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EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

MINUTES OF THE THIRD MEETING OF THE
INTERSECTING STORAGE RINGS COMMITTEE
HELD ON 18 AND 19 MARCH, 1969

Present:- F. Bonaudi, G. Charpak, H.M. Chan, G. Cocconi, R.L. Cool, C. Franzinetti, B.P. Gregory, F. Heymann, W. Jentschke (Chairman), K. Johnsen, E. Lillethun, P. Marin, A. Minten, L. Resegotti, K. Winter. For part of the time: G. von Dardel, E. Fischer, A.J. Herz, G. Manning, H. Sens.

The ISRC received the following papers:

- Erratum and Addendum to Proposal CERN/ISRC/69-5, to measure stable particles at the ISR, by the CERN/Holland-Lancaster/Manchester Collaboration.
- Proposal for a detailed investigation of low-momentum particles emitted at large angles from pp collisions, by CERN-Strasbourg Collaboration, CERN/ISRC/69-6 .
- Proposal for an experiment on the ISR, by A.D. Krisch, University of Michigan, CERN/ISRC/69-7.
- Proposal to measure the reactions $pp \rightarrow p + n + \pi^+$ and others at the ISR, by CERN-Munich-Princeton Collaboration, CERN/ISRC/69-8.
- Study of interactions in which gamma rays and electrons with large transverse momentum are emitted, by D.Ph.P.E.-CEN, Saclay, CERN/ISRC/69-11/Rev.
- Measurement of the pp total cross section on the ISR, by Istituto di Fisica, Pisa, Scuola Normale Superiore di Pisa, and INFN, Sezione di Pisa, CERN/ISRC/69-12.
- Measurement of Multiparticle Spectra at large angles at the ISR, by French, Lazeyras and Minten, CERN/ISRC/69-13.
- Proposal to measure the energy dependence of isobar excitation in proton-proton collisions at the ISR, CERN-Hamburg-Orsay-Vienna-Collaboration, CERN/ISRC/69-14.
- Assembly space for experiment at the ISR, by the Scandinavian Collaboration, CERN/ISRC/69-15.
- Proposal for a large solid angle experiment to study 90° particle production at the ISR, by the Scandinavian ISR Collaboration, CERN/ISRC/69-16.

- Proposal for a large solid angle experiment at the ISR to determine the production spectra at low energies around 90° of π^\pm , K^\pm , \bar{p} , \bar{d} and short-lived particles with two-body decays, by the Scandinavian ISR Collaboration, CERN/ISRC/69-17.
- Report from a meeting of the British, Dutch and Scandinavian, and CERN Collaborations for experiments at the ISR, by the Scandinavian Collaboration, CERN/ISRC/69-18.
- Measurement of the elastic scattering cross section at the ISR, by CERN, INFN-Sezione di Genova, and INFN-Sezione di Torino, CERN/ISRC/69-19

The following subjects were discussed:

1. Report from a meeting of the British, Dutch and Scandinavian and CERN Collaborations for experiments on the ISR (CERN/ISRC/69-18).

Minten reported on the possibility of collaboration and common use of interaction regions by groups proposing experiments on particle production (CERN/ISRC/69-2, 3, 5 and 13). The British and Dutch proposals could be combined at intersecting region # 2. The Scandinavian proposal would have to use hall # 1. The CERN team could collaborate with the Scandinavian group.

2. Representatives of the groups mentioned above gave short reports on their proposals:
 - Von Dardel for the Scandinavian Collaboration (CERN/ISRC/69-2, 15, 16 and 17).
 - Minten for the CERN team (CERN/ISRC/69-13).
 - Manning for the Bristol, Cambridge, Liverpool, University College, Westfield College, RHEL Collaboration (CERN/ISRC/69-3).
 - Sens for the CERN/Holland-Lancaster/Manchester Collaboration (CERN/ISRC/69-5 and Addendum).
3. Decision on the large, general purpose magnet system

Gregory reported that it has been decided to build a simplified version of the so-called split-field magnet and justified the decision. The magnet has been simplified to speed up construction while retaining its essential features. The ISR department has

accepted to design and build the magnet for the second half of 1972. The magnet will have 2 arms of opposite field, each about 5 m long, 1 m high, and 2 m wide, with an increase in width to 3 m towards the centre. The downstream magnets will initially be replaced by small compensating magnets. Preliminary drawings will be ready within one month.

4. Report on three emulsion experiments

Herz introduced the following proposals and letters of intent:

- Study of inelastic p-p interactions, Institute of Nuclear Research, Krakow.
- Flux and energy spectrum of gamma rays resulting from proton-proton collisions, the Tata Institute of Fundamental Research, Bombay.
- Investigation of low-momentum particles emitted at large angles, Cordaillat, Herz and Annoni (CERN/ISRC/69-6).

In the first two letters of intent no consideration of background problems due to beam-gas interactions has been made. Herz has already approached the two groups and supplied them with information on this subject. The third proposal (CERN/ISRC/69-6) would require a thin window in the vacuum chamber. Fischer of the ISR department has been asked to study its feasibility.

5. Technical effort and standard equipment

Bonaudi discussed problems of standard equipment, of power requirements and of installation. He will prepare a detailed list of requirements for the various proposals.

The following recommendations were made:-

1. Since standard equipment is needed for a study of particle production (CERN/ISRC/69-2 and 5), Bonaudi was asked to work out a detailed list of them.
2. The proposal of a special magnet by the Scandinavian Collaboration (CERN/ISRC/69-2,15,16 and 17) for the study of particle production at large angles has interesting features, specially for good momentum analysis. The collaborating groups are thus invited to study further

the problems involved in particle identification and to give estimates of the amplitude of the signals produced by the resonances and those produced by background.

3. The Committee invites representatives from the groups mentioned below to give short reports on their proposals in an open discussion meeting to be held on 22 April, 1969, in the CERN Council Chamber, starting at 10 a.m. Representatives of all interested groups are invited to attend this meeting.

CERN/ISRC/69-7, Proposal for an experiment on the CERN ISR, A.D. Krisch, University of Michigan.

CERN/ISRC/69-8, Proposal to measure the reactions $pp \rightarrow p + n + \pi^+$ and others at the ISR, by the CERN-Munich-Princeton Collaboration.

CERN/ISRC/69-11, Study of interactions in which gamma rays and electrons with large transverse momentum are emitted, by D.Ph.P.E.-CEN, Saclay.

CERN/ISRC/69-12, Measurement of the proton-proton total cross section, by Istituto di Fisica, Pisa, Scuola Normale Superiore di Pisa and INFN-Sezione di Pisa.

CERN/ISRC/69-14, Proposal to measure the energy dependence of isobar excitation in proton-proton collisions, CERN-Hamburg-Orsay-Vienna Collaboration.

CERN/ISRC/69-19, Measurement of the elastic scattering cross section at the ISR, by the CERN- INFN-Sezione di Genova and INFN-Sezione di Torino Collaboration.

4. The Committee welcomed the decision on the large analysing magnet and on the shortened time-table.

The next meeting of the ISRC will be held on 22 April, at 10 a.m. and on 23 April, at 9 a.m.