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IPS Observations at Beijing Astronomical Observatory

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The radio wave from distant radio sources will be scattered by the irregular structures of the solar wind plasma when propagating through the interplanetary space, resulting into a randomly fluctuating pattern of the radio wave in observation. This pattern is called interplanetary scintillation (IPS). Observation on IPS can give information of the solar wind speed and irregular structures in solar wind plasma. The IPS observations began at Miyun Station, Beijing Astronomical Observatory from the late half of 1999. The properties of the telescope and description of the data analysis can be found in the papers of Wang (1987) and Wu, Zhang and Zheng (2000) respectively.

Table 1 summarizes some observational results using IPS source 3C48 in April and May 2000. The Fresnel knees and the first minima in the IPS spectra were used to estimate solar wind speeds. Comparisons of our results with the unpublished data of Hiraiso Solar Terrestrial Research Center obtained from their web site, have been done and good agreement between the two systems was found. Since the collecting area of Miyun telescope is limited, the system noise is relatively high and dominates the high-frequency parts of the spectra. The Miyun IPS observation and data reduction procedures are still under developing and will soon be completed.

Table 1. Some IPS observational results obtained by BAO

Date	4/12	4/14	4/16	4/19	4/22	4/23	4/24	5/9	5/10	5/12
S_index	0.52	0.2	0.5	0.65	0.69	0.93	0.86	0.56	0.42	0.2
V_speed	330	320	460	470	420	440	420	370	370	410

where S_index is scintillation index and V_speed is solar wind speed.

References

Wang, S.G. 1987, Publications of BAO, 1

Wu, J.H., Zhang, X.Z. & Zheng, Y.J. 2000, Ap&SS, in press