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**Radioastronomical Diagnostics of Solar Wind Plasma in the Light of Parker Solar Probe** STEVEN SPANGLER, Univ of Iowa — The Solar Wind plasma is important for testing many fundamental questions in plasma physics, such as the nature of MHD turbulence. This field is being revolutionized by the Parker Solar Probe spacecraft, which is making direct measurements at heliocentric distances as small as 0.13 astronomical units or 27 solar radii. In this paper, I discuss radioastronomical propagation measurements that also yield information on the Solar Wind plasma, over heliocentric distances as small as 2-3 solar radii. The motivations for this comparison are (1) radioastronomical measurements are complementary to the point measurements made by Parker Solar Probe, and (2) a comparison provides a “ground truth” check of radio measurements, which are the only means to probe interstellar turbulence. The plasma turbulence parameters that can be probed by both techniques are (1) the dependence of the turbulence power spectra on heliocentric distance, (2) the speed at which the turbulent irregularities propagate with respect to the Solar Wind rest frame, (3) the dependence of the outer scale of turbulence on heliocentric distance, and (4) the form of the turbulence spectra in the dissipation range.

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