

In this presentation I will discuss results from some recent high-resolution 2D hybrid simulations of solar wind turbulence (Franci et al. ApJL 2015). Simulations are focussed on ion scale dynamics in magnetized turbulent plasmas, self-consistently reproducing the transition of the cascade from fluid-MHD to kinetic regime. Despite the constrained 2D geometry, the results show a remarkably good agreement with theoretical predictions and solar wind in situ observations, including spectral slopes, polarization of the fluctuations, and scale-dependent ratios between different fields. Implications for energy dissipation and ion heating along and across the magnetic field are discussed, as well as the dependence of the results from the adopted numerical resolution.