

Abstract Submitted
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Kinetic-Alfvén turbulence in the dissipation (dispersion) range of the solar wind STANISLAV BOLDYREV, University of Wisconsin-Madison, JEAN CARLOS PEREZ, University of New Hampshire — A model for strong kinetic Alfvén plasma turbulence at scales smaller than the ion gyroscale is proposed. It is argued that magnetic and density fluctuations are concentrated mostly at two-dimensional structures, which leads to their Fourier energy spectra $E(k_{\perp}) \propto k_{\perp}^{-8/3}$, where k_{\perp} is the wave-vector component normal to the strong background magnetic field. The results are shown to be in good agreement with numerical simulations, and they may provide an explanation for recent observations of magnetic and density fluctuations in the solar wind at sub-proton scales.

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