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Section 6. Solar Emission and Related Terrestrial Phenomena

Three-site observations of interplanetary scintillation of radio sources were interrupted in December, 1974, and the dipole array at Fujigane was moved about 2 km to the northwest and reconstructed. The observations were started again in the middle of June, 1975. About five sources have been observed daily; each source has been observed for ten minutes around the transit time, from which the solar wind velocity has been estimated. We are now making the phasing system for steering the antenna beam in the east-west direction, which enable us to observe each source for about one hour.

The scintillation observations in early August 1972 have been reviewed. Three-site measurements of solar wind speed were made at University of California, San Diego and at our institute. Single-site measurements of scintillation index were made at University of Adelaide and at Mullard Radio Astronomy Observatory, Cambridge. The enhancements in solar wind velocity associated with three shock waves were detected. The extent in both longitude and latitude of the shock wave associated with the solar flare on August 7, the anisotropic expansion of shock waves and the detection of the corotating high-velocity streams are main results deduced from the observations.

Kojima analysed the scintillation data of 3C48 and suggested the existence of spatially anisotropic irregularities in solar wind plasma flowing in the high-latitude region of interplanetary space.

Washimi will stay in IZMIRAN, U.S.S.R., for ten months until July 1976 for the study of plasma physics.

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- Takakiyo Kakinuma-

Publications

- Kakinuma, T., and Watanabe, T.: Interplanetary Scintillation of Radio Sources During August 1972, *Space Sci. Rev.*, submitted (1976).
- Washimi, H.: Self-Focusing of Plasma Waves, *Prog. Theor. Phys. Supple.* No. 55, 138 (1974).
- Washimi, H.: Wave Trapping in an Inhomogeneous Magnetoplasma, *J. Phys. Soc. Japan*, submitted (1975).
- Watanabe, T.: Solar Wind and EUV Corona, *Publ. Astron. Soc. Japan*, 27, 385 (1975).