

**Observations of the heliospheric current sheet near the sun by radio scintillation and scattering measurements**

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Doppler scintillation measurements are valuable not only because they probe the solar wind near the sun where in situ plasma measurements have so far not been possible, but also because they can observe the solar wind out of the ecliptic plane and during different coronal neutral line configurations on the sun.

As a result of our recent finding that Doppler scintillation observations reveal information on large-scale structure in the solar wind near the sun (Woo and Gazis, Nature, 366, 543, 1993), we have initiated a study correlating Doppler scintillation measurements made during various conjunctions since 1979 with coronal field maps derived from photospheric field measurements (Hoeksema and Scherrer, 1986 and Hoeksema, private communication). Preliminary results indicate that the heliospheric current sheet (corresponding to the streamer in white-light coronagraph pictures) near the sun is apparently manifested as a narrow and abrupt region of enhanced compressive fluctuations. These first measurements of the current sheet near the sun suggest that the slow solar wind observed and characterized beyond 0.3 AU (see e.g. Schwenn, 1990) originates from a small region of the sun surrounding the neutral line and is highly turbulent.

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