Small-scale Structures and Dynamics in the Solar Corona

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Although observations of a wide range of radio propagation and scattering phenomena (e.g., angular broadening, intensity scintillation, Doppler scintillation, etc.) have remotely sensed the solar corona for decades, only recently has an understanding of the nature of the small-scale density fluctuations that give rise to the observed phenomena begun to emerge. A major surprise has been the realization that the density fluctuations represent raylike structures as well as turbulence convected along with the solar wind. It has also been found that the density fluctuations are highly organized by the heliospheric current sheet. In this paper, we will summarize the global morphology of small-scale density fluctuations deduced from radio propagation and scattering measurements of the solar corona, including such features as streamers and polar plumes.