EXPERIMENTAL PROGRAM AT THE SPLIT-FIELD MAGNET FACILITY
DURING ITS FIRST PHASE

K. Tittel
(SFM Co-ordinator)

At its twenty-third meeting, held on 19 and 20 October 1971, the ISRC recommended the approval, in principle, of a number of experiments proposed for using the SFM facility. Since then, the experimental groups in question, in collaboration with the SFM Co-ordinator, have studied the layout of their experiments in order to follow the recommendations of the ISRC outlined in the minutes of the above-mentioned meeting (CERN/ISRC/71-44). In particular, great emphasis was laid on establishing compatibility for running either simultaneously or with short-time changeovers. Some of the equipment has been designed in such a way that it can be shared by several experiments.

In the following we present an updated list of the experiments foreseen for running at the SFM facility during its first phase. Numbers have been allocated to the experiments by the ISR Co-ordinator, K. Potter.
R 401 "Proposal to measure the energy dependence of isobar excitation in proton-proton collisions at the ISR"
by the CERN-Hamburg-Orsay-Vienna Collaboration
(CERN/ISRC/69-14 and Add. 1-3).
This experiment has already been approved by the NPRC at its eighty-third meeting, held on 4 July 1969.

R 406 "A proposal to search for fractionally charged or massive particles at the ISR"
by the Bologna-CERN Collaboration
(CERN/ISRC/70-31 and Add. 1,2).
According to the suggestions of the ISRC, and in agreement with the Director of the Physics I Department and the Leader of the NP Division, the group foresees as a first step of their experiment a layout using only the forward telescopes of the SFM detector. For this stage all the necessary ancillary equipment has been designed to meet the requirements put forward by the ISRC.

R 407 "Measurements of two-particle correlations in multiparticle events in the fragmentation region with the SFM spectrometer"
by the Karlsruhe-CERN Collaboration
(CERN/ISRC/71-30 and Add. 1).

R 408 "Measurement of inelastic proton-proton scattering at the ISR"
by G. Charpak et al., CERN
(CERN/ISRC/71-34).

R 409 "A minimum-bias-trigger experiment using the Split-Field Magnet to study typical beam-beam events"
by M. Breidenbach et al., CERN
(CERN/ISRC/71-36).
- 3 -

R 410 (An experiment to measure particle correlations at large angles) by the MIT-Orsay-Liverpool-Scandinavian Collaboration

This experiment is based on two proposals:

"Proposal to study particle correlations in the pionization region at the ISR"
by the MIT-Orsay Collaboration
(CERN/ISRC/71-37).

"Study of particle correlations at large angles using the Split-Field Magnet"
by the Scandinavian-Liverpool Collaboration
(CERN/ISRC/71-38 and Add. 1)

and a memorandum (CERN/ISRC/72-7) jointly submitted to the ISRC.

Both groups have decided to join as one collaboration, at least for the first stage of their experiment. This collaboration is asked to submit to the thirty-first meeting of the ISRC a memorandum containing all the information that will be necessary in order to take a decision regarding their experiment.

Finally, the ISRC considered the possibility that some other groups may participate during the running of one of the experiments mentioned above and carry out the analysis. Thus the following Letter of Intention was put forward:

"Survey experiment to study proton-proton collisions at C.M.S. energies from 20 to 50 GeV with the CERN ISR Split-Field Magnet facility"
by F. Eisele et al., Heidelberg
(CERN/ISRC/71-43).

Members of this group collaborate at present with the SFM detector group in the construction and testing of the SFM detectors.

Guidelines for the running of the SFM facility in 1973 have been given by the ISRC at its twenty-ninth meeting (see minutes of the twenty-ninth meeting of the ISRC, CERN/ISRC/72-15, item 4, and minutes of the thirtieth meeting of the ISRC, CERN/ISRC/72-19, item 1). The "forward detectors" will be installed first, and three consecutive periods of time are proposed, as follows:
a) Running-in of the magnet and the detector system; experiment R 408 (Charpak et al.)

b) Experiment R 401 (CHOV Coll.)

c) Experiment R 406 (Bologna-CERN Coll.)

Data obtained during period (a) should be made available to all of the experimental groups in the SRF program for understanding the detection system and the methods of analysis. The "central detector" will be installed as soon as it becomes ready, and, during periods (b) and (c), testing of equipment for the other experiments involved in the program should be included. A more detailed program will be worked out as soon as the schedule of the installation of the SRF facility is clearly understood. At present the situation of the major items is as follows:

1) **Magnet:** Assembling will be finished and the magnet will be powered in August 1972. On schedule for installation at I4 in January 1973.

2) **Vacuum tubes:** Under construction; on schedule for installation at I4 in January 1973.

3) **Proportional chambers for "forward detector"** Under construction; on schedule for installation in the magnet in February 1973.

4) **Chamber electronics:** Texas Instruments is encountering problems in the manufacturing of the hybrid circuits. The delivery schedule is not yet known. Delays in the installation of the proportional chambers may be caused by these delivery problems.