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Abstract:

The Sun affects physical phenomena on Earth in multiple ways, especially through the solar wind. The solar wind is the main source of the interplanetary medium, which is also the main influence factor of the space weather. Ground-based Interplanetary Scintillation (IPS) observations are an important and effective method for measuring solar wind speed and predicting the space weather. We apply for FAST observations with the tracking mode for 180 minutes daytime for three IPS sources a day (60 minutes for each source), and a consecutive three days during the 4 perihelion of Parker Solar Probe (PSP). Observing at high frequencies, we can get closer to the Sun to understand solar wind and its internal structures revealed by the IPS parameters. Compared observation with PSP, can verify the applicability of our model-fitting method at small solar elongation. And it will also provide an opportunity to observe solar bursts and coronal mass ejections (CMEs), especially for low-level phenomena undetectable by other telescopes, and consequentially generate 2-3 high impact publications.