

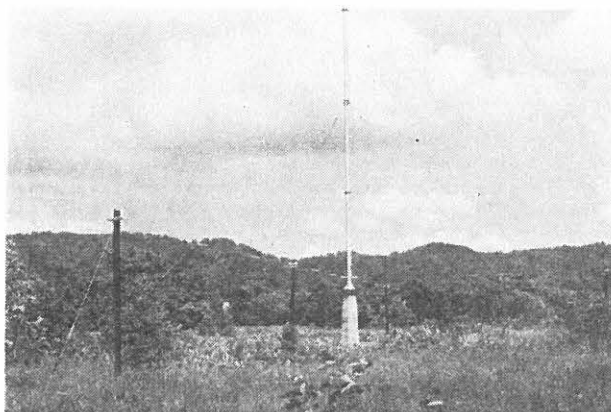
## MOSHIRI OBSERVATORY IN HOKKAIDO

AKIRA IWAI

For several years, the observations of whistlers have been continued at Toyokawa and Wakkanai. Various kinds of characteristics of whistlers have been made clear, but VLF emissions have not yet been observed distinctly at our observatories.

With the advancement of space research, a new section studying whistlers and VLF emissions was set up in our Research Institute this year. It is, therefore, important to obtain the data of VLF emissions. In Japan, only the observatory in the Hokkaido district will have chances of observing the VLF emissions. Recently, the man-made noise has increased to the disturbance of the routine observation of whistlers at Wakkanai in Hokkaido. So, Wakkanai is now unsuitable for observing the VLF emissions. In summer last year, the survey of man-made noise in north Hokkaido was carried out to locate a suitable site for observing the VLF emissions, and it was found that Moshiri, situated in the experimental plantation of Hokkaido University, would be suitable for this purpose.

From last year, a new observatory has been under construction at Moshiri to observe the VLF emissions and will be completed in November this year. The routine observation of whistlers in Wakkanai will be carried on at Moshiri observatory from 16th November. The routine observation of VLF emissions will be begun from December.



The outline of the observing apparatus installed at Moshiri is as follows. The antenna system is employed, — a pair of crossed loop antennas and a vertical antenna to measure the intensity, arrival direction and polarization of whistlers and VLF emissions. The crossed loop antennas used are of the triangle type of 2 turns and its dimension measures 43 meters in height and 60 meters at the base. The vertical antenna is a pipe of 15 meters long.

To reduce the interfering disturbances, the antenna and the pre-amplifiers are installed about 250 meters away from the main apparatus. The routine observation is made by selecting the minimum direction of disturbed noises. But for the measurement of arrival direction 3 channel signals from 2 loop and a vertical antennas are recorded by a 3 channel FM magnetic tape recorder and the arrival direction of the incoming waves, played back many times by means of the endless tape, is found by rotating the directivity of the receiving apparatus.

Routine observation of whistlers is made automatically at 20-22 minutes and 50-52 minutes every hour. The observation of VLF emissions is made continuously with respect to the intensity and polarization at 5 kc/s. Moreover, the intensity spectrum from 1 kc/s to 30 kc/s is recorded simultaneously to discriminate VLF emissions from man-made noises. On our next chance, we will have the observing frequency of VLF emissions increased to 2 - 3.