be required.

2) Faulty experiment

Hans Krehbiel (Disco Lights International) urged that standard fault and identification stickers (from desk below PETRA monitor) be used for marking defective items destined for EPOS.

Next JADE meeting : 5/5/83

Austin Ball 2/5/83

April!

Minutes of the JADE meeting held on 21st March 1983

Agenda: Present run.

Present Run

The PETRA vacuum is recovering from the effects of cavity window replacements, and cavity leaks.

The superconducting CERN cavity is leaking helium into the beampipe, and will be removed after 2 more shifts dedicated to testing it. To allow this, a period of machine studies is probable between 23:00 on 30/4/83 and 12:00 on 3/5/83.

JADE is now (as at 16:00 26/4) running normally following a magnet power supply fault. The source and validity of a large leak in the muon gas system, reported by B2, and published in STERN, still have to be established!

Wulf Bartel reminded the meeting of the data flow for fast analysis of multi-hadron events, emphasising that prompt submission of the REFORM and ANALYSE jobs by the shift crews is vital for rapid processing.

Next JADE meeting: 28/4/83

Austin Ball 26/4/83

Minutes of the JADE - meeting held on 14.4.1983

- Agenda:
1. Schedule meeting
 2. Results and developments
 3. Miscellaneous

1. Schedule meeting

Rolf Felst reported on the schedule meeting, where the machine group had given the status of PETRA and indicated the maximum possible beam energy in the next running period: they hope to achieve a luminosity well above $10^{30} \text{ cm}^{-2} \text{ sec}^{-1}$ at about 21 GeV per beam. This may then be the maximum usable beam energy, although a further 0.5 GeV per beam may be possible if the 1 GHz cavities can be made to work reliably. The strategy to be followed is that we will start at a beam energy of about 20 GeV and scan upwards in steps of 15 MeV per beam, collecting 50 nb^{-1} at each point.

2. Results and developments

- (i) Howard Mills told the meeting about some changes in the NORD on-line program. In particular, some further cosmic rejection has been implemented and there has been "a minor rearrangement of menus" to quote Howard; bratkartoffel is off, but there's plenty of spam. There is no truth in the rumour that Howard's present pet project is to get the NORD to serve cups of tea at half-hour intervals during PETRA injection!
- (ii) Peter Steffen gave a status report on the study of jet chamber calibration and systematics; this work is still in progress.

3. Miscellaneous

- (i) Joseph Spitzer, a Hungarian who works for Heidelberg but prefers to speak English, was introduced to the JADE group.
- (ii) The JADE talk at the PRC open session next week will now be presented by Peter Steffen - this is necessary due to the fact that Wulfrin Bartel is secretary of the PRC.
- (iii) There seems to be a mutiny in the ranks regarding the proposed "supervisor" system. However, it is still proposed to at least start the new running period with a supervisor installed in office.

Next JADE meeting: 21.4.1983

Hugh McCann, 18.4.1983

Olsson

Minutes of the JADE Meeting Held on 7/4/1983

- Agenda:
- 1) P.R.C.
 - 2) PETRA Running Period
 - 3) Results

1) PETRA Research Committee

There will be an open session of the next PRC meeting on Tuesday 19 April. Those groups who are submitting proposals or letters of intent for detector upgrades will be expected to present a talk on their plans at this session. Thus, there will be very little time available for the presentation of physics results. It was decided that Wulfrin Bartel will present the JADE talk.

2) PETRA Running Period

There will be a Schedule meeting next week at which there will be a discussion on the strategy for the forthcoming running period. Some groups want to run in the region $36.7 < \sqrt{s} < 38$ GeV, since there is a gap in our scan coverage there. We decided that the JADE opinion is to start at some rather high energy where we can still get reasonable running efficiency, say $\sqrt{s} \sim 40$ GeV, and scan upwards if possible.

It was proposed that we have "supervisors" who, for a period of one week at a time, will take responsibility for "ensuring the smooth running of JADE" (quote). To this end, a flogging frame (complete with cat-o-nine-tails) and a rack will be installed in the counting room for the purpose of persuading shift crews to stay on their toes. Psychological pressure will be applied by having a continuously running video tape of the BBC's coverage of the UA1 experiment, "How the W^\pm was won".

3) Results

- (i) Tadao Nozaki presented an analysis of the F_2 structure function of the photon; compared with the analysis already published the data sample has been greatly increased and some changes have been made to improve the analysis.
- (ii) Jan Olsson presented results on exclusive final states of $\gamma\gamma$ reactions; this discussion took place in "extra time", since the meeting had already

been wound up - but Jan threw himself across the door to stop us getting out of the room!

It was agreed to present results from both of the above analyses at the Aachen $\gamma\gamma$ conference next week.

Next JADE meeting: 14/4/1983

H. McCann, 11.4.1983

Minutes of the JADE meeting held on 24/3/1983

- Agenda: 1) Shutdown
2) Results
3) Miscellaneous

1) Shutdown

The shutdown is now officially over. All the work which had been scheduled for the shutdown has been completed.

2) Results

- (i) Peter Warming, in the latest of his series of talks on multihadron events, reported on the status of his studies concerning charge asymmetries. During lengthy discussions on Peter's results, much scorn was poured on the dabblings of theorists in the experimental aspects of this difficult work.
- (ii) Hiroshi Takeda talked about the cut-off parameters in the Bhabha scattering analysis.
- (iii) Karl-Heinz Meier spoke briefly on the latest developments of his study of inclusive $\gamma\gamma$ mass spectra.
- (iv) Alfred Petersen discussed a couple of pictures from his paper and letter on 3-jet events, the first drafts of which are now being circulated.

3) Miscellaneous

Hiroshi Takeda has updated the luminosity files; the latest numbers are on the files

F22TAK.DISK.BRLLUMI.G520531 (Barrel)
F22TAK.DISK.ENDLUMI.G520531 (End caps)

There will be no JADE meeting next week.

Therefore, the editorial staff of this esteemed journal wish you all FROHE OSTERN - and go easy on the chocolate eggs etc..

Next JADE meeting 7/4/83.

Hugh McCann 28/3/83

- Agenda:
- 1) Schedule
 - 2) Results
 - 3) Improvement Program
 - 4) Miscellaneous

1) Schedule

The new tagging counters have been installed, and the muon arches are closed. Welding on the rucksack extension is now in progress. Injection should start 23/24 March, with luminosity expected around April 18th. Experimental magnets may be required from 11/4.

2) Results

- (i) Sakue Yamada gave a brief review of the e^+e^- sessions at Moriond.
- (ii) Rolf Heuer talked about his work on baryon production in multihadron events. \bar{p} and $\bar{\Lambda}$ were studied at low momenta, while Λ and $\bar{\Lambda}$ were investigated at higher momenta.
- (iii) Hiroshi Takeda presented a further study of electroweak effects via a combined fit to the data from $e^+e^- \rightarrow e^+e^-$, and $e^+e^- \rightarrow \mu^+\mu^-$.
- (iv) Sachio Komamiya showed results on vector meson production, and applications to fragmentation parameters.
- (v) Karl-Heinz Meier discussed recent studies arising from his work on inclusive $\gamma\gamma$ mass spectra.

3) Improvement Program

Rolf Felst sketched the content of a letter of intent to the PRC, proposing a new inner detector for JADE, which would be constructed in 1984-85. Copies of this have been distributed to each institution.

4) Miscellaneous

- (i) The PETRA prepulse system has been modified, with consequent effects on the readout timing of all detector components.
- (ii) Karl Armbruster, from Heidelberg, was introduced as a new member of the collaboration, receiving the usual rapturous applause!

Minutes of the JADE meeting held on 10/3/83

- Agenda: 1) Shutdown
2) Results
3) Miscellaneous

1) Shutdown

The arches are now partially closed, to allow interlock tests. Final closure (before 18/3/83) awaits a decision on installation of the new tagging system. Access is available.

2) Results

- (i) Lutz Becker presented first results on the production of charged D^* 's, which he isolated by exploiting the low Q of the D^* decay.
- (ii) Karl-Heinz Meier discussed the difficulties involved in inclusive photon physics, and the analysis he has evolved to overcome them. The success of this work was demonstrated by the $\gamma\gamma$ spectra he presented. Sachio Komamiya commented on an interesting application of this work.

3) Miscellaneous

- (i) Rolf Felst reminded us that inflammable gases are in use in the JADE experiment. Lighted cigarettes, and other incendiary devices (bonfires, barbecues etc!) are therefore strictly prohibited inside the North-West-Hall.
- (ii) Steve Wagner, from Maryland, has been sentenced to 2 years on JADE. Fellow inmates reacted enthusiastically. A new quantum number may be necessary to distinguish our W's.
- (iii) D.P.G. rehearsals will be held on 21st March at 11:00.

Next JADE meeting: 17/3/83, 15:00

Minutes of the JADE meeting held on 3/3/83

- Agenda :
- 1) Shutdown
 - 2) Rumours
 - 3) Calibration
 - 4) Results
 - 5) Improvement Program

1) Shutdown

Following initial difficulties with beam-pipe evacuation, the vacuum at JADE is now ok, so it is planned to close the end-plug, then the arches, during the course of the week beginning 7/3/83. Interlock tests will take place between 11/3 and 13/3, but access will still be possible for a further week until injection begins.

2) Rumours

Rolf Felst boosted morale by pointing out that the recent interpretation by Barger and Phillips of UA1 events with a high energy electron opposite hadron jets, does not rule out a top quark mass of around 20 GeV. Do not despair, oh ye of little faith !

3) Muon Chamber Calibration

Hugh McCann explained in detail how improved survey measurements, and deeper understanding of the time-distance relationship in the chambers, have enabled a resolution of 5 mm to be achieved in the barrel muon chambers, with 10 mm in the endwalls. Some of the remaining problems may be related to central detector systematics.

4) Results

(i) Jan Olsson reported measurements of

$$\sigma(e^+e^- \rightarrow e^+e^- A_2(1320) \text{ and } \Gamma_{A_2} \gamma\gamma, \text{ which are}$$

detailed in a draft paper now circulating and will be presented at the D.P.G. meeting.

(ii) Shuji Orito summarized the analysis topics currently being pursued in Tokyo :

$\pi\pi$. . .	Nozaki	. . .	nearing completion
e^+e^- - inclusive in MH events	. . .	Odaka	. . .	using dE/dx and shower energy
Precision R	. . .	Kanzaki, Orito	attempts to fit E_{vis} spectrum revealed Monte Carlo bugs, now fixed.	
Coming data	. . .	everyone	. . .	very rapid processing possible - about two weeks for all particle searches.

5) Improvement Program

Central detector issues occupied the first week of improvement discussions.

- (i) Hans Rieseberg gave estimates of the jet-chamber lifetime, prompted by TASSO experiences, and a suggestion at the Vienna conference that sense wires approach the end of their useful lives after receiving a few $\times 10^{16}$ avalanche electrons per mm.

Although the patient seems pretty fit at present, and an estimate of overall charge load predicts reasonable health until 1994, various hot spots on the innermost wires may already be going senile !

- (ii) Peter Steffen made suggestions for a new jet-chamber design, which might avoid calibration difficulties inherent in the present model. Essentially, it has single-cell skewed segments, such that, with magnetic field on, high momentum tracks cross field lines at right angles, and also traverse a cell boundary and a wire-plane. Some doubt was expressed as to whether skewed cells were necessarily superior to single-cell cake-slices, which, for instance, give good momentum measurement without requiring very accurate drift velocity determination.

Brief reference was also made to a study of momentum resolution by A. Wagner, and to a possible I.D. z-profile with curved ends, which maintains constant momentum resolution whilst allowing room for extra shower counters.

In conclusion, it was agreed that tests should proceed forthwith, but that any central detector replacement program is heavily dependent on the future of PETRA and JADE, which will become clearer by the Autumn.

Next JADE meeting : 15:00 - 9/3/83.

Austin Ball 8/3/83

Minutes of JADE meeting 24/2/1983

JADE Improvements:

At the next JADE meeting, discussions will commence on the question of JADE improvements.

The next PRC on 19th April will be concerned largely with detector improvements and the deadline for submission of letters of intent is 6th April. It was tentatively agreed that we should finalise our discussions by 17th March.

Forward Muons:

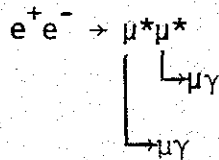
H. SCHIEMANN reported on the detection of the process $e^+e^- \rightarrow \mu^+\mu^-$ in the angular range $0.82 \lesssim |\cos \theta| \lesssim 0.92$.

Lead Glass End Cap Counters:

H. TAKEDA informed us that these counters have been calibrated to give much better energy resolution. See JADE NOTE 94

Excited Muons:

S. YAMADA presented results on a search for the process



Limits on the process were given, although no α^4 QCD calculation is available yet.

Vienna Wire Chamber Conference:

P. STEFFEN reported on the above meeting.

Sounds like everyone at this conference had a good time dreaming about the impossible!

Minutes of the JADE meeting 17/2/83

Shutdown:

The schedule is as follows:

- 11.3.83 8⁰⁰ end of shutdown
- 12.3. } Experiment closed for interlock
- 13.3. } checks
- 21.3. Experiment finally closed.
- 23.3. } First injection into PETRA.
- or 24.3. }

There is no clear indication of when we will receive the first usable luminosity.

Miscellaneous:

ALFRED PETERSEN has observed baryon oscillations of the kind proton \leftrightarrow neutron! However, it appears to be restricted to the locality of the IBM machine room, since it's only an error on the Monte-Carlo library F22PET.LUND43.S/L. Any further proton decays etc. should be referred first to Alfred before writing to Physics Letters.

Hugh McCann

18.3.1983

Minutes of the JADE meeting 10.2.1983

Safety Procedures:

ROLF FELST gave a talk on radiation safety. The interlock in the JADE hall ensures that there is no radiation risk to shift personnel or any other people working there. Considerable care is required when using test beams or sources. Anyone who is unfamiliar with the safety procedures required in the use of test beams or sources should contact Dr. Felst before attempting to use them. In the last resort, safety is the responsibility of the individuals concerned. Accordingly, everyone present signed his life away on the dotted line....

Results:

PETER WARMING presented further work on the study of short- and long-range charge correlations in 2-jet multihadronic events. A further part is yet to come.

HENNING WRIEDT told the meeting about his studies of the total cross section for the process $e^+e^- \rightarrow e^+e^-$ hadrons. A great deal of work has been done on systematics and model-dependent effects; these pose serious problems in this subject. However, some interesting conclusions have been drawn and a draft publication is expected soon.

Apart from the total cross section, our attention was also drawn to the results on the shape of the cross-section as a function of p_{\perp}^2 .

Hugh McCann 14.2.1983

Minutes of the JADE - Meeting 3/2/1983

Shutdown Work:

In general, our shutdown projects are proceeding smoothly. In particular, it was noted that

- a) half of each of the LEAD GLASS rings 1 and 32 have now been installed, following the philosophy that half a ring is better than none (as was the case previously.) (H. TAKEDA)
- b) the four FORWARD MUON counters closest to the beam pipe have been modified so that their rate will be reduced sufficiently that they may now be included in the trigger. (W. BARTEL)

Important Note:

P. STEFFEN informed the meeting that someone is overwriting the file F11LH0.AUPDAT1. This is troublesome and extremely dangerous. All JADE programmers are requested to check their jobs.

Inclusive X Distribution:

S. KOMAMIYA reported on the study of the inclusive charged particle X distribution. His methods of correction for systematic effects were discussed at length. The subject of scaling violations was discussed.

H. McCann

Minutes of the JADE meeting held on 27/1/1983

- Agenda: 1) Shutdown
2) Results

1) Shutdown

No disruptions to the schedule were reported or anticipated.

2) Results

Peter Warming presented the first part of a status report about his work on charge distributions and charge correlations in multihadron events. Tune in next Thursday for another exciting episode!

3) Next JADE meeting: 3/2/83

Austin Ball 1/2/83

Minutes of the JADE meeting held on 20/1/83

- Agenda :
- 1) Shutdown
 - 2) Results
 - 3) Detector improvements

1) Shutdown

Work is still proceeding on schedule. As the replacement lead-glass rings are now standing near the entrance in the North-West Hall, the door should be kept closed.

2) Results

a) Beate Naroska gave an update of the analysis of $e^+e^- \rightarrow \mu^+\mu^-$, which used essentially the same methods as previously. An extensive JADE note on this topic is in preparation.

b) Chris Bowdery summarized his thesis results on inclusive di-muon production in multihadron events. A few copies of this thesis are circulating within the group, and it will shortly be available as a Rutherford preprint.

c) Alfred Petersen presented the latest investigations of jet structure, which focus mainly on understanding the particle distribution within, and between jets, by attempting to tune Monte Carlo models to describe what is observed.

3) Detector Improvements

Motivated by interest in single photon visible final states, Sakue Yamada proposed some cheap and simple methods of filling the small (but notorious!) gap between the barrel and end-cap shower counters. These involve filling empty triangular spaces with simple sandwich counters, and extending TOF γ -detection capability by adding a few mm of lead, as a pre-converter, between the pressure vessel and the ends of the TOF counters. If practicable, these schemes will be implemented during the present shutdown.

4) Next JADE meeting : 27/1/83.

Austin Ball 24/1/83

Minutes of JADE meeting on 13/1/83

- Agenda : 1) Shutdown
 2) Results

1) Shutdown

- a) Work is proceeding on, or slightly ahead of, schedule.
b) Control room protocol :
 Anyone starting the data acquisition programs should exit when finished, to prevent the possibility of the control room being swamped in paper from overnight JDAS error message output.
 Power packs should not be left behind the racks.

2) Results

H. Takeda presented a study of higher order QED, through the reactions $e^+e^- \rightarrow e^+e^- \gamma$, and $e^+e^- \rightarrow \gamma\gamma\gamma$. Earlier results have already been circulated, and any objections to overall publication should be raised as soon as possible with the authors.

3) Next JADE meeting : 20/1/83.

Austin Ball 18.1.83

Minutes of the JADE Meeting on 6/1/83

- Agenda : 1) DPG meeting
 2) Shutdown
 3) Miscellaneous

1) DPG meeting

This year's meeting of the Deutsche Physikalische Gesellschaft, in Wuppertal, next March, provides the usual opportunities for presentation of small items in the parallel sessions. No invitation is required, and the deadline for submission of abstracts, (5/1/83), is happily not too strict ! Several from JADE have already been submitted, and any additions should be given to Rolf Felst immediately. Topics should generally be restricted to results already presented to the collaboration as a whole.

2) Shutdown

Wulf Bartel reported that work is progressing well, and approximately to schedule. Removal and examination of the beampipe has revealed no signs of corrosion, but it will be further tested by pressurisation to 8-10 atm. with nitrogen. At present it seems likely that we can continue using the old beampipe in the next running period. It will be operated, as recently, with no cooling of one internal collimator. Meanwhile, Laurie Phillips and his Rutherford heavy gang are experiencing no serious difficulties in dismantling the magnet yoke, and dodging Interpol.

3) The distant future

Gerhard Knies provoked a discussion about a possible meeting of JADE members interested in examining detector design in preparation for the HERA working groups. (JADE might form the kernel of such a design). Those interested will get together, but it was generally felt that the affairs of future experiments should be kept as separate as practicable from those of JADE.

4) John Arthur Skard, from Maryland, ex-PLUTO, was welcomed to the collaboration, and expertly evaded raucous invitations to make a speech !

5) Next JADE meeting : 13.1.83.