CERN/ISRC/79-36
5th November 1979

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

MINUTES OF THE EIGHTY-SIXTH MEETING

OF THE INTERSECTING STORAGE RINGS COMMITTEE

HELD ON 31st OCTOBER, 1979

OPEN SESSION

1. Information from the Research Director General

Professor L. Van Hove announced that the term of office of the present chairman of the Intersecting Storage Rings Committee, Prof. J. Perez y Jorba, will be completed at the end of this year. The new chairman will be Prof. G. Bellettini. There will also be a change in the ISR Physics Coordinator when L. Camilleri will take over from H.G. Fischer in January 1980.

2. Status report from Experiment R 416

An interesting report on the status of the Split Field Magnet Experiment R 416 was presented by H. Frehse. He described the status of analysis of the data already obtained with a triggering electron around 90° and also outlined the plans of the collaboration to collect data with a high p_T charged hadron trigger around 45° in the centre of mass. The experiment expects to continue taking data until the end of March 1980.

3. Report on Correlation Data from Experiments R 806/R 807

D. Lissauer described recent results obtained with the liquid argon calorimeters of experiment R 806 and the barrel hodoscope of experiment R 807. Interesting differences in the charged particle distributions and multiplicities associated with π^0's and single photons have been observed. The speaker explained a joint request by the members of the R 806 and R 807 collaborations to keep the liquid argon calorimeters in intersection 8 for the first three periods of next year.

CLOSED SESSION

Present : J. Perez y Jorba (chairman), M. Albrow, G. Bellettini, L. Camilleri, M. Crowley-Milling (part-time), M. Davier, M. Della Negra, F. Ferger, H.G. Fischer, E. Gabathuler, P.G. Innocenti, M. Jacob, G. Jarlskog, I. Mannelli, K. Potter, L. Resegotti, P. Strolin, L. Van Hove.

Invited part time : C. Fabjan, G. Munday

Apologies for absence were received from V.G. Goggi, M. Davier and A. Minten who was replaced by P.G. Innocenti.

The chairman of the ISRC introduced and welcomed G. Bellettini to the committee.

Since its last meeting the ISRC has received the following documents:

- Memorandum, Request for Information, from T. Massam, Spokesman of Experiment R 415, CERN/ISRC/79-30.

- Status report on Experiment R 416, from H. Frehse, CERN/ISRC/79-31.

- Memorandum, Extension R 607, from the Amsterdam-Louvain-Northwestern Collaboration, CERN/ISRC/79-33.

- Memorandum, R 806-R 807 Single Photon Correlation Studies, from G. Jarlskog, D. Rahm and W. Willis, CERN/ISRC/79-34.

- Memorandum, Enlargement of the Collaboration, from the CERN-Copenhagen-Lund-Rutherford Lab-Tel Aviv Collaboration (R 807) CERN/ISRC/79-35.

1. Minutes of the last meeting

The minutes of the eighty-fifth meeting, CERN/ISRC/79-29, were approved.

2. Status report from the ISR Coordinator

The ISR Physics Coordinator presented his status report on the operation of the ISR machine and experiments in period five. The performance of the ISR at 22 GeV beam energy has been very satisfactory and the Coordinator showed a plot of the initial and average luminosities which have been achieved for each run. The steadily increasing average luminosity, above the predicted value, has been achieved with good background conditions due to an improved understanding of the new collimation system and the use of a single dedicated transformer feeding the ISR power network.

On the status of experiments, the Coordinator said that the running in of the new experiment R 110 was going very well and that the smooth reinstallation of experiment R 209 had allowed the experiment to make full use of the 22 GeV running. Experiments R 416, R 607 and R 806/R807 are taking data. The installation and setting-up of the very large detection system of experiment R 807 is leading to substantial requests for access.

Following this report, the chairman of the committee congratulated the ISR Division on the continued improvement of both the luminosity and running conditions at the ISR. The ISR Division Leader mentioned a recent record current of 50 A achieved in a machine development run.

It was suggested that in view of the longer runs which are now customary it may be necessary to increase the standard two hour access time for the benefit of new experiments.

3. Status report from Experiment R 416 presented in the Open Session

The ISRC was pleased to hear of the progress of experiment R 416 as described in the presentation in the Open Meeting and in the status report CERN/ISRC/79-31, and approved the continuation of data collection until the end of the first period of 1980.

4. Presentation made in the Open Session and Continuation of Experiment R 806/R 807

The ISRC discussed at length the presentation made in the Open Session of recent results from correlated running of experiments R 806 and R 807 and the continuation requested in CERN/ISRC/79-34. The committee found these results interesting and encouraged the continuation of data-taking as proposed for the first three periods of 1980 on the understanding that there will be no interference with the installation programme of experiment R 807.

5. Status Report from Experiment R 807

C. Fabjan informed the ISRC of the status of installation and performance of the various detectors of experiment R 807 and described the physics programme which the experiment will soon be able to start. The committee was disappointed to hear of the difficulties encountered in the delivery of uranium plates for the calorimeters but expressed its satisfaction in the progress of the rest of this complex experiment.

The ISRC approved the extension of the collaboration of this experiment to include Brookhaven National Laboratory, as described in the recently received memorandum, CERN/ISRC/79-35.

6. Alpha-particle tests

A progress report on the acceleration tests with alpha-particles in the old linac was given by the PS Division Leader, G. Munday. The committee was very pleased to hear that 2 mA of

alpha-particles have been accelerated and encourages the PS Division to continue their testing programme, as described, with a view to providing physics runs in the ISR as early as possible in 1980.

7. Continued Discussion on the Analysis of Experiment R 415

The ISRC discussed the memorandum submitted by experiment R 415, CERN/ISRC/79-30, but did not find the information that it requires to make a recommendation on the allocation of computing time for the continued analysis of this experiment. The committee requested the CERN Directors, I. Mannelli and V. Soergel, to try to clarify the situation with the group so that a recommendation can be made at its next meeting.

8. Recently received memorandum

The recently received memorandum from the Amsterdam-Louvain-Northwestern Collaboration, CERN/ISRC/79-33, was discussed at length but the ISRC decided not to change its recommendation of the last meeting.

9. Other business

In reply to a question by L. Camilleri, the following information was given by L. Resegotti on possible operating schemes, once the Superconducting Low ß Insertion is installed in the ISR.

The superconducting low-ß will be installed during a three month shutdown which at present it is planned to start in August 1980. The commissioning of this insertion will require many machine development runs as the ISR operators have to learn how to inject, stack to high intensity and eventually accelerate to 31 GeV without beam losses quenching the superconducting quadrupoles, in addition to the usual work of establishing the correct machine tune and operating conditions. Once this work is complete and the insertion is fully operational for physics, it may be interesting to consider operating the ISR with both the SC low-ß and existing steel low-ß in intersection 1. A recent theoretical study has shown that the existing correction elements are sufficient to compensate the large phase advance with both insertions but the same study predicts considerable reductions in luminosity, 25% in the even numbered intersections, 25% less gain in the SC insertion and a gain of only 80% in the steel low-ß in intersection 1. The interest of this mode of operation will therefore depend on the physics experiments running at that time and their luminosity requirements. A further programme of machine development studies would be needed if such a scheme were to be implemented.

F. Ferger reminded the committee that the quadrupoles to be installed next summer will be the first superconducting magnets to be incorporated into the beam guidance system of a storage ring.

The Research Director General announced that as this was the last meeting to be chaired by Professor Perez y Jorba, he wished to express the gratitude of CERN for all his hard work during the last three years. During this period there have been several important events in the ISR research programme, among them the approval of the Axial Field Magnet Experiment, the Superconducting Low-ß Insertion and the decision to use antiprotons in the ISR. As a result of proper guidance and active work there has been an increase in interest in ISR physics. He again thanked the retiring chairman on behalf of CERN and went on to thank H.G. Fischer for his work as ISR Physics Coordinator over the last two years.

10. Next Meeting

The next meeting of the ISRC will be held on

Thursday, 17th January, 1980

with an Open Meeting at 09.30 in the CERN Council Chamber to be followed by a Closed Meeting in the 6th Floor Conference Room of the Administration Building.

K.M. Potter