

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

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CERN/ISRC/70-9

11 May, 1970

MINUTES OF THE ELEVENTH MEETING OF THE

INTERSECTING STORAGE RINGS COMMITTEE

HELD ON MAY 5 AND 6, 1970

Present : W. Jentschke (Chairman), M.H. Blewett, F. Bonaudi (part time),  
G. Charpak, G. Cocconi, C. Franzinetti, F.F. Heymann, K. Johnsen,  
E. Lillethun, P. Marin, A. Minten, L. Resegotti, H. Schopper  
(part time), J.C. Sens, K. Winter.

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

- Brief Report on Monopole Meeting of 10 March, 1970, by F.F. Heymann,  
CERN/ISRC/70-4.
- Proposal for a Test and Survey Experiment at the ISR, by CERN,  
Hamburg, München, Orsay, Princeton, Wien collaboration, CERN/ISRC/70-5.
- Proposal for Measurements of Inelastic Proton Collisions with Large  
Energy Transfers at the ISR, by J.V. Allaby, et al., CERN/ISRC/70-7.
- Proposal of an Experiment for Searching Dirac Magnetic Monopoles at  
the ISR with Plastic Technique, by E. Amaldi, et al., CERN/ISRC/70-8.
- Addendum IV to Study of Interaction in which Gamma Rays and Electrons  
with Large Transverse Momentum are Emitted, by Saclay-Strasbourg group,  
CERN/ISRC/69-11.

1. The minutes of the Tenth Meeting of the ISRC were approved.
2. Visit to the ISR Site and SFM Model

The ISRC again congratulates the ISR Construction Department on the state of progress of the Storage Rings, in particular the rapid advancement since the Committee's previous visit, six months ago. It was also gratifying to hear of the recent successful injection of protons into the initial section of the beam-transfer system, from the PS to the ISR, and of the highly satisfactory performance of the specialized instrumentation undergoing tests in this region. In the opinion of the Committee, the ISR project appears to be well on schedule.

The Committee was also impressed by the progress made on the 1/5-scale model of the split-field magnet, which is now powered and where preliminary measurements are in good agreement with calculated values.

3. Preparations for the ISR Experimental Program

(a) Sens reported on the preparations being made by the groups for each of the approved experiments, the state of design or construction of major items of equipment, the general picture on data analysis and computing needs at CERN, plans for monitoring in each area, and testing requirements.

In summary, it appears that schedules are aimed for all groups to be ready around mid-1971 with no serious delays apparent yet.

Users at intersection regions I-2 and I-6 plan to use the FOCUS program of the CDC 6600 and Sens suggests appropriate installations at these two regions. At present, such installations are not needed at other regions.

Monitors are of various types for obtaining both relative and absolute values. Sens suggests that information from the absolute monitors, to be

set up at I-2 and I-6, should be sent to the ISR Control Centre's Argus computer through data links from the experimental computers.

The situation with respect to vacuum chambers, more suitable for experimental use than the initial simple pipes, remains somewhat fluid. The ISR Vacuum Group has constructed a prototype, stainless steel, cone-shaped chamber of 1300 mm diameter for tests and is continuing its studies of thin windows. However, the use of very thin windows necessitates the installation of fast-acting valves, still under development. Johnsen suggested that experimental groups should seriously consider whether it might not be better to postpone changes in vacuum chambers for some time after the start of operation of the ISR, in order to minimize the dangers of severe breakdown during the period when there may be many other sources of risk.

On demands for testing time at the PS, Sens found that one group wishes to work in the PS ring, two to three could test in the b-16 beam, and three to four in the t-1 beam. Of the other groups, three are not requesting testing time at CERN and one will use the synchrocyclotron. Sens concludes, therefore, that there seems to be no obvious need for a new test area at the PS for ISR experiments, although there may be some problems of scheduling the use of the existing beams.

(b) Bonaudi continued with a further report on preparations (Report ISR-ES/70-28). Nearly all long-delivery items are ordered, in a state of tendering, or in final design. Layouts of the intersection regions were displayed and some are in close to final state. Drawings of some of the special equipment were also shown.

#### 4. Report on the Monopole Meeting

Heymann summarized the discussions, held on March 10th, between the six groups that had expressed interest in searching for magnetic monopoles at the ISR (see Report CERN/ISRC/70-4). The techniques fall into 3 classes:

(a) emulsions, (b) tracks in insulators, (c) ferromagnetic traps. After the meeting, agreement was reached to form collaborations among those interested in each of techniques (b) and (c) in order to submit joint proposals to the ISRC for each of these methods. The emulsion group is participating in the already approved emulsion experiment at I-1 and the results there will determine the feasibility of a monopole proposal with this method.

5. New Proposals

(a) The group from the Universities of Bari and Lecce (proposal CERN/ISRC/69-60) informed the Committee that it was not ready to present its proposal at this meeting.

(b) The Committee noted that the Proposal for a Test and Survey Experiment at the ISR by the CERN, Hamburg, München, Orsay, Princeton, Wien collaboration (CERN/ISRC/70-5) had been requested at the Eighth Meeting of the ISRC (CERN/ISRC/69-56, item 3) and now suggests that representatives of this group be prepared to present their program at the next meeting of the Committee.

(c) The Committee took note of the Proposal for Measurements of Inelastic Proton Collisions with Large Energy Transfers at the ISR, by J.V. Allaby, et al. (CERN/ISRC/70-7). Since there does not appear to be any way of incorporating this experiment into the initial program of experimentation at the ISR, because of the large number of experiments already approved, the Committee suggests that this proposal be presented at the next Open Meeting of the ISRC, for consideration for a later stage of the program.

(d) The Committee took note of the Proposal of an Experiment for Searching Dirac Magnetic Monopoles at the ISR with Plastic Technique, by E. Amaldi, et al. (CERN/ISRC/70-8). It is not clear if this proposal includes the plans for collaboration expressed after the Monopole Meeting

(see item 3, above) and the Committee asked Heymann if he would investigate this question.

6. Other Business

The Saclay-Strasbourg group has requested the ISRC to consider the possibility of installing a magnet (to be provided by Saclay) and the necessary power and cooling (to be provided by CERN) as part of its experiment at intersection region I-1 (CERN/ISRC/69-11 + Add. I,II,III and IV). Because the previous plans included this magnet only in the second part of this experiment, and approval by the ISRC and NPRC was granted only for the first part of the experiment without the magnet, the Committee now asks the group to send a written explanation for this change in program before its next meeting. The Committee also asked Franzinetti and Bonaudi to arrange a meeting with representatives of the Saclay-Strasbourg group and the Brookhaven-CERN-Columbia group, to investigate possible incompatibilities or scheduling difficulties that might arise with installation of the magnet.

7. Next Meeting

Provisionally, the next (closed) meeting of the ISRC will be held on Tuesday, June 2, 1970 at 2:30 p.m. and Wednesday, June 3, 1970 at 9:00 a.m.

Tentatively, an Open Meeting, for presentation of new proposals and a presentation of plans for running-in the ISR, is scheduled for the Fall, perhaps in October.

M.H. Blewett