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Section 6. Solar Emission and Related Terrestrial Phenomena

One of the IPS (interplanetary scintillation) observation sites, Fujigane, where the IPS observations at 69 MHz (VHF) have been continued for many years and the UHF cylindrical reflector has been constructed since 1979, has started as one of the permanent observatories of the Research Institute of Atmospheric, named 'Fuji Observatory', since April 1980. The new observatory building (Figure 1) has been built.

The IPS observations at UHF band at Fuji started in October 1980. The spectrum obtained shows the power spectrum with the index ≈ -1 , which is much more gentle than that obtained by the observations at VHF band. The adjustment of UHF receivers at Toyokawa and Sugadaira have been continued.



Figure 1. The New Building of Fuji Observatory.

The waves in the solar wind were discussed by the statistical analysis of the diffraction pattern of the IPS. It was found that the anisotropic axis of the diffraction pattern is parallel to the magnetic field lines. This fact shows that the density irregularities has coherency along the field lines. These density irregularities have been identified as the magnetosonic waves propagating across the field lines.

The IPS observations at VHF band at Toyokawa, Fuji and Sugadaira have been continued. The distribution of the solar wind velocity in longitude and latitude have been studied by the observations. The north polar high - speed velocity (800 km/sec) region, which had extended from the pole down to $45^{\circ} \sim 50^{\circ}$ during 1974 - 1977, contracted up to 80° in 1978 and almost disappeared in 1979. The observations in 1980 show the polar high - speed region does not still reappear.

With the installation of the new large computer system, ACOS 700 in December 1980, MS 30 system has been equipped at Toyokawa observation site as the solar wind data acquisition and communication sub - system.

The data - books of the solar wind speed from IPS measurements for July - December, 1978 and for January - December, 1979 have been published.

February 28, 1981

- Haruichi Washimi -

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