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Section 4. Whistlers and VLF Emissions

The routine observations of whistlers and VLF emissions are being made at Toyokawa and Moshiri Stations ($44^{\circ}22'N, 142^{\circ}16'E$) according to the scheme shown in Table 1.

Table 1. The observations of whistlers and VLF emissions.

Observation	Frequency in kc/s	Time	Site	Record
VLF emissions (continuous)	1.5—4 4—6 6—8	ever ready continuous ever ready	Moshiri	Pen
VLF emissions (isolated)	0.4—8*	For 2 min. starting at every 20 & 50 min. U. T.	Moshiri & Toyokawa	Magnetic tape
Whistlers	0.4—8*			

* to be extended to 30 kc/s in July 1966.

Nose whistlers have been observed since spring in 1964 at Moshiri Station where the magnetic latitude is as low as 34° . The intensity of such whistlers is so weak that we had not noticed before. Those whistlers are believed to have penetrated the lower ionosphere at high latitudes and have reached the station after the normal propagation. The success of receiving nose whistlers at a low latitude encouraged us to extend the frequency range up to 30 kc/s. One of the aims of this extension is to estimate the electron density in the magnetosphere at various altitudes at a time from a nose-whistler train which is expected to be observed at a single station. The upward extension of the frequency is expected to be realized very soon as is remarked in Table 1.

The frequency range will also be extended downward to ELF range in summer 1966 to find ELF emissions if they exist and further to make clear the relation with VLF emissions. The observations to be made are shown in Table 2.

Table 2. Observations in preparation of ELF emissions

Observation	Frequency in c/s	Time	Site	Record
ELF emissions (continuous)	1—40 (3 channels) 60—80 120, 220, 320 and 420 (bandwidth 30) 500—1200 (6 channels)	continuous	Moshiri	Pen
ELF emissions (isolated)	1—100 100—1200	For 2 min. starting at every 20 & 50 min. U. T.	Moshiri	Magnetic tape

Regarding observations by rockets, refer to the paper by Iwai et. al. in this volume. In connection with these observations, we are going to construct a new station at Takakuma (31°31'N, 130°47'E), 40 km NW of Kagoshima Space Center, University of Tokyo. Besides making simultaneous observations with rockets, routine observations are planned of whistlers and VLF emissions. Simultaneous observations with rockets are actually being made using a mobile observation-car.

—Akira IWAI—

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