Section. 3 Radio Astronomy

Quick-scanning system of 3.75-GHz interferometer was completed at the end of August 1968, and the observation of the rapidly changing burst has become possible with a good time and space resolution (Tanaka et al. 1969). A considerable number of bursts have been observed except a great Type IV burst, and we are now making reductions of these data.

For the east-west array of the 9.4-GHz interferometer, a system simultaneously recording the outputs from the adding and compound interferometers was completed in November 1968. Hence, eight series of drift curves are recorded including those from 3.75-GHz interferometer. The north-south array is now in final adjustment and test observations are expected to be made in the first quarter of 1969.

Since the amount of data from the interferometers has been increased quite rapidly, digital recording and processing are now partly introduced as the first step of the automatic routine operation.

These two interferometers will play the leading part at Toyokawa during the International Years of the Active Sun (IASY), but the spectropolarimeter which has not been in operation since 1963 is also expected to take part in the IASY.

Regarding the problem of the absolute calibration of solar flux density, on which a working group of URSI is now in study, we have made a calibration at a frequency of 2.7 GHz. It was found that there is no hump between 2 and 3.75 GHz but the value at 2.7 GHz falls slightly under the straight line connecting the values at two neighbouring frequencies on the log-log scale.

During a few months in summer 1968, a forecasting service of proton flare was made with considerable success in cooperation with the domestic cosmic ray group for their baloon project. Close to the same period, similar cooperation was made with the Meudon Forecasting Center. It has become clear from these experiences that, as the resolution has been improved, a simple concept of the spectrum of S component is insufficient, and more comprehensive quantities should be looked for to express the activity of a proton center.

Dr. T. Kakinuma, who had belonged to this section for 17 years until March 1968, has become the chief of the solar terrestrial physics section newly established. T. Yamashita, who stayed at the University of Texas for the observation of the sun and the moon on millimeter wavelengths, came home in October 1968 after one year absense.

December 1, 1968 — Haruo TANAKA —

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