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CERN/ISRC/72-13/Add. 3

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

INTERSECTION STORAGE RINGS COMMITTEE

Addendum 3

to

PROPOSAL

MEASUREMENT OF HIGH TRANSVERSE MOMENTUM CHARGED PARTICLES

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CERN-Columbia-Rockefeller Collaboration

Ref.: NP/14

Date : 9.10.1973

To : ISRC

From : CERN-COLUMBIA-ROCKEFELLER-SACLAY Collaboration
(Exp. R105)

Subject : Request for Extension of Experiment R105

In response to the request of the ISRC to submit a report of future plans, the CERN-Columbia-Rockefeller-Saclay collaboration requests to remain in intersection region I-1 until July 1974. The reasons for this extension are as follows.

1) Unforeseen difficulties were encountered in merging the CCR lead glass detector with the existing apparatus of experiment R105.

a) The amount of fast electronics and the existing cable configurations necessitated the use of two trailers and the subsequent need for a long Camac link of ~ 30 m. This cable was subject to severe pick up problems. These were eventually solved by shielding the cable with a copper pipe and also by modifications to the Camac crate controllers.

b) The pulse heights of the lead glass phototubes were seen to be affected by the magnitude and direction of the fringe field of the Saclay magnetic spectrometers. This effect was extremely serious as it changed the calibration and worsened the resolution of the lead glass detector. Considerable effort and time were spent in adequately shielding the detector without introducing inordinate amounts of material in the path of the incident particles.

2) It had been agreed that the lead glass array would be set up during the shut-down needed for the SFM installation. Since this shut-down occurred later than originally scheduled, the lead glass was not installed until mid-June 1973. In

addition, the anticipated average luminosity of $2 \times 10^{30} \text{ cm}^2 \text{ sec}^{-1}$ has not been achieved by the ISR. The total integrated luminosity to which the experiment has been sensitive is therefore considerably less than expected.

For the above reasons, the CCRS group now believes that four ISR periods in 1974 would be required to complete its experimental programme. This is on the understanding that during at least half of this time, the ISR would be running at either 26 GeV or 22 GeV in both rings. The CCRS collaboration therefore requests to remain in Intersection region I-1 until July 1974.