To : Mrs. A. Barbier, MPS

From

Please send me .... copy(ies) of report MPS/SR-Note 69-11 by H.H. Umstätter

## ABSTRACT OF REPORT

## THE MINIMUM LENGTH AND SHAPE OF PROTON BUNCHES AT TRANSITION AT HIGH AND LOW BEAM INTENSITY

(MPS/SR-Note 69-11)

H. H. Umstätter

The minimum length of proton bunches at transition energy at low and high beam intensity is a source of information on longitudinal space charge forces. The observation is complicated by bandwidth limitations and by distortions. Some of the most detailed signals obtained with the wide band pick-up station and a filter are reproduced and discussed. At high beam intensity of  $1.62 \times 10^{12}$  protons a bunch length of 6 nsec has been observed as compared with 4 - 4.5 nsec at low intensity  $0.30 \times 10^{12}$  protons.

This report will be available shortly to those interested. Please fill in slip above and return to Mrs. A. Barbier.

Distribution (of abstract)

MPS, SI and ISR Scientific Staff